

STATISTICAL SURVEY
OF THE
COUNTY OF TYRONE,
WITH
OBSERVATIONS
ON
THE MEANS OF IMPROVEMENT;
DRAWN UP IN THE YEARS 1801, AND 1802,
FOR THE CONSIDERATION, AND UNDER THE DIRECTION
OF
The Dublin Society.

BY
JOHN M'EVROY.

Dublin.

PRINTED BY GRAISBERRY AND CAMPBELL,
NO. 10, BACK-LANE.

1802.



TO THE READER.

This REPORT is at present printed and circulated for the purpose merely of procuring further information, respecting the state and husbandry of this district, and of enabling every one interested in the welfare of this country, to examine it fully, and contribute his mite to its improvement.

The Society do not deem themselves pledged to any opinion given by the Author of this Survey; and they desire, that nothing contained in it be considered as their sentiments; they have only published it, as the report of the gentleman, whose name is affixed, and they publish it for the comments and observations of all persons, which they entreat to be given freely, and without reserve.

It is therefore requested, that the observations on reading this work may be returned to the Dublin Society, as soon as may be convenient, and which will meet with the fullest attention in a future edition.

DEDICATION.

TO THE RIGHT HON.

LORD VISCOUNT MOUNTJOY.

MY LORD,

WERE your Lordship's noble father alive, gratitude and duty would have required that this, my first essay, should have been offered to his protection. He would naturally have been looked to, as the suitable patron for an Agricultural Survey of the County of Tyrone, to which his improvements were so ornamental, and in which his character was so highly respected.

In full confidence, that his virtues will still accompany his fortune, and that what his taste began, your Lordship will bring to perfection,

I dedicate this imperfect tribute of my respect to
your Lordship's patronage, and have the honour
to subscribe myself,

With great deference,

Your Lordship's most devoted

Humble servant,

JOHN M'EVoy.

RASH, NEAR OMAGH,

1802.

PRELIMINARY OBSERVATIONS.

A COMPLETE Agricultural Survey of a county of such extent, opulence, and variety, as the county of Tyrone, would require a writer of much general information and scientific research. The only qualifications, which the writer of the present essay can pretend to have brought to his subject, are, an acquaintance with agricultural concerns from his earliest age, and a local knowledge of the county of Tyrone, obtained from a residence in it for many years.

The author had originally intended to have introduced in this work some sketch of the process of the linen manufacture, but this has been anticipated in the Survey of the County of Monaghan, where the soil and management are nearly the same as in this county.

A botanical arrangement of the indigenous plants has been laid aside, as a matter of too much magnitude for a work of this kind; but,

at

at some future period, the author hopes to lay it before the public in a separate work.

For many valuable hints, as to the mode of drawing up the Survey, and suggestions of useful and important topics, the author returns his grateful acknowledgments to the Right Hon. John Foster.

What has been said respecting Lord Mountjoy's extensive demesne and plantations at Rath, in various parts of this work, it has been since thought expedient to bring under one general head, in the form of an Appendix, that the reader, whose chief object may be that of ornamental improvements, may have, without interruption, a connected and perspicuous view of the whole.

SUGGESTIONS OF ENQUIRY

FOR GENTLEMEN WHO SHALL UNDERTAKE THE FORMING OF

AGRICULTURAL SURVEYS.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

Situation and Extent,

Divisions,

Climate,

Soil and Surface,

Minerals,

Water:

AGRICULTURE.

Mode of culture,

Extent of it, and of each species of grain sowed,

Course of crops,

Use of oxen—how harnessed,

Nature and use of implements of husbandry,

Markets for grain,

Use of green food in winter.

PASTURE.

PASTURE.

Nature of it,
 Breed of cattle—how far improved,
 ————— how far capable of further improvement,
 Markets or Fairs for them,
 General prices,
 Modes of feeding—how far housed in winter,
 Natural grasses,
 Artificial grasses,
 Mode of hay-making,
 Dairies, their produce,
 Prices of hides, tallow, wool, and quantity fold.

FARMS.

Their size,
 Farm houses and offices,
 Mode of repairing them, whether by landlord or tenant,
 Nature of tenures,
 General state of leases,
 ————— of particular clauses therein,
 Taxes or Cesses paid by tenants,
 Proportion of working horses or bullocks, to the size of farms,
 General size of fields, or enclosures,
 Nature of fences,
 Mode of hedge-rows, and keeping hedges,
 Mode of draining,
 Nature of manures.

GENERAL SUBJECTS.

Population,

Number and size of villages and towns,

Habitation, fuel, food and cloathing of the lower rank—their
general cost,

Prices of wages, labour, and provisions,

State of tithe, its general amount on each article—what arti-
cles are exempt, and what charged by modus,

Use of beer and spirits—whether either or which is increasing,

State of roads, bridges, &c.

—— of navigations and navigable rivers,

—— of fisheries,

State of education, schools, and charitable institutions,

—— of absentee and resident proprietors,

—— of circulation of money or paper,

—— of farming or agricultural societies,

—— of manufactures, whether increasing,

—— of encouragement to them, and the peculiar aptness of
the situation for their extension,

—— of mills of every kind,

—— of plantations and planting,

—— of the effects of the encouragement heretofore given to
them by the Society, particularised in the list annexed.

—— of any improvements which may occur for future en-
couragement, and particularly for the preservation of
the trees, when planted,

—— of nurseries within the county and extent of sales,

Price

Price of timber and state of it, in the county,

Quantity of bog and waste ground,

Possibility and means of improving it,

Obstacles to it and best means of removing them,

Habits of industry, or want of industry among the people,

The use of the English language, whether general, or how far
increasing,

Account of towers, castles, monasteries, ancient buildings, or
places remarkable for any historical event,

Churches—resident clergy, glebes and glebe houses,

Whether the county has been actually surveyed, when and
whether the survey is published,

Weights and measures, liquid or dry—in what instances are
weights assigned for measures—or *vice versâ*,

The weight or measure, by which grain, flour, potatoes, butter,
&c. are sold.

CONTENTS.

CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

	Page
SECT. 1. <i>Situation and Extent</i>	1
2. <i>Divisions</i>	2
3. <i>Climate</i>	6
4. <i>Soil and Surface</i>	7
5. <i>Mines and Minerals</i>	17
<i>Coal</i>	21
<i>Iron Ore</i>	24
<i>Clays, such as are used for brick or pottery</i>	25
6. <i>Water</i>	26

CHAP.

CHAP. II.

AGRICULTURE.

	Page
SECT. 1. <i>Mode of Culture</i> - - -	29
<i>Observations</i> - - -	32
2. <i>Extent of Culture, and of each Species of</i>	
<i>Grain sowed</i> - - -	34
3. <i>Course of Crops</i> - - -	40
<i>Observations</i> - - -	42
4. <i>Use of Oxen</i> - - -	44
5. <i>Nature and Use of Implements of Hus-</i>	
<i>bandry</i> - - -	46
6. <i>Markets for Grain</i> - - -	53
7. <i>Use of green food in winter</i> - - -	54

CHAP. III.

PASTURE.

SECT. 1. <i>Nature of Pasture</i> - - -	57
2. <i>Breed of Cattle—how far improved</i> -	58
————— <i>how far capable of</i>	
<i>further improvement</i> - - -	61
3. <i>Markets and Fairs for Cattle</i> -	ib.

CONTENTS.

xiii

Page

SECT. 4. <i>General Prices</i>	-	-	63
5. <i>Mode of feeding Cattle</i>	-	-	64
<i>Cattle, how far housed in winter</i>	-	-	67
6. <i>Natural Grasses</i>	-	-	70
7. <i>Artificial Grasses</i>	-	-	74
8. <i>Mode of Hay-making</i>	-	-	75
<i>Observations</i>	-	-	79
9. <i>Dairies—their produce</i>	-	-	81
<i>Observations</i>	-	-	82
10. <i>Prices of Hides, Tallow, Wool, and Quantity sold</i>	-	-	85

CHAP. IV.

FARMS.

SECT. 1. <i>Size of Farms</i>	-	-	90
2. <i>Farm-houses and Offices</i>	-	-	95
<i>Mode of repairing Houses and Offices, whether by Landlord or Tenant</i>	-	-	97
3. <i>Nature of Tenures</i>	-	-	99
4. <i>General State of Leases</i>	-	-	100
<i>Of particular Clauses in Leases</i>	-	-	102
5. <i>Taxes or Cesses paid by Tenants</i>	-	-	104
6. <i>Proportion of working Horses or Bul- locks, to the size of Farms</i>	-	-	105

SECT.

	Page
SECT. 7. <i>General size of Fields and Enclosures</i>	106
8. <i>Nature of Fences</i>	107
<i>Mode of hedge-rows, and keeping hedges</i>	109
9. <i>Nature of Manures</i>	111
10. <i>Mode of Draining</i>	115

CHAP. V.

POLITICAL ECONOMY.

SECT. 1. <i>Roads and Bridges</i>	118
2. <i>State of Navigations and Navigable Rivers</i>	131
3. <i>State of Fisheries</i>	134
4. <i>State of Manufactures</i>	135
<i>Of encouragement to them, and the peculiar aptness of the situation for their extension</i>	137
<i>List of Bleach-greens</i>	138
5. <i>Population</i>	142

CHAP. VI.

RURAL ECONOMY.

- SECT. 1. *Prices of Wages, Labour, and Provisions* 143
 2. *Habitation, fuel, food, and clothing of
 the lower rank; their general cost* 146

CHAP. VII.

GENERAL SUBJECTS.

- SECT. 1. *Number and Size of Villages & Towns* 158
 2. *State of Tithe, its general amount on
 each Article—what Articles are ex-
 empt, and what charged by modus* - 161
 3. *Use of Beer and Spirits—whether either,
 or which is encreasing* - - 162
 4. *State of Education, Schools, and Chari-
 table Institutions* - - - 163
 5. *Of absentee and resident Proprietors* - 167
 6. *Of Circulation of Money or Paper.* - 171
 7. *Of Farming or Agricultural Societies* ib.
 8. *Of Mills of every kind* - - 172

	Page
SECT. 9. <i>Of Plantations and Planting</i> - -	174
<i>Of the Effects of the Encouragement heretofore given to Planting by the Society, particularized in the List annexed</i> -	178
<i>Of any improvements, which may occur for future encouragement, and particularly for the preservation of Trees when planted</i> - - - -	181
10. <i>Of Nurseries within the County, and Extent of Sales</i> - -	183
11. <i>Prices of Timber, and State of it in the County</i> - - - -	187
12. <i>Quantity of Bog and Waste Ground</i>	189
<i>Possibility and means of improving it</i> -	190
<i>Obstacles to improvement, and the best means of removing them</i> - -	197
13. <i>Habits of industry, or want of industry among the People</i> - - -	199
14. <i>The use of the English Language—whether general, or how far increasing</i>	201
15. <i>Account of Towers, Castles, Monasteries, Ancient buildings, or places remarkable for any historical event</i> -	202
16. <i>Churches—Resident Clergy—Glebes, and Glebe-houses</i> - - -	205

CONTENTS.

xvii

Page

SECT. 17. <i>Whether the County has been actually surveyed—when and whether the Survey is published</i>	- - -	206
18. <i>Weights and Measures, liquid or dry—in what instances are Weights assigned for Measures—or vice versa</i>		ib.
19. <i>The Weight or Measure, by which Grain, Flour, Potatoes, Butter, &c. are sold</i>	- - -	207

APPENDIX.

An Account of Lord Mountjoy's Improvements at Rath, and the manner of carrying them into execution, from the year 1778, to the present time.

SECT. 1. <i>Seminary and Nursery</i>	- - -	1
2. <i>The general Plan of settling the great outlines of the Demesne and its appendages</i>	- - -	4
3. <i>Modes of enclosing</i>	- - -	7
<i>Louth fence</i>	- - -	11
<i>Sunk fence</i>	- - -	17
<i>Drains as Fences in boggy and swampy situations</i>	- - -	22

Living

	Page
<i>Living Fences without a gripe or trench - - - - -</i>	24
<i>Temporary dead Fences, made principally of Scotch fir, cut away at the size of eight or ten feet, or when it begins to injure plants of more value - -</i>	31
<i>Common paling of post and rail, sheep-burdles, &c. - - - - -</i>	34
4. <i>Preparation of the Soils for planting</i>	35
5. <i>An account of the management of an Oak wood, which had been for many years on the decline, prior to the year 1792, - - - - -</i>	52
6. <i>Of the advantage of sowing potatoes, as a preparative to assist the speedy growth of Plantations, and also, for the most effectual mode of laying down bad lands to the greatest perfection - -</i>	57
7. <i>A description of the management of the banks of the river at Rasb, so far as it accompanies the demesne - -</i>	61
8. <i>An Account of Task, or Piece-work, together with a comparison between it and common Day Labour, with some remarks on labouring Tools and Implements - - - - -</i>	74

SECT. 9. <i>Manner of training up Boys, so as to become useful, steady Labourers, with a number of ways to employ them to the best advantage the year round. Also, several Modes, by which old Men, when partly past their labour, may be applied to advantage to themselves and their Employers</i>	- - - 81
<i>Observations with respect to old Men and their families—the manner of employing them—with remarks on an hospital intended to be erected for their reception</i>	- - - 92

A Map
of the
COUNTY of TYRONE
BY
William M. Cress
A.D. 1861.





STATISTICAL SURVEY
OF THE
COUNTY OF TYRONE.



CHAP. I.

GEOGRAPHICAL STATE AND CIRCUMSTANCES.

SECT. 1. *Situation and Extent.*

THE county of Tyrone is inland, being bounded by the county of Donegal on the north, and north-west; by the county of Londonderry, on the north, and north-east; by part of Loughneagh, and the county of Armagh, on the east; and by the counties of Monaghan and Fermanagh, on the south, and south-west.

The county is very irregular, and much pointed and indented in its circumference. The greatest extent from north to south is from Donnelong, on the borders of the river Foyle, to Slieve-Beaygh mountain, on the borders of the county of Monaghan, being an extent of 33 miles; in English measure-

ment 42 miles. The greatest length from east to west is, from the borders of Loughneagh, in the parish of Arboe, in the barony of Dungannon, to the extremity of the parish of Farmonomungan, joining the counties of Donegal and Fermanagh, being in extent 43 miles; in English measurement 54.8 miles. Messrs. M'Crea's map of the county, made out in 1774, 1775, and 1776, and Dr. Beaufort's memoirs agree perfectly with the above statement.

According to Dr. Beaufort's statement, the accuracy of which we have no reason to suspect, the county contains 467,700 acres, and, of course, 724 square miles; in English measurement 751,387 acres, being equal to 1163 square miles.

SECT. 2. *Divisions.*

THE principal divisions are into baronies, namely; Barony of Strabane, to the north.

—— of Dungannon, to the east.

—— of Clogher, to the south.

—— of Omagh, partly to the west; but a large portion of it lies between the baronies of Strabane and Clogher, and meets the barony of Dungannon on the east.

The

The above baronies are divided into parishes, as follows.

The barony of Strabane contains,

1. Donaghedy.
2. Leckpatrick.
3. Caamus.
4. Urney; a small part in Donegal.
5. Ardstraw, or the parish of Fintona.
6. Upper Bodony.
7. Lower, do.
8. Cappagh.
9. Cumber; only a small part of this in the county.

The barony of Dungannon contains,

1. Liffon, partly in the county Derry.
2. Kildress.
3. Derrylorne.
4. Desertcreat.
5. Artray.
6. Ballinderry, partly in the county Derry.
7. Arbœ.
8. Ballyclog.
9. Donaghendry.
10. Clannoe.
11. Tullyniskal, V.
12. Drumglafs.
13. Killymon.

STATISTICAL SURVEY

13. Killymon.
14. Clonfeckle.
15. Pomeroy.
16. Donaghmore.
17. Killishill.
18. Aughaloo.

The barony of Clogher contains,

1. Donacavey, or the parish of Fintona.
2. Clogher.
3. Errigle-Keeran.
4. ——— Frough, V. partly in the county Monaghan.
5. Aghalurcher, partly in Fermanagh.

The barony of Omagh contains,

1. Farmonmaguirk.
2. Clougherny.
3. Dreomragh, or parish of Omagh.
4. Dromore.
5. Kilskeery.
6. Longfield, lately divided into two livings.
7. Farmonomungan.

Total number of parishes.

Barony of Strabane.	9 parishes.
——— of Dungannon.	18 ———

Barony of

Barony of Clogher. 5 ———

———— of Omagh. 7 ———

39 in the whole.

There are only 35 parishes, properly within the county, as only a small portion of the remaining four parishes are marked within the limits of the map of the county.

Except the parish of Tullyniskal, and the parish of Errigle-Frough, (both marked V. to denote a vicarage) the whole of the parishes are rectories.

Ecclesiastical division.

Belonging to the diocese of Armagh, there are,
160,500 acres.

20 parishes.

19 benefices.

20 churches.

13 glebe-houses.

6 glebes, wanting glebe-houses.

Belonging to the diocese of Derry, there are,
233,100 acres.

11 parishes.

11 benefices.

13 churches.

9 glebe-houses.

2 glebes, wanting glebe-houses.

Belonging to the diocese of Clogher, there are,
68,000 acres.

4 parishes.

4 benefices.

5 churches.

2 glebe-houses.

2 glebes, wanting glebe-houses.

The total of acres, in the ecclesiastical districts of the county, appear to be 463,700, being 4000 acres less than the gross amount of 467,700, which 4000, I take for granted, are abbey-land, or such lands, as are not subject to tythes.

SECT. 3. *Climate.*

THE latitude of a place does not always determine the climate; so with this county, whose main latitude is about $54\frac{1}{2}$.

The great variety of soil and surface, throughout the county, causes a great variation in the climate. Westerly winds are most prevalent the year round; hence follows the great humidity of our air, from being situated so near the Atlantic Ocean.

Our autumns are generally very wet, and unfavourable to the saving of crops of hay and corn. November is sometimes a favourable month.

It is the inconstancy of the seasons we have most to guard against ; either extremes are never known to be intolerable.

The times of common occurrences in husbandry are, in a great measure, determined by the climate. Oats are sown from the middle of March to the first of May ; barley during the whole month of May ; flax-seed about the same time. The hay harvest, let the weather be never so favourable, is generally kept too late.

SECT. 4. *Soil and Surface.*

IT would be found an endless task to enumerate the great variety of soils and surfaces within the county ; the following sketch may, however, be depended upon.

The mountainy parts are generally shallow, wet, and sour ; in other parts dry, husky, and peaty, the depth seldom exceeding six inches. In some places the substratum is tenacious, and hence we find the tops and sides of mountains generally wet and spongy. In other parts, the substratum is a black, solid bog, which is equally as tenacious as strong clay soil, and of course prevents the water from sinking, by which means the surface is equally as
bad

bad as in the former case. But where the substratum is open rock, gravel, or any other porous body, through which the water may readily pass, the surface is always dry and wholesome, and very well calculated for young stock in summer. Mountains of the latter description are always valuable to the owners, as they get a better price for feeding the stock, which are sent to them generally in May, than those possessed of land of the two first descriptions; when the wet mountain lets only at five or six shillings a *sum**, the dry mountain claims ten shillings, and sometimes more.

Soils of the foregoing descriptions are peculiar to the baronies of Strabane and Omagh; the baronies of Dungannon and Clogher are, generally speaking, of as good a quality of land, as perhaps any in the kingdom. A large tract of the west parts of the barony of Dungannon, and of the north part of the barony of Clogher, may be ranked with the mountainy parts of the baronies of Strabane and Omagh.

The

* A phrase most commonly used in this county; a cow three years old is a *sum*; a two year old and one yearling a *sum*; three yearlings a *sum*; a horse is in some parts a *sum* and a quarter, but is most commonly a *sum*. A *sum*, *head collop*, and *ball*, are synonymous, according to different countries.

The surface of the whole county is wonderfully diversified, hill and vale being the prevailing character.

The mountains of the greatest magnitude are in the barony of Strabane. The vast chains of the Munterloney mountains, stretching into the county of Derry, are the most considerable; Mullaghcairn, or Cairn-togher, with Bessy Bell, and Mary Gray, and many others are very considerable. Mullaghcairn is the highest mountain in the county, which I have proved; the next to it is Knockfowel, part of which is in the county of Derry. To the above may be added the mountains of Ballygawley, on the west of the barony of Dungannon, and Morley on the west of the barony of Clogher.

In order to give the reader a more comprehensive view of the soil and surface of the county, I shall set down Omagh, the assize town, as a common centre; and proceed with the principal roads, throughout the county, to the extremities of it. But first, I shall take a circular course, which will include part of the barony of Omagh, the whole of the barony of Clogher, and more than two parts of the barony of Dungannon. In the different excursions, the crops usually followed shall be remarked, which will, in some measure, give an idea of the quality of the soil.

Between

Between Omagh and Dromore, distance about seven miles, the lands are, in general, light and gentle, very much undulated. In many parts the soil inclines to a reddish colour, a great indication of fertility. Potatoes, flax, and oats, are the principal crops; in some spots barley; about the town of Dromore, the soil is not calculated for the latter. Limestone is scarce; but as far as lime has been tried, it has been found to answer extremely well. Vast quantities of ashes are made from the peaty soils, which are in this direction tolerably plenty, though the bogs are not numerous or extensive.

Limestone is not found nearer to Dromore than the parish of Longfield, which abounds in that article, but the want of good roads renders it precarious, and of course very expensive.

From Dromore to Fintona, distance about five miles, light soil; appears extremely well calculated for sheep, as the substratum is in general sand and gravel, which, of course, render the surface sound and wholesome. Crops; potatoes, oats, and flax, or rather potatoes, flax, and oats in rotation, because in few situations, in this course, flax will not answer, unless sown immediately after potatoes, which is almost universally the case in their mountainy soils. Two crops of oats in such situations are usually taken off after flax, which is wrong, as the last crop is frequently not worth reaping.

Between

Between Fintona and Five-mile-town, distance about seven miles; about the former, the soil is thin and cold, the substratum much inclined to strong tenacious clay. Near this town, a good plan of cutting out a bog for present economy, and future profit, is spiritedly pursued by Mr. Eccles, which deserves particular notice, since so good a system, I believe, is not to be met with in the county, except near Verner's ferry, on the borders of the Black-water, which separates the county of Armagh from this county.

About half way between the above towns is a large mountain called Murley, which makes a great and striking feature in the barony of Clogher. This mountain affords a great capability for improvement, the surface being in general a rich peaty soil, with a substratum of reddish clay mixed with innumerable small stones. To render this mountain profitable, nothing more need be done, than to mix the upper and lower soils, which could be performed at little expence, since the substratum lies only at a small distance from the peat, or rich moor, the depth of which seldom exceeds a foot. Nothing can support this observation better than the sides of the road through the mountain, where the soils were mixed in forming the road from the water-tables. The white clover springs immediately, with many other useful grasses. This circumstance is not peculiar to this district; it is common throughout
many

many of our mountains, but the effects are here most conspicuous; though I could not discover the least particle of limestone-gravel, which abounds in almost the whole of the low-lands in this barony, and which I shall presently take notice of.

In the flat country, below this mountain, which is rich and extensive, the soil is capable of producing as good crops as any part of the kingdom; generally a deep soil, abounding with limestone and limestone-gravel, but the latter is but very sparingly attended to. The general crops are potatoes, barley, oats, and flax, and the rotation of them is most commonly as here set down, with this difference, that two or three successive crops of oats are taken after barley; but here this system is more pardonable, than in the soils of the county in general. Some patches of wheat are to be met in the barony of Clogher, the culture of which might be extended to a large scale, as the soils, in general, of this neighbourhood are peculiarly suited to that grain.

From Five-mile-town to Clogher, distance about five miles; soil remarkably good for grass and corn; abounds with limestone and limestone-gravel.

From Clogher to Augher, distance about two miles; soil shallow, and inclining to a reddish hue; limestone scarce; crops, potatoes, flax, and oats.

From Augher to Aughnacloy, by Killybrick, &c, distance about six miles; soil shallow, inclining to clay, very tenacious; crops, chiefly potatoes and oats, some flax,

flax, but not abundant. Though the soil about Killybrick and Favoroyal is, in general, cold, wet, and shallow, yet timber trees, in general, succeed very well. Some patches of barley about Aughnacloy; but this grain is not much favoured by the soil of this neighbourhood.

From Aughnacloy to Callidon, distance about six miles; all gentle swells and fertile vales; abundant crops of hay, oats, barley, potatoes, flax, and some rye; soil inclining to red, and, in many parts, abounding with limestone and limestone-gravel; some marle to be met with in the fertile vales.

From Callidon to Benburb, distance about six miles along the Blackwater, and on to Blackwater town, which lies principally in the county of Armagh. In most part of those districts the soils are fertile and well calculated to every kind of grain peculiar to the county, and, perhaps, to the kingdom, if judiciously managed. The exertions of Doctor Richardson, of Clonfeckle, near Blackwater-town, in the line of farming, particularly on green crops, fully shew what the fertile soils of the major part of the barony of Dungannon are capable of producing.

From Blackwater-town to the Moy, Dungannon, &c. is beautiful and fertile, almost beyond description. Every kind of crop succeeds well, when the weather is at all favourable, as the fault of a bad crop can never be imputed to the soil; I wish the same observation would hold good with respect to good management.

From

From Dungannon to Coal-island, and along the canal towards Verner's ferry, &c.; soil in general thin and poor; scanty crops of potatoes and oats.

Again, from Dungannon to Cook's-town, Stewart's-town, &c.; soils in general deep and fertile; generally produce every kind of grain and vegetable, peculiar to the county, in great abundance. Very few hills or mountains of any magnitude are within a considerable distance of Dungannon, particularly in the direction of Cook's-town, Stewart's-town, Tullyhog, &c.

From Dungannon almost the whole way to Six-mile-cross, distance about fifteen miles; almost a continued scene of dreary bog and mountain. And again, from the latter village to within two or three miles of Omagh, an extended flat bog, of several thousand acres, which is supposed to be the most extensive in the county; I am sure it is the most unprofitable, and, from its situation, the most difficult to be improved.

Here ends a circle through part of three baronies. I shall now proceed upon the different roads leading from Omagh through most parts of the county.

From Omagh to Ballygawley, distance about twelve miles; potatoes, flax, and oats; very thin, light soils. The same may be said from Ballygawley to Dungannon, distance about ten miles.

To Augher and Clogher, distance twelve miles; soil and surface nearly the same as on the Ballygawley road, and, of course, so are the crops.

To

To Fintona, distance from Omagh about six miles; soil in general good, dry, and much undulated; produces, in general, good and certain crops.

To Drumquin, Derg, and Clady, the latter about twenty miles distance from Omagh. Except within two miles of the town of Omagh, the whole of this course exhibits nothing but one continued scene of dreary mountain; though the country for several miles round Drumquin was, not more than forty years ago, very well wooded, the remains of which are still visible. It is a soil, in general, peculiarly adapted for planting, both for aptness of soil, situation, and ease in inclosing.

To Newtown-stewart, distance seven miles; the whole way an indifferent soil, thin, substratum strong and tenacious. Much bog and mountain occur in this direction, on both sides of the river. Between Omagh, and the north part of the demesne of Rash, there are large tracts of excellent feeding-land, along the river on either sides. Except some spots about Newtown-stewart, there is little or no good land along the banks, the whole of the way to Strabane, except some trifle on the west side of the river, near that town. The banks in many parts are steep, and of very little value, except for planting, for which purpose they are extremely well calculated.

From Omagh to Gortin, distance about seven miles. Near Omagh a bog of several hundred acres, which will in time be of great advantage to that town: at
present

present it is in a bad state, but is, however, very capable of being improved, which, no doubt, will shortly be the case. Good roads is the first step towards the improvement of bogs, in which the bog under consideration is not deficient: some excellent roads are made, and others are in contemplation.

The remainder of the way to Gortin, except about two miles through Lord Mountjoy's improvements, is nothing but a continuation of rocky and barren mountain, romantic and picturesque to the highest degree. In most of those rocky features there are fertile veins, where timber-trees, such as beech, larch, and Scotch fir, would flourish apace.

At Gortin, or rather over the village as you go from Omagh, there is a most extensive view of many of the Munterloney mountains. The village of Gortin may be considered the capital of this immense region. Before the woods were cut down, the scenes about Gortin must have been truly picturesque, and especially the banks of the rivers and brooks, which situations the wood chiefly occupied. Very little wood at present to be seen in this part of the country, except the woods of Carrick, the property of Lord Mountjoy, which are in a very flourishing state, and kept in the highest degree of preservation. But to return from this digression;

From Omagh to Green-castle, Cook's-town, &c.; almost the whole way is bog and mountain. In approaching

proaching Cook's-town, however, the soil mends considerably, and the magnitude of the mountains diminishes. The lands every where about Cook's-town are of a good quality, and produce abundant crops; the town-parks, with the approaches to them from the main street, are well imagined, and very judiciously laid out.

To enter into a minute detail of the great variety of soils in this county, would require a large volume; and, after all, perhaps, sufficient justice might not be done in point of accuracy, since it is well known, that there are many parishes in the county, fully descriptive of all I have here endeavoured to explain, and which, I candidly confess, is far from the degree of justice the subject deserves.

SECT. 5. *Mines and Minerals.*

IF, under the head *Mines and Minerals*, we include lime, and other species of stone, we shall find this county very rich in many; but as lime and freestone are of the most general use, I shall confine my observations to them. But, before I proceed any further, I beg leave to remark, that, in making surveys of counties, or of large districts, the situations of limestone quarries should be marked upon the map of the survey.

These remarks might be further extended; good freestone quarries might be noted, marle, &c. Such observations by the surveyor, which could not take up much time, would be found of great advantage, in pointing out those hidden treasures. Close investigations of those subjects may materially serve to shew the landlord the true value of his property. Many other advantages would result from this kind of speculation, which at present I must omit to set forth, and proceed to shew the situation of some of the principal quarries and masses of lime and freestone.

In the barony of Strabane, there are the following lime and freestone quarries, with many others of less note.

At Lisnagir and Lisnacannan, near Lord Mountjoy's demesne, and about a quarter of a mile west of the post-road, are two excellent limestone quarries of great extent, and peculiarly calculated for the improvement of land, of which his Lordship's tenants are thoroughly sensible, since they carry it six or eight miles to different parts of the estate.

Mary Gray mountain, east of the river Struel, and within a mile of the town of Newtown-stewart, abounds with limestone of a good quality; and the quarry is so circumstanced, that it can never be annoyed by water, which is of singular advantage in the working of any quarry.

The

The Gallions, between Newtown-stewart and Duglafs-bridge, are very rich in limestone, which is allowed to be of the best quality for building of any in the county.

The above quarries, with others more inferior, are upon the Newtown-stewart estate, the property of Lord Mountjoy; and also two celebrated freestone quarries, one at Coseik, within three miles of Newtown-stewart, and the other at Tallynure, on the river Struel, within a small distance of the demesne of Rash. To the former quarry a great part of the building of Baron's-court, for cut stone, was indebted. At Duglafs, on the east side of the Struel, and at the Suine, on the west side of the same river, are excellent freestone quarries, capable of being moulded into any shape; the latter supplied Baron's-court buildings with a great quantity of cut stone.

At Ruskey, within a mile or two of Dunnymanagh, there are immense quarries of limestone, extending a great length along a rivulet. This chain of limestone appears to be connected with the great limestone quarry called the Butterloop, in the midst of the Munterloney mountains, which I shall, in another place, have an occasion to speak of.

In the barony of Dungannon, about Cook's-town and Stewart's-town, limestone is in great abundance, and also about Dungannon, and in many other parts, particularly at Benburb, whose quarries appear inexhaus-

tible. I have observed a chalky substance to adhere to much of the limestone about Cook's-town, which does not render it the worse for either manure or cement. If the stone be broken very small, and applied to land, it is found to answer very well without calcination. Here, and throughout a great part of this barony, limestone is burned with culm, or small coal, instead of turf. At Benburb, culm generally sells at 18*s.* by the ton, and the lime-measure here is thirty-two gallons, which is commonly sold at 1*s.* 7½*d.* per measure roche, or unslacked.

This barony is by no means destitute of freestone, which is fully demonstrated by the towns of Dungannon, Cook's-town, &c.

The barony of Omagh is not very rich in limestone; the principal quarries are in the parish of Longfield, which are inexhaustible, as are also quarries of freestone of an excellent quality. The most part of the county is supplied with mill-stones from the rocky mountains about Drumquin, in this parish. Mill-stones are seldom got in regular quarries in this neighbourhood; they generally are hewn out of single detached rocks. Mountain or grit-stone is best calculated for mill-stones.

About Clogher, and many parts of the manor of Aughentaine, and also about Ballygawley, both in the barony of Clogher, are very rich in limestone.

Freestone

Freestone does not appear to be plenty, or of a good quality, in this barony.

Coal,

Coal-land, in the barony of Dungannon, is the only part of the county, where coal-works are carried on with any degree of success. When I saw the colliery in the summer of 1800, five pits were working, seemingly very industriously. There is no fire-engine here, nor does it appear, that the works are much impeded by water. There appears, however, to be a great want of encouragement to this business: the canal at present is in a wretched state, choaked up with mud and weeds. The approaches, also, to the colliery might be materially improved, of which they stand in great need.

Near Cook's-town some coals were raised; but, from the situation, I am apt to believe, they must always be attended with much expense. Near the town of Dungannon some pits were sunk, and, I believe, some years ago much coal was raised. Here a fire or steam-engine was erected in the summer of 1800; a pit was then sinking in the new town of Dungannon, or very convenient to it, from the situation of which there is much to be apprehended, from water annoying the work.

Within

Within two miles of Drumquin, in the barony of Omagh, there appear strong indications of a rich coal-mine, situated, I believe, on Mr. Godfrey's estate, adjoining some church-land belonging to the see of Derry. In May 1800, I spent some time there on speculation.

Tradition says, that a water-spout had, many years ago, fallen on the spot, where the coal now appears; no doubt, designed by providence for the good of mankind. Through time, and in consequence of the impression made by the great body of water, which the *spout* produced, a small brook took place, which at this time is sunk upwards of one hundred feet; such is the yielding quality of the soil of the mountain, where this phenomenon was supposed to have happened.

It appears to me, that sinking a few pits, or shafts, backwards in the mountain, would be the most likely way to ascertain the depth of the stratum of coal; and, if the thickness of the mine was found sufficient to be at the expence of following it, instead of sinking shafts in the usual way, the work might be carried on from the face of the bank, at the surface of the stream, where the coal appears, accompanying the water, in a continued layer, from nine to eighteen inches thick, still encreasing in thickness, as it advances, in a direction nearly horizontal, rather rising, which is a good omen.

There

There is a large scope of the stratum visible, perhaps between three or four hundred feet, before it disappears. From this circumstance there is reason to suppose it runs horizontal, or nearly so, throughout the mountain, or perhaps throughout all the mountains in this part of the country.

Part of Lough Erne is within eight or nine miles of this place, in a straight line. A canal carried circling round the mountains, in the best line for a canal, probably might be double that distance.

It is said, that the waters of Lough Erne are higher than the neighbourhood of the coal mine; this, however, might be proved. From the great number of brooks throughout this mountainy country, it is very probable, that a plentiful supply of water might at all seasons be procured; but this point should be well ascertained, before an undertaking of this kind should be set on foot.

A person, skilled in Canal works, might be appointed to take the levels, examine the nature of the soil, ascertain the quantity of water, that might be procured from the rivulets and brooks in the summer season, with other useful points necessary to be known. The expence attending all this would be found but trifling, when compared to the many advantages, which might follow from such an undertaking.

There are evident signs, of this country abounding in iron ore; and such a colliery as the above, if it should

should be found to answer, would, no doubt, encourage the searching for mines.

The quality of the coal is excellent, having been tried by several. I have tried it myself, and found it to agree with the favourable reports I have had from others.

The following accounts I have had from Mr. O'Neil, an old resident of Drumquin, whose veracity I have no reason to suspect. That some years ago he had been examined by Mr. Camac, a well known enterprising gentleman in the mineral kingdom, respecting this business; that a Scotch engineer had taken the levels, and in some measure ascertained the whole expence to be about twelve thousand pounds, the distance of the line, proposed for the canal, to the nearest point of Lough Erne, to be about twelve miles; that in a severe winter, which happened some years ago, and when it was difficult to procure turf, the Rev. Mr. Daniel, of the parish of Longfield, used the coal in question, in common, throughout his house,

Iron Ore.

From the sulphureous and ferruginous appearances of water in many parts of this county, there is reason to apprehend, that iron mines might be procured in large quantities; but the want of the necessary fuel

for

for smelting, either wood or coals, render this article of no value, even if found on the surface in ever such large quantities. Canals might, in a great measure, remedy this, as by them the ore might be conveyed convenient to coal, since wood is out of the question, and of course will be so for many years to come.

It is commonly reported, that iron stones have been found, through the mountains of Munterloney, which have been worked into good iron in common forges ; but this wants confirmation.

Clays, such as are used for Brick or Pottery.

In treating of soils in general, perhaps the article, *Clay*, might be brought in with some propriety ; but considering, how unequal pure clays are to the purposes of vegetation, without the assistance of other soils, I presume a separate discussion may not be thought improper in this place.

Almost every parish and town-land affords clay capable of making bricks of various colours, but the pale brick is deemed the most durable.

About Fintona, in the barony of Clogher, good flooring and ridge tiles are made ; garden pots, and a great variety of crockery ware for country use. The best pottery in the county, and perhaps in the kingdom, is within a mile of Coal-island, on the road to Verner's

ner's ferry, in the barony of Dungannon. Here are manufactured all sorts of rough crockery ware, fire bricks, and tiles for malt and oat-kilns, of as good a quality as any imported.

The clay, before it is baked, is of a dirty white; the best of it is made into small oblong pieces, of about a pound each, which is dried to the sun, and sold on the spot at a penny each. It is used as a substitute for fullers earth, for cleaning leather breeches, &c. For this purpose it is sent to many distant parts, and brings a profitable return.

SECT. 6. *Water.*

THERE are few counties in the kingdom better supplied with water, than this county. The Black-water accompanies it for upwards of thirty miles, dividing it from the counties of Monaghan and Armagh for the whole length of that course, and at length falls into Loughneagh at Maghery.

The principal river is nearly central in the county, and goes under various names; the part of it, which lies above, or, to the south of Omagh, and somewhat north of the town, goes by the name of Cammon, or Camaun. From thence to Newtown-stewart, it goes by the name of Struel, which appears to be newly coined.

Between

Between Newtown-stewart, and Strabane, and so on to Lifford, it goes by the ancient name, the Mourne; and from thence forward to Londonderry, by the general name of the river Foyle.

In its progress through the county it receives some considerable rivers, and brooks, or, as they are here called, burnes, innumerable, as every mountain produces its part of a brook, and almost all the brooks in the county ultimately join the river Mourne.

At Omagh, or a little to the east of it, two considerable rivers meet, namely, Drumragh, and a mountainy river; in the neighbourhood of this junction, I suppose the name *Cammon* is assumed, the word being derived from crookedness, or sudden bends, which here occur frequently. Below Omagh, about two miles, the Poa, or the Fairy water joins. Near Newtown-stewart, two considerable rivers fall in, namely, the Gortin, and Glinnelly rivers, the junction of which is at Corick woods, about three miles east of Newtown-stewart. At Ardstra, the river Derg joins; and below Strabane near Lifford, comes in the river Fin, which divides this county from that of Donegal, as far as the village of Clady.

The lakes of this county are poor and insignificant, if we except Loughneagh, which only mears a small portion of it; the lakes at Baron's-court seem to be the largest, and are by far the most interesting in the county, as being, or composing part of the

Marquis

Marquis of Abercorn's demesne, and which at most seasons of the year appear to great advantage.

A small lake at Augher, in Sir William Richardson's demesne, is beautiful, and happily circumstanced: There are several small lakes, or rather pools, in the baronies of Dungannon, Clogher, and Omagh, but very few in the barony of Strabane; I believe there are not more than two or three in the latter barony; at least, I do not recollect any more,

CHAP. II.

AGRICULTURE.

SECT. 1. *Mode of Culture.*

FROM the great variety of the soils of this county, it must follow that there are various modes of culture.

I believe there are not better potatoe and flax farmers in the kingdom, than those of Tyrone in general are; the only branches of husbandry they excel in, or have any pretensions to. And, though we seldom find large tracts of potatoes together, yet we meet with innumerable small patches throughout the county, in many parts almost up to the summits of the highest mountains. This is a strong indication of the populousness of the county.

The same observation holds good with respect to flax, as it is as common for the poor man to have a lot of the latter, as of the former, since without both he could not exist. It must, however, be remarked, that

that there are many mountainy situations, which may answer for potatoes, where flax would have no chance; in such, oats always follow potatoes, as there barley would not succeed. It is an old remark, that, "where barley thrives, flax is sure to succeed after it."

Oats are most commonly sown on one ploughing, which is performed sometimes before, but most commonly after Christmas; but this mode is observed only in good barley soils, and most commonly after it, and sometimes after flax. In mountainy soils, where oats follow potatoes, as has been already observed, ploughing never takes place till immediately before the time of sowing.

Twenty stone is the usual allowance of oats to the plantation acre (I always mean the plantation acre), which generally returns eight barrels, of eighteen stone to the barrel. Sixty stooks, of twelve sheaves to the stook, are reckoned a good crop for an acre to produce; and, when fodder is at a reasonable rate, the value of the straw is about thirty shillings, but it is most commonly higher. The straw is considered to be equal to the expence of ploughing, harrowing, reaping, and making up.

As, in good land, flax generally succeeds oats, two ploughings are always given; the first before or after Christmas, and the second just before the time of sowing. Forty gallons is the usual allowance for an acre, and one-sixth less for a Cunningham or Scotch acre;

the

the latter being the common measure, by which the farmers regulate all the land let to poor cottiers, in the *corn-acre* way (a phrase, usually understood in this country to denote a yearly take, or letting the land only for one crop), though the farmer himself may rent his land by the plantation acre. This is a grievance on the poor, which certainly should be redressed.

It is very common to sow flax after barley, when the land is not in good heart; and, in such cases, the succeeding crop is oats, and then the land is suffered to rest for three or four years in a state of nature, most commonly without assistance from grass-seeds of any sort.

Potatoes are generally planted on lea-land, ploughing for them being very seldom practised, especially by the poorer class; but this practice is chiefly confined to the baronies of Strabane and Omagh, which, I dare say, are equal to two-thirds of the whole county. The farmer finds great advantage in giving rough ground to the cottier, who must either put up with it, or want. When the land is ploughed, and sufficiently pulverised, the crop is generally double that produced, in the usual way of planting on the lea. However, though the poor man may be much sorely distressed, by being every year obliged to plant rough land at the farmer's option, yet the community at large reap the benefit of it, as land is sooner gained, and brought into a profitable course of cultivation.

The

The industry, with which the poorer class set about collecting manures, is most praise-worthy; a full account of which shall be given in its proper place, under the article *Manures*, which see.

Observations on the foregoing Section.

IN lea ground, two successive crops of potatoes would be found of more general advantage than one. To the owner of the land, perhaps, in some cases, one crop only may be more for his interest, as he will have, of course, more rough ground brought into culture, than he could have by taking off two successive crops. If the soil be strong, and difficult to pulverize, two potatoe crops should certainly be preferred, without an intervening crop.

But the farmers of this country are remarkably fond of barley crops, as they are always a ready money article; indeed they are frequently bought up by private distillers, several months before they are reaped; this temptation frequently supersedes every other solid advantage.

Half the quantity of manure, used for the first crop of potatoes, will serve for the second, and the latter never fail in being most abundant; and, if the drill system be followed, there will be a great saving of seed and labour.

By following this system it is very obvious, that the quantity of food may be considerably encreased, though not so much land may be brought into cultivation in the same space of time. I am not, however, perfectly clear, but more grain may be obtained, on account of the good preparation the land will undergo, by taking off two crops of potatoes, than in the usual way of taking only one crop.

A country may be overstocked with barley, and it is too frequently the case in this kingdom, the effects of which are sorely felt by the lower class, from the immoderate use of spirits, when it becomes so cheap, as to be within the reach of every common labourer. But the case is different with respect to potatoes; there cannot be too many of them. As long as Britain retains a navy, there will be a demand for pork. Potatoes are not only the food of man, but are also that of horses, cattle, pigs, and poultry; sheep, also, are easily taught to eat them.

One great advantage to farmers and labourers may derive from having plenty of potatoes, as, in spring, milk and butter is always scarce; beef and mutton, at that season, are entirely out of the reach of the lower order; pickled pork may be had upon cheap terms, when potatoes are plenty. A pig, killed at Christmas, may go a great way in spring, by pickling part of it, instead of making bacon of the whole, as is usually done. A pound of pork, in spring,

with leeks, oatmeal, greens, &c. would go further than two pounds of bacon in a family, and would be found considerably more nourishing.

SECT. 2. *Extent of Culture, and of each Species of Grain sowed.*

BEFORE I proceed on this subject, I beg leave to remark to the Board, that it is my humble opinion, this section might be somewhat imperfect, without including potatoes in the discussion; therefore I shall take the liberty of giving them a place with the grain.

It is impossible to be accurate on this subject, without making an actual land survey; and this could only serve for one season, since the quantity of land, under culture, must always vary according to circumstances, such as the encrease or decrease of population, &c.

Perhaps the best method of determining this point is, by attending to Doctor Beaufort's Memoirs, where he states the county to contain 28,704 houses, which statement at this day is sufficiently accurate, notwithstanding the supposed reduction of the inhabitants by emigration, raising militia, &c., which, in the whole, are scarce worth attending to. I believe, with many others, that the county is more on the encrease than on the decrease.

From

From several views I have taken in different parishes, I am clearly of opinion, that the number of persons, or rather the average to each house, is rather over than under six; but I shall abide by that number, which would make the whole of the inhabitants of the county equal to 172,224.

What remains to ascertain is, to shew what quantity of land is sufficient to supply a family, consisting of six persons, the year round. This, from repeated observations in several parishes, I have determined sufficiently accurate to answer our present purpose.

The cultivation, necessary to support a family of the above description (no matter whether part be children or not, as children waste food, and are supposed to be equal to grown-up persons), I state as follows:

3 acres of oats;	-	Quantity of seed, 60 stone.
$\frac{1}{2}$ ditto, potatoes,	-	ditto, - 80 ditto
$\frac{1}{2}$ ditto, barley,	-	ditto, - 8 ditto
$\frac{3}{8}$ ditto, flax,	-	ditto, - 15 gallons
$\frac{1}{8}$ ditto, garden and haggard.		

$4\frac{1}{2}$ total cultivation, which, multiplied by 28,704 houses, gives, for land in cultivation, 129,168 acres, of which the proportion is;

For oats,	-	-	86,112 acres
— potatoes,	-	-	14,352 ditto
— barley,	-	-	14,352 ditto
— flax,	-	-	10,764 ditto
— gardens, &c.	-	-	3,588 ditto
			<hr/>
			129,168 ditto

The above account shews, that a considerable deal more than one-fourth of the county is in cultivation; the whole number of acres in the county, according to Doctor Beaufort, being 467,700.

In taking a general view of the county, this great tract of cultivation does not appear to occupy so much space, as what in reality is the case; the reason is, that mountainy and hilly lands measure more to the eye, than flats and low situations, which are, of course, chiefly occupied in culture.

It has been shewn, that 3 acres of oats require 60 stone of seed; 86,112 acres will require 1,722,240 stone, or 95,680 barrels, of 18 stone to the barrel.

Half an acre of potatoes requires 80 stone of seed; 14,352 acres, by the same rule, will be found equal to 2,296,320 stone, or 114,816 barrels, at 20 stone to the barrel.

With respect to the quantity of land, barley is equal to potatoes, which, at sixteen stone to the acre for seed, will be found equal to 229,632 stone, or 14,352 barrels, at 16 stone to the barrel.

Forty gallons of flax-seed are usually sown on an acre; 10,754 acres will require 229,632 gallons, or 6,145 hogheads, allowing 70 gallons to the hoghead; but this measure is never uniform.

The whole may be thus stated,

<i>Species.</i>	<i>Acres.</i>	<i>No. of barrels sowed.</i>	<i>Aver. per acre. barrels.</i>	<i>Amount. barrels.</i>	
Oats.	86,112	95,680	7*	602784	{ *good and bad land.
Potatoes.	14,352	114,816	80	1148160	
Barley.	14,352	14,352	10	143,520	
Flax.	10,764	6145*			* Hogheads.
Garden, &c.	3588				

Here it may be necessary to remark, that the garden and haggard is commonly the same, but is always filled with crops in summer, most commonly cabbage. This part only serves to shew the quantity of land, counting nothing on the seed sowed, or the produce, as is shewn in the sketch above stated.

In the foregoing statement, half an acre of oats is allowed for seed, and a small quantity for horses, whose allowance of this article indeed is most commonly scanty and precarious; four barrels of potatoes are also deducted from the produce of the half acre, for an allowance of seed for the next season; the half acre of barley makes no part of the food of the family, yet serves to shew the extent of culture and quantity of seed sowed; and the reason is, because

cause this grain generally follows potatoes; indeed it is always the case in good land.

Two and a half acres of oats I place against a house, or six in family; the produce in meal, upon an average, $17\frac{1}{2}$ cwt. allowing 120lb. to the hundred, which for oatmeal is the general standard, being with more ease turned into pecks of 10lb. without fractional parts. This allowance will be found nearly one pound per day, to each person for the year round.

Thirty-six barrels of potatoes* are the common produce of half an acre, after deducting four barrels for feed. This allowance in the gross, to the whole family, will be found better than $4\frac{1}{2}$ lb. daily, to each individual. Between meal and potatoes, the daily food for each person will be found to exceed $5\frac{1}{2}$ lb. which, with the help of the garden in summer, may be considered an ample allowance. Pigs and dogs, of course, must fall in for their share; the latter, from their great number, certainly destroy more food than the former; but this waste of food our country rarely considers as a grievance. How many pigs might be fed, throughout the kingdom, with the food thrown away upon useless dogs, which are, by far the greater part, a pest to the community.

In

* Of 20 stone to the barrel; for ease in calculation, I prefer the 20 stone barrel, though the standard of the country is generally 40 stone to the barrel.

In this place it may be necessary to remark, that, so far as barley immediately follows potatoes, the calculation will hold good; but this is not always the case, since, in mountainy situations, oats must necessarily follow potatoes; however, in some cases, where the soil is very good, it is common to sow barley after the last crop of oats (which shall be shewn in the next article); but for this, a dressing of manure must be used. This additional crop of barley I shall let stand, against the want of barley crops in mountainy situations.

I believe it is scarce necessary to remark, that very few cottiers are exactly circumstanced according to the above statement; cottiers, in general, have not a third part of the allowance here set down, from the farmers; which shall be taken notice of in its proper place; the difference must be purchased, most commonly by the industry of the loom.

The quantity of flour used, or, which is the same, the wheaten bread made use of, by the better sort of people, and particularly in the principal towns, may be considered as a draw-back from the above statement; but the very few, who are accustomed to wheaten bread, make but a small bulk, when compared to the community at large.

SECT. 3. *Course of Crops.*

1. Course, but not the most general is;

1 oats.

2 do.

3 flax.

4 oats.

The above is most commonly followed in lands formerly taken in, and which have been allowed to rest for a few years after the first course. The second rotation, and sometimes the third and fourth, is generally the same as the first. This is a most abominable system; the land is never suffered to rest any length of time, and the laying down with clover, or any kind of grass-feed, is generally out of the question.

Except about Strabane, and Omagh, very little attention is paid to the laying down with grass-seeds.

2. The following course is the most universal, and is by far the most rational, particularly for the baronies of Strabane and Omagh.

1 potatoes, upon lea land.

2 barley, upon one ploughing in April, or May.

3 oats, upon one ploughing about Christmas.

4 flax, upon two ploughings, the first about Christmas, and the next immediately before the time of sowing, which is generally about new May.

5th. Oats,

5th. Oats, and then the land let out for a few years as before. If the land be in good condition, barley generally follows this crop of oats, but the soil must be highly manured; after this follow oats, and then flax, and suffered to rest as before.

Here are eight successive crops running, without any kind of meliorating crop.

There are many however, who follow a better system; they stop after the last crop of barley, by which means the land is let out in good heart, and, of course, will come round for a second course in a shorter time.

To this practice, if the sowing of grass-seeds and clover, when the latter might be thought to succeed, was added, much benefit would certainly ensue.

3d. Course, commonly followed in mountainy situations.

1 potatoes.

2 oats.

3 oats.

In some mountainy situations, a third crop of oats is taken off, but this rarely happens.

In boggy marshy situations, a fourth system is followed, which I look upon to be the most profitable of any.

Part of the soil is burned for ashes, sufficient to manure a crop of potatoes. Two crops are generally taken off, and then it is laid down, most commonly with

black

black oats, which frequently lodge, and rot in wet seasons. Notwithstanding this, a most luxuriant verdure soon takes place, without any assistance from hay-feeds; the white meadow grass (*Holcus lanatus*), being peculiar to such soils, soon occupies the surface.

This mode of bringing in land has of late years been very much attended to, which the people find to their advantage, in point of gaining annually a considerable acquisition to meadow land, the want of which is the greatest inconvenience this county labours under.

Observations.

If, instead of always following potatoes with barley in good soils, we were occasionally to introduce wheat, no doubt we would get into a better habit of living, with respect to food, than is at present the case. The lessening the consumption of spirits, and the getting into a mode of using wheaten, and rye bread, (which should be generally mixed, for the use of labouring people) are two objects of great importance to the community. Oatmeal is not calculated for making bread; it is well known, that a pound of it will go farther in a family, made into hasty pudding, or stirabout, according to the general phrase, than a pound and a half made into bread; and yet, notwithstanding all this, I find there is a considerable deal more meal

used

used in bread throughout the county, than otherwise. The people of the province of Leinster are very sensible of this, and, very properly, convert the greater part of their oatmeal into stirabout, and use wheat and rye, and sometimes peas, for bread. The foregoing grains are commonly mixed, and, when so, are called in some parts *braccas*, as in the county of Kildare, and in other parts *meslin*, as in the county of Louth.

It is said, that the soils of this county are not calculated for wheat and rye, and particularly for the former. I know they are not generally so, but it is very notorious, that many of them are, from some successful trials, which have been lately made in the neighbourhood of Omagh, the soils of which are by no means deemed so well calculated for wheat, as a large portion of those of the baronies of Dungannon and Clogher, which, in my opinion, are as good wheat soils as any in the kingdom. A strong abiding loam, inclining to limestone-gravel, is allowed, by the best judges, to be most favourable to wheat, which is in great abundance in the above baronies. In every part of the county are to be found spots of rich bog, which produce abundant crops of potatoes. In all such places, rye would certainly succeed, after a potatoe crop: but by far the best economy would be, to have rape after potatoes, as part of such grounds are in general burned the year before, to manure the potatoe crop. The last crop, or that after rape, should be rye.

The spring is the season of severe trial for food for cattle: a little rape at that time would be found of infinite use, the procuring of which is almost in the power of every farmer: the seed is of little or no value, and the foil is prepared to his hand by the late crop of potatoes.

Wheat and rye straw will last double the length of time, for thatch, as oat and barley straw; this would be found of the utmost consequence, in point of encreasing manure.

From what I have said upon this head, I beg it may not be understood, that I wish to lessen the quantity of oats raised: if horses, pigs, and poultry were fully served, the whole would be found little enough, with the addition of the wheat and rye, that might be raised.

SECT. 4. *Use of Oxen.*

VERY little use is made of oxen in the county. Some years ago, in Lord Mountjoy's demesne, oxen were found of great use for ploughing deep foils, where it was necessary to plant, which was performed by the Kentish wheel-plough, drawn by six bullocks, which commonly were harnessed by the yoke placed to the shoulder of the animal. This subject, with many others relative to improvements, I mean to reserve for a separate

rate

rate chapter, which shall include the bulk of the improvements of Rash * demesne and its appendages, as it is apprehended, that a cursory view of those extensive improvements might not do sufficient justice to the subject, nor would the reader be able to comprehend them in so clear a light, as if brought under one general head.

It is not uncommon, in many parts of the county, to meet, among the farmers, smart active little bullocks, employed in the slide-car (which shall be taken notice of in the next section), drawing turf, manure, limestone, &c.; and, from the habit of being in company with horses, they move as fast as them. It also frequently happens with a poor farmer, who may have the misfortune to lose one of his horses in spring, to be obliged to join a bullock with a horse to plough his land; indeed there are frequent instances of his being obliged to yoke his cow for the same purpose.

In a mountainy country, as this is, and where the farms in general are so extremely small, horses will always supersede oxen in cultivating the soil. In level countries, and where there are large farms, where a long, steady course of tillage is the principal object,

oxen

* Rash is the present name, which is derived from a rath, or Danish fort. It is in contemplation to change the name to Mountjoy Park.

oxen can be only employed to advantage.

The common trace and collar is the general mode of harnessing in ploughing.

SECT. 5. *Nature and use of Implements of Husbandry.*

VERY little can be said, in general, in favour of our implements of husbandry.

The common plough is a most wretched implement; it performs very badly, and, from its construction, is very difficult to draw. Instead of having the coulter in a line with the land side of the sock, or ploughshare, it is generally placed an inch nearer the land, or to the left hand; and, instead of the coulter being set a little before the sock, it is placed rather behind it, so that, by this means, the draught is considerably encreased. On account of the point of the sock not being guarded by the coulter, the former is always made of iron, instead of metal, which is always attended with trouble and expence. From this mode of fixing the plough-irons, it is plain there are two obstructions to encounter with, in place of one: the sock rather opens the land first; the coulter cuts after, but never a clear or fair open furrow, which may be easily conceived.

Some gentlemen there are, however, who follow a better system. A plough got some years ago from Collon, one from Lord Longford in the county of Westmeath,

Westmeath, and one from Mid-Lothian in Scotland (all at Rash), are beginning to open the eyes of the neighbouring farmers. These acquisitions, with the spirited exertions of Mr. Buchanan, near Omagh, who is most indefatigable in the useful pursuits of agriculture, I hope will, in a short time, reform our system; indeed already there are visible appearances of a reformation.

Almost as little can be said in favour of the harrow, as of the plough. There is only one kind in general use; it consists of four baulks or main pieces, containing twenty pins or tines, and is commonly drawn on the angle. Sometimes two harrows are fastened together, especially in dry weather, and at the time of seed-sowing; in this case, two cattle are made use of, yoked abreast. The single harrow is commonly drawn by one beast.

In ploughing, more than two horses are seldom used, and, in many situations, that number is sufficient. It is a well-known fact, however, that the scanty crops of oats we commonly meet with, and particularly the fourth and fifth in course, may be chiefly attributed to shallow ploughing. There cannot be a more clear instance of this, than what has repeatedly occurred at Rash, in laying down the small districts occupied by farmers and labourers, who knowing, that they would be obliged to give up at stated periods, shewed no mercy, but cropped on every year with exhausting crops,

crops, of course, oats and flax. But, notwithstanding the extreme poverty, in which they left the land, one deep ploughing, performed by four or six stout cattle, never failed to yield an abundant crop. But to return;

About twenty years ago, very few wheel-cars were to be met with, except in the neighbourhoods of principal towns, such as Dungannon, Omagh, and Strabane; now every farmer, of any note, is possessed of one or more; though, in many situations, it can never be applied so usefully as the common slide-car; notwithstanding, the farmer, who is able, feels a pride in having a wheel-car, though frequently of not much more use to him, than that of going occasionally to markets or fairs.

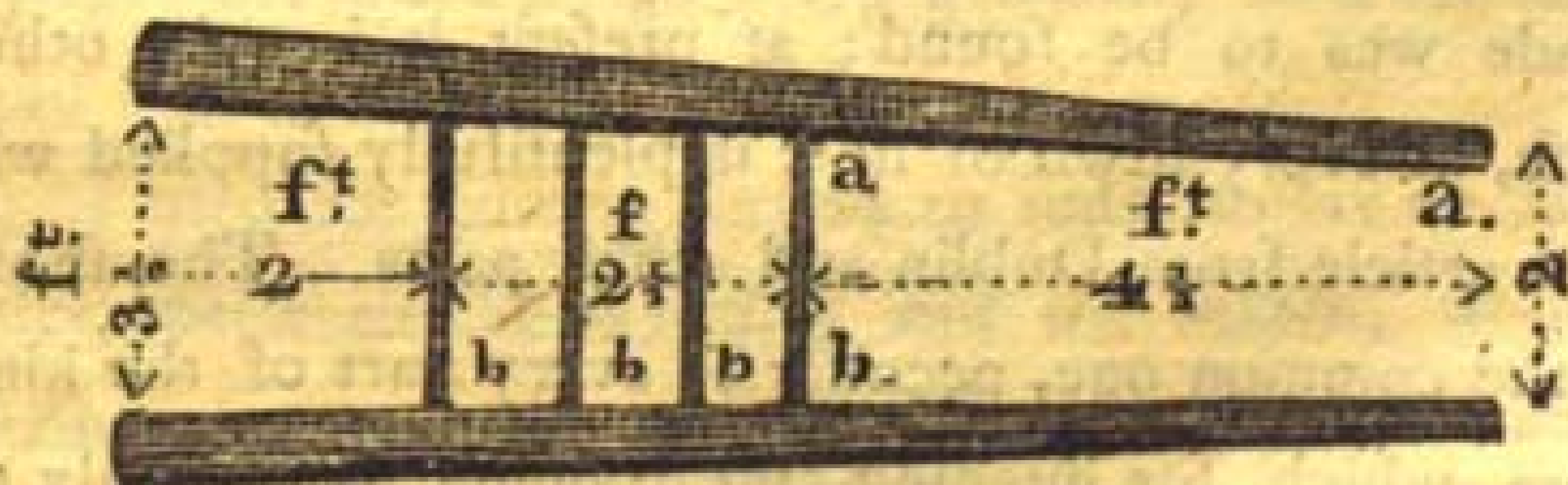
In the hilly and mountainy parts of the country, the slide-car must always prevail, as being capable of access, where a wheel-car would have no chance of acting. The price is from 3*s.* 9½*d.* to 5*s.* 5*d.* when bought at the fair or market, and it will last, with care, three or four seasons, but must be frequently supplied with new feet, which generally cost sixpence-halfpenny a pair: but more of this, when I come to treat of the general prices of timber.

Two and one-half cwt. is generally the load of a slide-car, three of which are deemed equal to that of a wheel-car. The whole expence of a wheel-car is about four guineas, which may last five or six years, according to the manner it may be employed.

To

To a person, accustomed to wheel-cars, the slide ones, at first view, must appear awkward, which, indeed, was the case with myself some years ago; but now I am thoroughly convinced of their great utility in mountainy situations. Even in countries not over mountainous, I am not altogether clear, but the slide-car should have the preference. It is amazing to find with what celerity a small horse, worth about forty shillings, with one of those simple vehicles, will get through so much business in a season, in drawing manure, turf, limestone, &c. In steep hills, rough, uneven, and swampy situations, the slide-car may be used, where the other could have no chance to succeed. The average expence of a wheel-car, with wear and tear, may be about a guinea a year, whereas that of the other may not exceed half a crown.

The reader, who may not be acquainted with the slide-car, even by the name, may conceive some idea of it from the following sketch.



The body, from *a*, to *a*, is usually the length of that of a wheel-car, according to the size of the beast; the same may be understood of the breadth. The body is

made of oak, alder, birch, or any other wood which may be convenient. The rungs, *b, b, b, b*, are generally oak or hazel. The car is commonly used for some time before the foot is applied, and, upon the application of which, the side of the car is thus represented.



When the shaft of the car is raised to *a*, (the supposed height when the beast is yoked), the space *c, d*, will be found horizontal, or at least it will take that direction, when the car has been some time at work. In drawing over hard soils, the feet soon wear out, and must be frequently replaced. The straps or belts *e, e*, are sometimes of iron, but most commonly gads, made of hazel or fallow.

Spade and Shovel.—Some years ago, scarce a good spade was to be found; at present it is quite otherwise, as every town of note is plentifully supplied with that article from Dublin and other parts. The shovel is the common one, peculiar to every part of the kingdom, which, for ditching and draining, is certainly the best.

A mill, for manufacturing spades and shovels, has been lately established at Fintona, by Mr. Hugh Kelly
of

of that town. I find, from fair trial, that the spades are as good as any, which have been brought from other parts. At Newtown-stewart, by Mr. Martin of that town, another spade and shovel-mill is about to be set up.

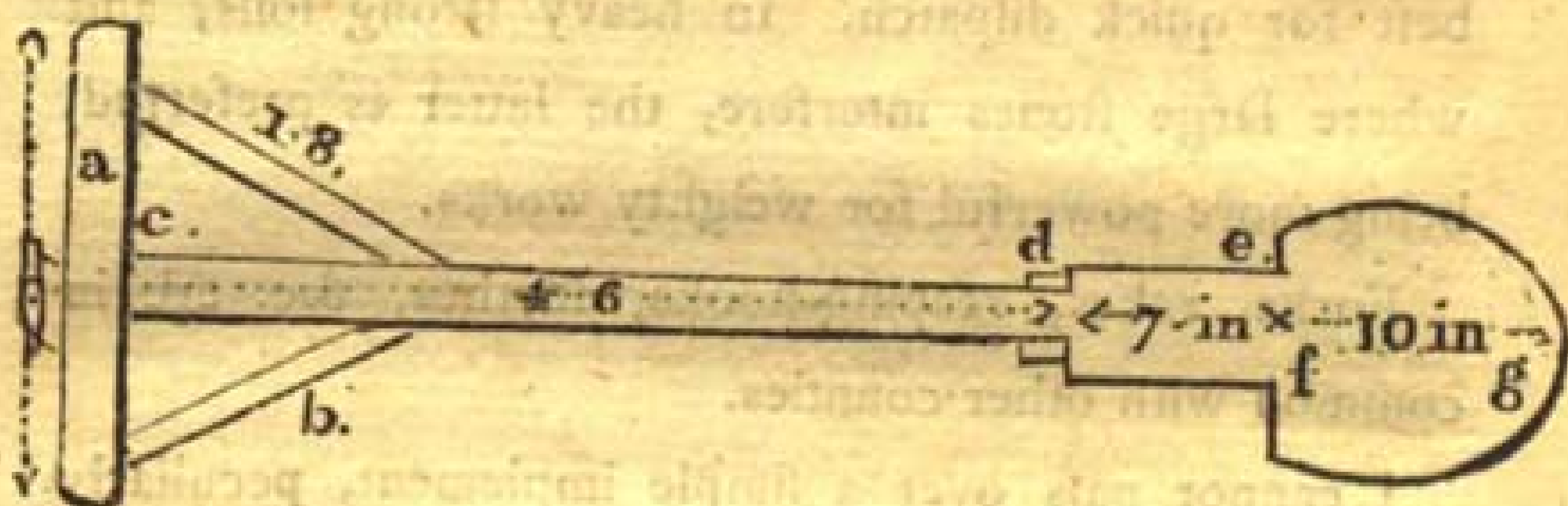
Pick-axe and Crow-iron.—Formerly the pick-axe was seldom used in sinking drains and ditches; the crow-iron was the chief implement for that purpose. The former is at present in most general use, being less laborious to the workman; besides, in most cases, it is best for quick dispatch. In heavy strong soils, and where large stones interfere, the latter is preferred, being more powerful for weighty works.

Forks, rakes, reaping-hooks, scythes, &c. are in common with other counties.

I cannot pass over a simple implement, peculiarly adapted to this county, and which, I believe, is tolerably general through the North, though not so in other parts of the kingdom. The old Irish name is *skeroghoge*; the word *skerogh* being generally used for sod. I shall here call it a scraw-cutter.

It is used for cutting scraws or fods, to lay on the houses, between the wattling and the thatch, which contribute very much to keep them comfortable and warm, and also saves thatch. The fods are cut about two feet broad, and from an inch to two inches thick; the length is determined by the depth of the roof; for example, a roof of fourteen feet in depth will require

a fod of sixteen feet, as it must lap over the vertex, and come down to the outside face of the wall. They are rolled upon a stick, and carried up the ladder by two men, who perform their work very dexterously. An active man can cut from thirty to forty fods of the above dimensions in a day, and the general price is a penny a fod, but he must assist to lay them on the roof, and fit them there, which requires some degree of ingenuity. Under is a sketch of the scraw-cutter.



The cross piece *a*, 2 feet,

Brace, *b*, 1 foot, 8 inches,

Length from *c*, to *d*, 4 feet 6 inches,

—— from *d*, to *e*, 7 inches,

—— from *f*, to *g*, 10 inches, and about the same in breadth. The rise, or upset, from *d*, to *g*, is to be considerably more than that of the bed of a spade.

SECT.

SECT. 6. *Markets for Grain.*

ALTHOUGH there are several market towns throughout the county, yet very little grain is sold at any of them. Oats and barley are generally sold by sample, Oatmeal and potatoes are the chief articles of food, sold in the public markets. The principal markets are, Dungannon, Stewartstown, Cookstown, Aghnacloy, Augher, Fintona, Omagh, Newtownstewart, and Strabane; there are a few others, but of very little note.

Flax-seed abounds in every market, in spring, not only in market towns, but even in small villages, and detached houses through the country. It is always bought from the merchant by the hogshead, which generally is from sixty to seventy gallons; it is retailed by pecks and gallons; five of the latter are sufficient to sow half a rood, or twenty square perches of land, being in the proportion of forty gallons to the acre.

Most commonly, great profits are made by retailing flax-seed; I have known them to amount to forty per cent.

Some years ago, in consequence of premiums granted by the Dublin society, or the Linen board, large quantities of flax-seed of Irish growth were sown; but this practice, with great propriety, has been laid aside.

SECT.

SECT. 7. *Use of green food in winter.*

FEW in the county know what is meant by green food, much less have they any knowledge of the application of it.

Some are very industrious in planting large quantities of cabbage in their gardens, which they never let go to loss, as the cows and pigs are sure to be served by what the family cannot make use of; this about Christmas affords a temporary relief. In spring which is the trying season for cattle, as at that time fodder of every sort becomes scarce, the only resource for green food, if I may so call it, is the tops of furze, which are used in large quantities for horses. The young tops are pounded, or bruised, in a stone mortar; but this operation is very tedious, as it will take a man, the greater part of the day, to prepare food for two horses. When bruised, they are mixed with a little oats, and make excellent provender, which all our farmers fully experience. A machine, or some improvement, upon this head, would be found of infinite advantage to the public. I have seen flax broken, for the scutchers of a flax-mill, by wooden fluted cylinders, and am of opinion, that furze might be bruised on the same principle. This might be worth the consideration of some ingenious artist.

Instead

Instead of green food, oat-chaff and small potatoes are boiled together, which are well known to be wholesome and nourishing for cattle and pigs, and never fail to encrease the quantity of milk. The milk is also encreased by boiling hay in water, which encrease is more or less, according to the quality of the hay; the close jointed grasses, in general, afford the richest hay-water, of which the bent grasses form not the least part.

There is a species of grass very common in all low situations, and especially in rich bogs, called the creeping bent grass, the *agrostis stolonifera* of Linnaeus: from the saccharine and succulent quality of this grass, it is extremely well suited for making hay-water. The natives call it the foreen-grass; the joints are very numerous, and strike root at every one; it creeps along the surface to a great distance, attaching itself to the perpendicular sides of drains and bog-holes, or any other situation, where its numerous roots may chance to grasp. The best way of encreasing it is, to cut the hay with a knife, or rather with a straw-cutter, which if sown like hayseeds, in moist situations, and covered with about half an inch of rich boggy soil, in moist weather, every joint will succeed, as I have more than once experienced.

It is not easy to collect the seed pure, nor is it apt to ripen well. A fuller description under the article, *Natural grasses*, which see.

It

It would be unpardonable in me, were I to quit this subject, without taking notice of Dr. Richardson's system of courses of crops, and green food, in the parish of Clonfeckle, and barony of Dungannon. When I was there in July, 1800, I saw some crops of rape, managed in a masterly manner, and with a perfect view towards economy. This gentleman seems to possess, in a great degree, both the spirit and talent for useful farming.

CHAP. III.

PASTURE.

SECT. I. *Nature of Pasture.*

FROM the mode of letting lands rest a few years, in some measure to recover naturally, without the assistance of clover and hay-feeds, or either, good pasture-land cannot be expected. The principal pastures are those, which the plough and spade have not hitherto been able to attack; namely, holmy * land, considered too wet and precarious for tillage; rocky and scrubby land, out of the reach of a farmer to bring into culture; mountainy soil, deemed not capable of bringing crops of corn to maturity; and bog and marshy soils, as far as cattle are able to make their way into them, and, in attempting of which, many are lost.

The above, with what the cattle may be able to pick up, after the crops of corn are carried off, chiefly compose

* Low flat land, situated generally in the vicinity of brooks and rivers.

compose the bulk of the pasture-land, except about towns, where generally there is some attention paid to the sowing of hay-seeds, but rarely clover.

It is a universal practice to let in cattle among potatoes, some time before the stalks are withered. A more destructive system cannot be conceived, as the loss in the crop, by adhering to this method, must be always considerable. The root is never at maturity so long as the stalk continues green; besides, the cattle tread the land to such a degree, that frequently a great part of the crop is exposed, and, if it should escape the frost, is, notwithstanding, otherwise materially injured. The soil is also rendered stiff by the cattle walking over it, which, of course, must always encrease the expence of digging out the potatoes. Add to this, that, if the land be retentive, or inclined to clay, water will lodge in every impression made by the feet of cattle, which, in a short time, will cause the crop to rot.

SECT. 2. *Breed of Cattle—how far improved.*

THERE is very little variation in the breed of black cattle, and especially in the mountainy parts of the county. They are of various colours and shapes, but generally small, as heavy stock could not subsist upon the scanty fare of our mountains, being principally young

young heath, or *heder*, a common name for heath with the natives, and a coarse kind of *carex* grass, which springs up immediately, after burning the heath, in spring, which in many parts of the county is a common practice, to the great destruction of game, but more particularly grouse.

The common custom is, with the occupiers of mountainous tracts, to let the grass for the summer season, for so much a beast, or by the sum, according to the country phrase, to the inhabitants of the low lands.

Horses, from 10*s.* to 15*s.*

Cows, from 5*s.* to 10*s.*

Sheep, from 1*s.* to 2*s.*

In Glenchordial, between Omagh and Gortin, one of the appendages of the Munterloney mountains, grazing lets somewhat higher, it being allowed to be the best feeding mountain in the county.

At the fall of the season, generally in October, great numbers of the horned cattle are killed, and sold in all the country fairs and markets, not by weight, but most commonly by hand or view, at from 30*s.* to 3*l.* a carcase. By the country people it is called horse-beef, because it is carried to market on horseback. The poorer class are the general purchasers, and three or four of them frequently join in a carcase. Some are brought home, and fed on straw during the severity of the winter.

From

From this treatment, we cannot expect any improvement in the breed of cattle, so far as relates to mountainy pasture, which, indeed, composes a great part of the pasture of the county, particularly in the baronies of Strabane and Omagh. Many die, even in the summer months, through extreme poverty, and not a few die of disorders, which, no doubt, proceed from the same cause.

No pains are taken to improve the breed of cattle, nor would it answer any good purpose to do so, till a reformation be first made in the mode of pasture, and more bogs reclaimed, because, in the present state of pasture, the native cattle are found more certain, than stock brought from the southern or western counties.

Though our milch-cows are far from being well shaped in general, they are, notwithstanding, commonly good milkers, to secure which the people take infinite pains. If a person happens on a bad milker, he sells her again as soon as possible, and so continues buying and selling, till he finds one to answer: this is not attended with much expence or loss of time, as the fairs are so numerous and convenient throughout the county.

The horses are also badly shaped, though very durable, and capable of undergoing a great deal of fatigue, upon scanty allowance. We sometimes meet a better kind of horses, which the farmers ride and work occasionally, but these are generally bought at remote fairs. Fermanagh supplies this county with some good cattle.

Breed

Breed of Cattle—how far capable of further improvement.

It has been remarked, in the preceding article, that to attempt to improve the breed of cattle, till better pasture be introduced, would answer no good end; therefore it is needless to dwell on this subject. Before any material improvement can be made in stock of any sort, a better system of laying down land, with judicious courses of white and green crops, must first take place.

SECT. 3. *Markets and Fairs for Cattle.*

PERHAPS there is not another county in the kingdom better supplied with fairs than this.

In January there are	11 fairs.
— February -	11 ditto
— March -	9 ditto
— April -	6 ditto
— May -	24 ditto
— June -	16 ditto
— July -	9 ditto
— August -	18 ditto
— September -	6 ditto
— October -	16 ditto
— November -	24 ditto
— December -	9 ditto

— 159 in the year.

Black cattle, sheep, and pigs, are to be found in every fair, and at all seasons; and in the summer months, in the principal towns, new-calved cows and springers are commonly sold on market days. Sheep are also sold on market days, especially of late, since the army began to be quartered throughout the principal towns and villages.

Both fairs and markets are generally supplied with the common country breed; but, from August to the beginning of November, a much larger and better sort are to be met with in the principal towns; these are brought from other parts. In May, wethers are brought from the West by jobbers, which, in a few weeks, are sold to butchers. This is, in general, a profitable kind of traffic; sheep of this description, laid in at May for 25*s.*, will sell out, the August and September following, at from 32*s.* to 40*s.* besides the fleece, which may be stated at four or five shillings more.

Fairs for horses are much more limited, than those for sheep and black cattle. The following are the principal.

Strabane.

Moy—considerable; good cattle, and high priced.

Dungannon.

Carnteel—considerable.

Ballygarvey.

Omagh.

Clogher—considerable, the summer fair only.

Five-mile-town.

Beraugh.

Duninelong—considerable.

SECT. 4. *General Prices.*

THE price of stock varies very much, nor can there be any general rule laid down to ascertain this point. Forward seasons, and the state of provisions, are the surest guides to judge by. In very dear seasons, such as the years of 1800, and 1801, milch cows sold at an immoderate price. I have known some of the common breed to rate so high as twelve guineas, the milk being of great relief to the poor in those severe times; whereas, on the other hand, dry cows brought but a low price, though both seasons were very promising, and turned out remarkably well for grass.

Times of plenty, and the prospect of a forward season, never fail to raise the price of dry cattle. A beast, supposed not to weigh more than $3\frac{1}{2}$ cwt. (120lb. to the cwt.) when made up for sale in November, generally costs from 5*l.* to 6*l.* the preceding May, though in very poor condition. At 3*d.* a pound for the beef, and about 5*s.* for the hide and fat, the whole may be set down at 7*l.* 15*s.*; so that, from this statement, unless the beef exceed 3*d.* by the pound, the profit cannot be reckoned sufficient for the summer's grass; but

a great

a great deal is made of land by after-grass, and feeding through stubble-land, &c.

Common working horses are always dear in spring, on account of the great hurry of labour, which never fails to prevail at that season. A beast, which, in the spring season, might have cost 6*l.*, probably may be sold, the October following, for 3*l.* This great variation in the price of horses arises from the scarcity of winter food, as very few of the *small farmers* can afford better food, in winter and spring, than oat-straw, and the tops of young furze, as has been already noticed.

Common sheep, bought in at May for 15*s.*, sell, the October following, at from 20*s.* to 25*s.*; but this must be understood in good low-land soils, and not in mountainy ones; the fleece is generally worth 3*s.* Five sheep are allowed to a plantation acre. There is more profit on sheep and lambs, than on wethers, when the lambs succeed, which is not always the case; the lamb and the wool are supposed to be cleared, both worth about 12*s.*

SECT. 5. *Mode of feeding Cattle.*

THROUGHOUT most parts of the county, and particularly the best improved parts of the baronies of Strabane and Omagh, black cattle are housed during the
heat

heat of the day in summer, merely for the object of encreasing manure, and not to guard the cattle against too much heat, of which there is scarcely ever any danger, our summers in general being quite the reverse. This system is chiefly confined to milch cows, the young stock being generally sent to the mountains, to remain there the summer and autumn half-year.

As the stock of grazing among the farmers and labourers is seldom abundant, they are very industrious and careful to pick up every bit of soil they can make out about ditches, &c. Cabbage-leaves and potatoe-stalks, as soon as the latter article becomes fit for use, still help for food and manure, and encrease the quantity of milk and butter.

For want of good fences to protect the crops, the cattle are also housed at night; this, of course, adds to the fund of manure. With me it is a doubt, if the farmers were even possessed of sufficient fences, but they would still prefer the practice of keeping their cattle housed at night in the summer season, on account of having an opportunity of encreasing their fund of manure. Still, however, this consideration should by no means prevent the introduction of good fences for many useful purposes, which, in this place, it is not my province to dwell upon.

About towns, where fields and parks are in general securely fenced by dry stone-walls or quicksets, cows are suffered to lie out at night in summer and autumn,

and, in favourable seasons, to the latter end of November.

I have often heard this subject talked over by the better informed people, whether it be wiser economy to have the cattle housed in the summer season, as above stated, or let them remain out altogether. There might be many reasons given for and against both sides of the question; but I believe, by weighing all maturely, that housing is the best economy. The other mode, perhaps, in some instances, might be found best, but this should be chiefly understood for the neighbourhood of towns; but the misfortune is, that the inhabitants of such places scarcely ever pay the least attention to the manure of cattle, by collecting it fresh, shortly after it falls from them, and before it becomes too dry, which renders it entirely unfit for the purposes of manure. This neglect is the chief cause of the numerous rank and insipid tufts of grass we meet about towns, and other parts, where this business is not fully attended to. Some, however, break and scatter the dung when it becomes dry, but this is of little or no use, as it then becomes quite exhausted, and the rank tufts are not prevented from taking place.

With respect to the feeding of horses, the same advantage, as far as relates to manure, cannot be obtained, as from black cattle, since the manner of feeding is more precarious. When not at work, the horse is generally spancelled, or tied by a rope to a stake, on the
road

road side, or in some corner of a field under crop. When at work, some scraps of soil are made out for him between working hours, and the same commonly at night-time.

Sheep are not usually fed on the low lands in the summer season; they are generally sent to the mountains for six months, from the first of May to the first of November, but, if the weather should set in severe, not so long.

Cattle, how far housed in Winter.

The weather points out to the people when to house their cattle. In order to save fodder, which is always a scarce article, they keep them out as long as possible, or so long as the weather will permit. Many farmers have their cattle comfortably lodged, both cows and horses; as to bullocks or oxen, there are but few. In very severe weather, the small scattered flocks of sheep are sometimes looked after, but are most commonly suffered to range through the country in common, and many of them are utterly lost.

In very severe weather, the young stock of black cattle are collected into some out-houses, or sheltered situations, where they are treated as well as the nature of the case will allow.

In order to save fodder as much as possible, the farmer seldom threshes more on one day, than what his

cattle are able to consume the same day; this business is generally performed by the servant boy on mornings and evenings, before and after his day's work.

Whatever little stock of hay there may be, is generally reserved till spring, and that chiefly for horses, who at that season must work very severe, in order to expedite the spring business, which is, in general, very pressing, between oats, barley, flax, and potatoes.

As to the poor cottiers, who generally derive under the farmers of all denominations, their mode of feeding their cows, in winter, is very precarious and uncomfortable; some, according to the rule of cot-take, or cottiers-take, may have half an acre of oats, which commonly produces thirty stooks of straw, of twelve sheaves to the stook. Such as are so circumstanced consider themselves very well off, though this allowance is not more than half sufficient for the season, as thirty stooks of straw seldom weigh more than 10 or 12 cwt., and a ton, of either hay or straw, is too small an allowance for a cow, for the season. As hay is generally out of the cottager's power, he must buy as much more straw as his cot-take produced, otherwise his cow must starve; the average price of straw is eight pence a stook, so that sixty stooks, what is supposed to have off the cot-take, and what he must buy, may amount to forty shillings; and the summer's grass, unless mountainy pasture, is commonly the same.

But

But many there are, who are far from being so comfortably circumstanced as the foregoing. Without any kind of a cot-take, but the bare walls of a cabin, frequently without even a small garden, the poor man must struggle through life; but almost every labourer is also a weaver; when the linen trade is good and provisions cheap, he does tolerably well, so far as potatoes and oatmeal are concerned, but is generally straitened for milk and butter; the latter, indeed, the poor seldom use.

As to the manner of housing in winter, cottiers' cows generally fare better, with respect to warmth, than those belonging to farmers, as one house generally answers for the family and the cow. Miserable as this circumstance is to relate, it is really fact, and will hold good throughout more than the one third of the peasantry of the county.

Till men of property set some plans on foot to alleviate the condition of the poor, there can be no chance of improving their situations; sly farmers, or under tenants, who are generally understood to be farmers of the lowest denomination, and are most commonly those, from whom most of the labourers, and the poorest class of the weavers hold their cot-takes; what can be expected from a set of beings, who are for the greater part fully as wretched as the cottiers themselves? I find myself wandering from my subject, but I request the reader's indulgence for a few words more.

A farmer

A farmer, who may occupy ten or fifteen acres, of perhaps bad land, is neither a farmer nor a cottier; he is much worse situated than a cottager, placed in a comfortable, easy situation, immediately under the lord of the soil, with certain privileges, sufficient to support himself, and family, so far as relates to potatoes, flax, grazing, and a small garden, with a little hay, or, for want of it, a certain allowance of straw; for these the labourer can afford to pay a better rent, than the petty farmer is able to pay for his land. By this system, the landed property will be encreased, the individual cottier made happy and comfortable; this will excite industry, will create wealth; and thus the community at large can never fail of benefiting by this mode.

SECT. 6. *Natural grasses.*

I believe all the natural grasses peculiar to the kingdom are to be met with in this county; it is at least the case, as far as I could learn. Upon this subject, with the investigation of other plants indigenous to the county, I have, for some years back, spent some time and speculation; the result of which I hope, one day or other, to set forth, though I cannot say, that I shall be able to add a single species to the collection at Glasnevin, according to the catalogue I have seen of that collection.

The Fescue and Poa grasses are the most numerous in sound soils, in which situations the vernal grass is never wanting. In rich reclaimed bogs, both species of the white meadow grass always flourish, though in any soil, newly laid down, they prosper for two or three years ; but in dry situations they soon give way to the above, which, with the white clover, most commonly compose the principal mafs ; but the latter is almost peculiar to every spot, which in general supplies all defects in the verdure of the surface, where clay is at all concerned.

According to the received system, clover is not ranked among the natural grasses ; but as many of them supply the place of the most valuable grasses, at least so far as relates to pasture, I shall here consider them in the same light, that farmers usually do.

A perennial clover, in England commonly called cow-grass, here known by the name of horse-shamrock, is frequently met in detached tufts, in strong soils, and cold clays. This is a most valuable plant, and spreads fast. Seeds-men frequently impose the seed of the red clover for this article, which they may readily do, as, by barely inspecting the seeds of both, they are not easily distinguished, at least by common observers. In this county, in dry seasons, the seed ripens very well ; a few ounces of it might be soon collected, which in two or three seasons, by good management

management and clean culture, afford a plentiful supply. A stock of pure seeds might soon be procured, by separating the roots.

The famous forcen-grass, already mentioned as a substitute for green food, I must in this place make a few more remarks upon.

In making roads through our most spongy and worst of bogs, we frequently find this species take place naturally, in the course of two or three seasons, in the bottoms and sides of water-tables and ditches, and along the footways, between the gravel and the edges of the fences. Upon scouring those drains and ditches in spring, and casting the stuff with the mangled grass in question upon the surface of the bog, we find a strong permanent soil soon formed. But I find, where this work has been performed early in autumn, that the good effects of swarthing over sooner take place. The reason is plain, because a dry summer, following the spring operation, prevents many of the roots from striking anew. These observations, which are really fact, shew clearly, how much this semi-aquatic grass might be turned to our advantage, with little trouble or expence. I have frequently known this grass to shoot upwards of twenty feet in a season, and produce plenty of roots at every joint, which are always numerous ; but in rich bogs, the joints are further apart than

than in barren bogs, but the whole summer's growth, in the former case, together with an uncommon degree of luxuriance, is always found most considerable.

Great advantages might be derived from timothy grass, by encouraging, and confining it to the soil it is best calculated for, and where other grasses of greater repute, though perhaps not deservedly so, would not succeed. It is not common; sometimes, however, we meet it in strong, sour, clay soils, commonly in detached groupes, in which situations the seed, in favourable seasons, comes to maturity.

Some years ago, I got a considerable quantity of this seed from America, and sowed it upon a very stiff clay soil, which retained water almost perpetually, and was so situated, that draining was found to be of very little use; yet, notwithstanding, the grass flourished, and is at this day as pure and as free from other grasses, as the first year after the seed had been sown, which is so far back as the year of 1792. The soil is now perfectly dry and firm, though no subsequent draining, or any other improvement of the surface, had since taken place.

It is very singular, that I never have been able to save any perfect seed from that procured from America, though I have perfectly succeeded in raising perfect seed from the native growth.

Bulk for bulk, the seed of this grass weighs heavier than any of our natural grasses.

It was formerly in great repute in England, from whence it found its way to America, where, I am told, it is considered as one of the most valuable grasses in that country. When better known here, I make no doubt, but it will become a favourite also. For working horses it makes excellent food, but I find it is not over favourable to the dairy.

SECT. 7. *Artificial Grasses.*

EXCEPT red and white clover, I cannot find, that any artificial grasses have been attempted in this county. White clover is sometimes sown separate, but most commonly mixed with red clover; but very little of either is raised in the county, by way of artificial grasses; the former soon covers the surface without being at the trouble of sowing, and the latter we commonly find in patches, in dry wholesome soils, and sometimes mixed with the perennial red clover, or cow-grass, and frequently accompanied with the common trefoil; so that there are four species of clover, generally ranked as artificial grasses, frequently found growing spontaneously together, perhaps within the compass of one square yard; nor is it uncommon to find more kinds of clover within the same space.

Mr. William Ross, of Strabane, deservedly merits great applause, for his skilful management of red and white clovers on a deep bog, which had been cut out.

The

The principal top-dressing was soaper's-waste. This useful citizen has shewn many proofs of his knowledge and good economy in farming and irrigation, or watering of meadow and grafs lands, in the vicinity of Strabane.

SECT. 8. *Mode of Hay-making.*

THE small lap-cock, of about ten or twelve pound weight, made up green is the common practice of the county, and also of the greater part of the North of Ireland; experience having taught the people, for many years, that the large grafs-cock, generally followed through many parts of the kingdom, is by no means the mode fuitable to this county, and particularly in wet seasons, which are too frequently so at the season of the year, that hay is usually made up here, being feldom earlier than the first of September, except in new laid down upland, most commonly in the vicinity of towns, where manures can be spared for meadows. In such situations, from the beginning of July to the beginning of August is the usual time for hay-making; but in all cases of managing hay harvest, this work is never attacked early enough by the common farmers, who are not under the controul of gentlemen, or of such as are better informed than themselves. There is one reason, why the farmers permit their hay-grafs to remain

main so long before they cut it ; it is this ; about the beginning or latter end of April, their stock has consumed the whole of the fodder, the meadows are therefore kept open and grazed, until near the beginning of June, a bad practice ; consequently were the farmer to cut the hay, earlier than the latter end of August, or beginning of September, the crop would be very scanty, these months being reckoned for the growth of grass.—*Remedy*—Let the farmer proportion his stock to the quantity of fodder he may have, which I believe is very seldom the case.

When I first saw this method of hay-making practised in this county, I must confess, I thought it most absurd, trifling, and tedious ; but I was soon convinced to the contrary, from a little experience and local knowledge.

The first thing to be done, after the hay is mown, is to go over the swarth, and collect any weeds that may be, which at that time is easily done. In low-land meadows, rushes and sprit are generally the articles most injurious to hay ; and, as these are always longer than the grass, they project somewhat beyond the bulk of the swarth, and may be readily selected from it. Both rushes and sprit make good thatch, and as that article is always scarce, great pains are taken to collect them for that purpose. But when rushes and sprit are not over abundant, the farmers are not anxious to collect them, but let them mix with the general mass ; some benefit

accrues from the addition of the sprit, but none at all from the rushes, which dwindle away, before the hay is brought into the haggard. Indeed at best hay of this description is only fit for dry cows, and a running stock of black cattle. Rushes are not so good for thatch as sprit, the latter being tubulous, and of course better calculated to discharge rain water than the former, which is pithy.

In collecting the prime part of the grass, after being mowed, for hay-seeds, much attention is sometimes paid; but this can only take place in the first or second crop, after the land has been laid down; for future crops yield but very little seed. The white meadow grasses are always most prevalent, and are most sought after. In new laid down grounds of almost every description, the white meadow grasses generally predominate, for the first and second seasons, and shoot longer than the other grasses, which gives an advantage in separating them from the general mass, as they project beyond the bulk of the swarth. Of this disposition those, who wish to collect the seeds pure, avail themselves, before the swarth be broken out or scattered. It is tied up in small sheaves, and placed to dry like stooks of corn, till the seeds are ripe, and fit to thresh out. So much for economy with respect to saving grass-seeds, but to return :

The great art, in making hay from natural grasses, is to break out the swarth thoroughly, by hand, and not by the lazy way of tossing it about with forks, and
forked

sticks, as is the case in the great hay countries in most parts of the kingdom. Sometimes the swarth is suffered to remain for a day, before it be broke out, and some let it remain longer; but such, as understand this business perfectly, break out the swarth immediately after the mowers, be the season dry or wet, unless the latter prevails too much, in which case the mowers are, of course, stopped.

In good weather, grass, cut in the morning, is made into lap-cocks in the afternoon, unless it be very heavy forced grass, in which case more time must be allowed, and frequent turnings. The season always determines the size of the cocks; in good weather, they may be about eighteen inches in the base diameter, but considerably less in broken weather. When the weather is very much broken and unsettled, which is, indeed, often the case, the cocks are made hollow, so as to resemble a lady's muff, which figure has the power of turning the rain, besides admitting a thorough passage for the air.

If the weather be favourable, the hay will be fit, in a few days, to make up into large cocks, generally about half a ton. It rarely happens, however, that hay can be got up thus suddenly, as the season for mowing natural meadows seldom takes place before the middle of August, and, too frequently, not till the first of September, when, most commonly, the autumnal rains greatly retard this business; in this case, the

little lap-cocks have always the advantage over every other system of hay-making.

It is amazing to find, what slavery and hardship those cocks will endure, before they are materially injured. I have frequently known them to remain a month together in the lap-cock state, and, after all, to have suffered very little.

The whole secret is, in making those cocks secure at first, and forming them into an even convex, to turn the rain with the greater ease, and frequently changing their situation, without breaking the first shape given to them, whilst the grass was green and fresh. If ever the surface be broken, after the lap-cock is first made from the fresh grass, the hay will surely suffer in bad weather. It is the incrustation, which the fresh grass soon acquires after being formed into lap-cocks, that secures the whole, and in which lies the whole secret; and this shews how necessary it is to lap the hay as soon as possible after being cut.

In the hay-yard a rick is preferred to a cock, as the expence of thatching is less; and, when hay is not cut, but pulled, there is certainly less waste in a rick.

Observations.

A prejudiced notion almost universally prevails throughout the county, and, I believe, through most parts of the North of the kingdom, namely, that natu-
ral

ral meadow, such as is situated along brooks and rivers, &c. should not be mowed till after the dog-days, which may happen earlier or later in the season, but are generally considered to be between the 1st and 20th of August. This observation may sometimes hold good, but it very frequently happens that, immediately after the dog-days, wet weather commences; besides, the oat-harvest usually takes place about this time, or a little after, so that both works interfere at once, which, of all things, should be avoided as much as possible, as, in case of both meeting, the one must certainly give way to the other, and, by such bad management, one, or, perhaps, both, are materially injured, or, at best, got over in a slovenly manner.

By being contented with one-third less hay, and taking a proper advantage of the season, so as to have the other two-thirds secured, before the press of the oat-harvest should take place, would be found by far the best economy.

The above evil arises from the fodder being consumed so early in the spring, which obliges the people to let their cattle have the run of the land, intended for meadow, perhaps to the first of June. Green food, in the spring season, would most effectually prevent this disagreeable circumstance.

SECT. 9. *Dairies—their produce.*

As far as I can learn, there is not a dairy in the county, for the public sale of milk and butter.

The produce is chiefly milk and butter, as very little cheese is made, except a little for family consumption, which is of an inferior quality. Butter, in the summer season, is to be had fresh in every town and village, most commonly at a dear rate, sometimes so high as a shilling a pound of eighteen ounces. It is a common practice with huxters and dealers, to reduce the pound of eighteen ounces to sixteen ounces (the standard), before they retail it to the public. This is a grievance, which might be easily remedied by the first sellers, by making their pound only sixteen ounces, since they alone are the sufferers, and not the consumers.

All the butter, the farmers can spare in the summer, is generally made up for winter and spring use; the produce of the county is generally consumed within itself. The maxim of the common people is, to live on buttermilk in summer, and reserve the butter for winter; this is certainly good economy, but it is not literally followed.

Such part of the milk, when churned, or what is commonly called butter-milk, as can be spared from

the family, is generally sold to labourers and poor weavers, commonly at one halfpenny a quart in summer; and besides, the butter-milk is generally adulterated with water, with which the poor people must dispense or want. Many farmers are, however, very liberal in bestowing part of the butter-milk to the poor.

Vast numbers of calves are reared throughout the county, which is the principal cause of butter bearing such high prices; a secondary cause is, the army stationed through the principal towns.

Observations.

In countries, where milk and butter sell at high rates, there is no mode, by which a farmer could make more money, than by keeping a public dairy, or rather supplying cows, for that purpose, to a dairy-man.

In many parts of the kingdom, the farmer supplies the dairy-man with a certain number of cows, at so much per cow, from the first of May to the first of November; and, if a cow should not prove to be a good milker, the farmer must supply a good one in her place. It is a settled point between the parties, that each cow must give so many quarts of milk in the twenty-four hours, diminishing, of course, as the season advances.

Five guineas a cow I consider a price for the season, by which both parties might have very ample profits. This used to be the price some years ago about Drogheda, when milk and butter were cheaper than at present. But, in order to make this subject somewhat intelligible, I shall suppose five guineas a cow to be a medium throughout the kingdom.

For this purpose good grass, and changes of pasture, should be kept up by the farmer; this, from the nature of the contract, must necessarily follow.

I shall suppose the cows bought in the beginning of May at seven guineas, and sold out in November at five guineas; in this case there is a loss of two guineas, but the dairyman pays the farmer five guineas, which leaves a clear profit to the latter of three guineas. Now as there must be good grass kept up, as already observed, I shall set down three acres against two cows, which shews the farmer to be paid two guineas an acre for his land; and, in case his rent be twenty shillings an acre, it is clear his profit must be very considerable, even allowing for losses incident to all cattle. This immense profit may thus be made, without scarcely any expence attending it.

I shall state the dairyman's return as follows, which I consider more under than over the true statement, which, in this instance, cannot be accurately ascertained.

	£.	s.	d.
One pound of butter a day, for six			

months, at 9d.	-	-	-	6	16	6
----------------	---	---	---	---	----	---

Twelve quarts of butter-milk, as stated						
---	--	--	--	--	--	--

for butter, a day, at 4d.	-			3	0	8
---------------------------	---	--	--	---	---	---

				£.9	17	2
--	--	--	--	-----	----	---

Deduct five guineas,				5	13	9
----------------------	--	--	--	---	----	---

				£.4	3	5
--	--	--	--	-----	---	---

I shall suppose the number of cows to be

twelve,	-	-	-	-	50	1	0
---------	---	---	---	---	----	---	---

One man, and two women, to attend the

dairy, I shall set down at	-	-	-	20	0	0
----------------------------	---	---	---	----	---	---

				£.30	1	0
--	--	--	--	------	---	---

The farmer's return on twelve cows, 36

guineas,	-	-	-	40	19	0
----------	---	---	---	----	----	---

Dairy-man's return,	-	-	-	30	1	0
---------------------	---	---	---	----	---	---

				£.10	18	0
--	--	--	--	------	----	---

From the above statement it appears, that the farmer's profit is more considerable than that of the dairy-man; but, upon the other hand, the latter runs no hazard, for, if a cow should die, or meet with an accident in the field, he is not to be the sufferer.

The farmer has another advantage; he may make something of his land, in the winter months, by sheep, and a running stock of black cattle. But the great point,

point, in favour of the farmer, is, how much his land will be improved by following this system.

It must naturally occur to those, who might be inclined to pursue this system, that the vicinity of towns would be found most eligible, on account of the vast number of labourers and tradesmen, who live in such places, without having any means of keeping a cow; as, of course, all the town-parks must be occupied by the wealthier part of the inhabitants.

SECT. 10. *Prices of Hides, Tallow, Wool, and
Quantity sold.*

HIDES.—This article varies very much with respect to price. In times of war, hides are always higher than in those of peace. Though this fact may appear strange, from the great quantity of beef, that must be exported in the former case, yet so it is, and always holds good. From this it must be inferred, that war encreases the value of leather to a considerable degree. The price also differs according to the weight of the hide; one weighing eighty pounds may cost at the rate of 40*s.* by the hundred weight; when another, of seventy pounds, may cost only 35*s.* by the same weight. The tanners have rules to go by, according to particular weights. A cow-hide sells generally higher, weight for weight, than that of a bullock.

The

The reader will please to observe, that I mean green or undressed hides. The hide of a horse sells for very little; it is usually bought by hand, 5*s.* or 6*s.* being the usual price for the hide of a middle-sized horse. Forty shillings a hundred (112lb.) is the medium price for the hides of black cattle in general. Calf-skins are generally sold by hand, from 3*s.* to 5*s.* It is impossible to state, with any degree of accuracy, the number of hides sold in the season, since the skin of every beast that may die is disposed of, whether by a regular course of slaughtering, or by accident, or disorders. Some years, cattle fall off in greater numbers by disorders, than in others. The prospect of a scarcity of fodder causes a greater number of cattle to be slaughtered, than would otherwise have been the case.

Though there are a great number of small tan-yards in the county, both in towns and country, yet a vast quantity of tanned leather is annually brought from Dublin to all the principal towns. The Dublin leather always sells for a higher price than that manufactured in the county. Some years ago, a great deal of leather used to be sent to Dublin and elsewhere, but this practice is now almost given over. The great scarcity of tanner's bark is likely to bring the tanning trade into disrepute. At present, almost all the bark used in the county is imported. Mr. Hamilton's wood, in Munsterloney, for many years back afforded the principal
supply

supply of bark, but at present those woods are nearly cut down.

Great encouragement should be given for raising birch and black fallow, for temporary relief; the price of the bark of birch and fallow is half that of oak.

Tallow.—There is less variation in the price of this article, than in that of the former, as soap and candles are uniformly used, both in this and the neighbouring counties, which also contribute to regulate the price of tallow.

Tallow at present bears a good price, as it has done for some years back; the medium price is 3l. per hundred, (of 112lb.) though it is sometimes sold by the long hundred (of 120lb;) but either modes make no difference to the seller or purchaser, as the price by the pound is always understood. If candles rate at 9d. a pound, tallow usually sells at 6½d. per lb. and soap in proportion, but the latter is not so high as the former, at least the common soap is not, but bleacher's soap is dearer than the common sort.

The quantity of tallow sold depends upon the number of cattle killed, for such as die through poverty produce but very little tallow.

Soap-chandlers are but few, but manufacturers of candles are in every town and village. No regular accounts are kept of the quantity of tallow, or suit bought in, so that it would be found impossible, in this place, to form any accurate statement of the quantity annually sold.

As far as I can learn, the county is sufficient to supply itself with soap and candles.

Wool.—Sixteen shillings a stone may be considered the average price for wool, for the last ten years; 16lb. being usually allowed to the stone. By retail wool generally sells at from 14d. to 18d. per pound.

The county is by no means eminent for sheep, and such as they are, in no great quantity. Small scattered flocks are to be met with, in the mountainy parts, in summer, which in winter, are dispersed through the low-lands, without any distinction, so as not to be confined to any particular district; for at that season, a kind of *run-deal*,* through many parts of the county, (and particularly the baronies of Strabane and Omagh) takes place, for want of good fences. If the owners know the number of their sheep, and have some private mark on them, by which they may be able to distinguish them from their neighbours', they give themselves no further trouble about them. In heavy snows however, every person endeavours to collect his little flock to his habitation, but in this they are often disappointed.

From the precarious manner, in which sheep are bred in this county, and as the owners of them generally

* *Run-deal*, or *run-deal*, is a term used, when several parties are joined in a town-land, or part of it, without any permanent mearing. Cattle in such situations graze in common, but the crops are divided only by a narrow margin, of about a foot broad, left unploughed.

rally manufacture the wool for their own use, it is impossible to form any calculation as to the *quantity sold*. In every fair-town, large quantities of wool, from the west of the kingdom, are to be met with, during the greater part of the summer season, of which no regular entries are ever made, as it is in a great measure sold by retail.

The wool of the country, and all that is brought into it, is chiefly made up into cloth, blankets, and druggets. The farmers, who are in general linen-weavers, consume the greater part of the cloth, and blankets; the druggets are worn by the poorer class of women; the cloth is generally yard wide, and of a very good quality. The people are all expert in dyeing for their own common purposes; they dye various colours, but blue is their favourite.

The labouring part, and the poorest of the weavers, provide themselves with coarse cloth, or rather frize in the country shops; they sometimes buy a cloth called rattcen, which commonly wears well. In the shops also, the poorer class is principally supplied with coarse blankets and stockings, which are chiefly manufactured in Connaught. The county of Donegal supplies large quantities of coarse stockings.

CHAP. IV.

FARMS.

SECT. 1. *Size of Farms.*

THE size of farms differs very much throughout the county; mountainous farms are generally of great extent, and are seldom divided in themselves, or even from each other. It is common for several persons to be concerned in one town-land, in the way of common, or run-dale, as it is usually called; each person to pay a proportion of rent, suppose a fourth, or a fifth, as the case may be; this determines the quantity of land each is to cultivate for his own part; but the cattle run in common, and the number, to the share of each person, is also determined by his proportion of the rent.

This system is attended with many inconveniencies to the land-holder, and is the greatest impediment to improvements. There is no emulation for draining,
enclosing,

enclosing, liming, or carrying into execution any permanent improvements, as long as this system exists, since none of the party have any division, which may be properly called their own. If one person should be disposed to improve, another, or perhaps the whole party, may be averse to it, and thus the business of improving the farm is dropped altogether.

Among the many clauses in leases, one to oblige tenants to divide their farms must certainly be of use. I believe there is a law in existence, with respect to mearings, which backs an active tenant, if he should be disposed to make up his part of the mearing, though his neighbours should be against it. I see no reason, why an active, enterprising man, who may be concerned in the *run-deal* system, should not have the law to support him, as that relative to mearings.

Wherever divisions have taken place among tenants occupying such tracts, improvements are very conspicuously gaining ground, and especially in cases of long leases, or when the tenant has an assurance, that his land will be let to him again, at a reasonable rent, at the expiration of his lease.

The low lands of the estates of Newtown-Stewart and Aughentaine, the property of Lord Mountjoy, are in general well divided, and in many parts well planted with thorn quicks, and timber trees. Farms vary in
size

size from five to fifty acres, and they are much greater in the mountainous parts.

In those estates for many years back, leases of no more than twenty-one years could be given by the two last proprietors; yet, notwithstanding, the tenants went on with spirit and industry, in the improvement of their farms; this they did, from a confidence they had in a good old *modus*, namely, that their land would never be given away to another tenant, so long as they were able and willing to pay a reasonable raised rent; this consideration has had also a good effect, with respect to dividing the town-lands into subdivisions, so as that each individual knew his own part to a certainty. It is now in contemplation to give leases of lives and thirty-one years, which, no doubt, will be found a more powerful inducement for the tenants to improve their farms, than the present system of twenty-one years.

As a specimen of the industry of the tenantry of the Newtown-stewart estate (consisting of near twenty-four thousand plantation acres) perhaps in this place it may not be improper to state the following fact, which I can vouch from my own knowledge.

From 1795 to 1799, both years included, it is well known, that the dispositions of the yeomanry of the kingdom were but very little turned towards improvements, at least by far the greater part of them; yet within the above periods, I have given, from the nurseries

series at Rash, upwards of one hundred thousand forest trees, to the tenants of the estate, principally oak, ash, alder, birch, fycamore, and mountain ash. The greater part of the above were planted in the faces of new ditches quick-wise, and generally mixed with thorn quicks. The timber trees were in general four years old, being two years transplanted, and always cut close after being put into the ditches. A trusty experienced person from the demesne always superintends this business, to see that the plants be securely bedded, moulded, &c.

I mention this circumstance, in order to shew, how little the people of this part of the county were tainted with bad principles. Since the troubles ceased, however, they have more than doubled their diligence, in every species of improvement within their sphere.

The county may be said to consist of three degrees of farms. The greater part of the baronies of Dunganon and Clogher are compactly divided, from ten to forty acres, and the fences are in general good. Farms of this description never fail from being of the most general use to the community, because the middle-man* is most commonly out of the question, in farms of this description.

The next degree of the size of farms is that frequently beyond the reach of the holder to manage, or make

* The middle-man is next the landlord, who lets the land to under-tenants at a rack-rent.

make the most of, by fair labour or industry. Hence arises the baneful practice of taking in under-tenants; no matter how poor, or of what character, provided the middle-man gets his rent; but in this he is frequently disappointed, and often little lamented. Those wretched under-tenants work the land by repeated cropping, till it is capable of yielding no more; they then generally run away, with whatever spoil they can make, most commonly a year's rent.

There are some instances however, where the middle-man may be of more general use to the community than the landlord. If the former be possessed of a long lucrative lease, his interest in the soil may be better than that of the latter; in this case he will find it his interest to deal reasonably with steady under-tenants. A lord of a soil, which perhaps he never saw, nor intended seeing; with a receiver, who may be also a stranger to every kind of country business, and whose knowledge is confined to that only of receiving rents, and contriving the best ways and means to augment them; are not the most likely persons to promote the general welfare of the community. For this county, it is very fortunate to have but few, if any, of that description.

The third degree of farms are commonly too small. Though this system is not altogether so destructive to the land as the former, yet it is a bar to a regular course of industry. The man, who holds a few acres, perhaps

perhaps of bad land, can make no figure as a farmer; his situation as a labourer, with a comfortable cottage immediately under the lord of the soil, is much preferable, having no difficulties to encounter, nor being under any disagreeable anxiety.

SECT. 2. *Farm-houses and Offices.*

THERE is much more attention paid to dwelling-houses throughout the county, than to the offices belonging to them. In many parts, the dwelling-houses are built with lime and stone; but by far too many are built with clay-mortar as a cement. In the angles of the houses, jaumbs of doors, &c. lime-mortar is commonly used, in order to strengthen the walls; but, notwithstanding, the walls frequently bulge outwards, wherever clay-mortar is concerned.

In the barony of Dungannon, many houses are built of clay, or what they call mud-walls, but, in general, in a slovenly manner, by no means equal to the mud-wall houses we frequently meet with in the county of Dublin. When mud-wall houses are well built, they are much warmer than houses built of lime and stone; they are not, however, adapted for this county, as the clay is not well calculated for the purpose of building; but the principal cause is, that they consume too
much

much straw for thatch, &c. on which account they lessen the quantity of manure, a practice we should always guard against.

Walls of stone houses are generally built too narrow to support the roof, and especially when the mixed cements are used, that is, partly lime-mortar, and partly clay-mortar. The side-walls seldom exceed twenty-two inches in thickness, and the end-walls about two feet. The side-walls should be two feet four inches at bottom, and reduced to twenty-two inches at top, which is generally at the height of seven or eight feet from the surface. The battering, or reduction of the thickness of the wall, should be all on the outside, and the inside face should be perpendicular; an inch of battering, to every foot in height, is not too much. This is the most effectual means to prevent the walls from bulging or spreading. The same precaution should be used in houses or cabins, when the roof is hipped, or half hipped; but, through the county, the generality of houses are built with thorough gables.

There are some slated houses and offices to be met with in some parts of the county, which, from appearances and other circumstances, are likely to encrease. The few already built sufficiently prove, what saving there may be in the article of straw, one-third of which, I dare say, is applied to thatching throughout the

the county ; but, if staling became once universal, this quantity would, of course, go to encrease the fund of manure.

Mode of repairing Houses and Offices, whether by Landlord or Tenant.

THE repairing of houses and offices generally falls upon the tenant ; there are very few instances to the contrary ; hence we find buildings in general so much out of repair, or repairs done so slovenly.

Where the tenures are but short, and renewals at all precarious, it cannot be expected that the occupier will be at any great expence, in point of building or repairing houses ; his only object must be, how to make the most he can of an uncertain tenure.

All the covenants, that may be entered into at the taking out of short leases, are of little or no effect with respect to buildings. If there are buildings, the enforcing the keeping of them comfortable, or in any kind of decent order, is out of the question ; a thousand excuses will be made out by the tenant for non-performance, and the landlord has no remedy left, but to turn him out, and, in doing this, he has a chance of losing part of his rent, and, probably, may meet another not better than the former.

There are only two effectual means of securing comfortable buildings, and, in fact, to have any degree of

justice done to farms; namely, long leases, or, a certainty of the occupying tenant always having the preference given to him at the expiration of a short lease. The system of giving long leases (suppose thirty-one years, or three lives) is certainly the best mode in this county, as there is seldom found that degree of confidence between landlord and tenant, which in England has been so happily experienced for ages back, and, in all probability, will be the case to the end of time. How happy would be the situation of thousands of our yeomanry, were they upon the same footing of many of the English, in point of good understanding between party and party, or landlord and tenant?

In many parts of England, a good old rule is punctually observed, namely; one-third of the produce of a farm for the lord of the soil; one-third for wear and tear; and one-third for the cultivator of the soil. Here we have but few instances of this equitable mode.

In England there is nothing more common, than to have no leases at all between parties, but only to go on from year to year, and raise the rent occasionally, as the nature of the case may be, or shall be found agreeable to the parties concerned.

SECT. 3. *Nature of Tenures.*

I TAKE for granted, that the information, required on this head, chiefly alludes to cottiers, and the poorer class of farmers. Tenures, respecting the better class of farmers, I shall reserve for the article, *General State of Leases.*

The tenures of the cottiers, who derive under the farmers, and are by far the most numerous of the labouring class, are in general very miserable, though the greater part of them are weavers, but do not pursue that trade regularly.

The *cot-take* generally consists of half an acre of oats; half a rood, or twenty square perches of flax; from half a rood to a rood of potatoes; grazing of a cow; most commonly a miserable cabin, and bog privilege for turf, from twenty to forty kishes, and sometimes a small garden. Five pounds a year is generally paid for the above. The farmer ploughs the land for oats and flax, and sometimes puts out the dung for potatoes; and, if he gives the manure, the cot-take is seldom less than five guineas.

The general rule is, that the labourer pays the farmer in work, instead of cash; and the latter is sure to make his bargain so, as that the spring and autumn

seasons must be the times of payment. Many of the farmers are weavers of the first rate; these are such as keep three or four looms in their houses, and have poorer weavers also at work for them; in this case, the latter generally pay the former the amount of the cot-take in weaving; most commonly, part is paid by weaving in the winter season, and part by common labour in the seasons already mentioned.

SECT. 4. *General State of Leases.*

TWENTY-ONE year leases are most prevalent throughout the large estates; there are, however, many leases of other descriptions, but very few less than twenty-one years, except bishop's leases.

In travelling through the country, the lands, held under long leases (such as thirty-one years, or lives, which I consider long), are easily distinguished from those of short tenures, from the advanced state of the improvements, so conspicuous in the former. But this observation only holds good, where no third person is in question, which, indeed, is too often the case, as such part of the land, held under rack-rent, can never improve, so long as it remains so circumstanced.

A large portion of the county is bishop's land, subject to various modes of renewing leases, but all of

short

short tenures; yet, notwithstanding, we find farmers very comfortably settled in well-built habitations, and frequently with some planting about them. This chiefly arises from the punctuality of renewing, and, probably, from the lands not being over-let, and that the progressive rise is more regular and uniform than in other cases. But this observation is very limited; it holds good so far as the tenant holds a complete farm from the bishop, sufficient only to support himself and family. By far the greater part of bishop's lands are rented by gentlemen, and opulent farmers, in large tracts; hence, of course, the third person must step in, whose fate must, in general, be more deplorable, than when circumstanced under other cases of rack-rent. In this there can be no redress, on account of the shortness of the tenure; whereas, in case of an under-tenant deriving under the second person, with a long lease, he may have some chance, because this second person has a good interest in the soil, perhaps a better than the lord of it, which has been already observed.

There are instances of bishop's interest being purchased; I do not know, how far this may tend to alleviate the distress of the third person; it depends, in a great measure, on the humanity of the purchaser.

From hence it is evident, that the improvement of bishop's lands can never keep pace with their properties, except upon a confined scale, as has been remarked.

marked. Glebes, unless such as are wholly inappropriate, have no better chance than bishop's lands.

Of particular Clauses in Leases.

It would be found an endless task to enumerate all the clauses, inserted in the leases given by the different proprietors of the county. Almost every man of landed property has his own particular clauses. Those in common are the following.

1. A reserve to the proprietor, and his assignees, of all manner of game, and other royalties, mines and minerals, as coals, quarries of all sorts, springs, water, water-courses, turbaries, and all timber, whether over or under ground.
2. Covenant to do suit and service at manor-court, and to grind corn at manor-mill.
3. To join with neighbouring tenants to make sufficient fences.
4. To make new ditches, and plant trees and quicks.
5. To permit landlord to search for mines.
6. Not to alienate or mortgage, under penalty.
7. To oblige tenants to restore to the premises all dung made thereon.
8. To exhibit and prove lives in leases, to exist at stated periods.

Innumerable other clauses might be named; but there is one in particular, which, in my opinion, should be scouted altogether, at least from the generality of leases. This is the clause, which binds the tenant to supply *duty men and horses*, and other *dues*, too shameful to mention. Men and horses are always exacted at busy seasons, which must act against the tenant. The loss of a few men and horses, in a dormant season, might not be much felt; but this is not the object of the landlord, because cutting and drawing home turf, corn, &c. are the works principally laid out to be performed by duty.

I have had many opportunities of observing the effects of this kind of duty, and, on the whole, I am certain, that the landlord is rather a loser, than a gainer, by this kind of dealing. A dinner, and plenty of whiskey, are generally given upon those occasions; and, when it is considered how little work is done, the balance will most commonly be found against the landlord. The tenant is generally bound to give so many men and horses, and he will take care to come as late in the day as he can, and work as little as possible for the remainder of the day: with him a day's work is the object, and the less he does, he looks upon to be the better for himself. In some cases, the tenants are bound to perform duty upon a different footing from actual day's work: the landlord must have his works, as specified in the lease, performed by the tenantry in
 common,

common, according to the rent they pay; but, let the obligation, or the mode of performing this business, be as it may, it is always attended to with the greatest reluctance. The sooner this *feudal relic* is abolished, the better it will be found for all those concerned; though I am not without apprehension, that many of my readers will not join me in opinion.

Instead of filling up leases with poor insignificant clauses, which answer no substantial end, some good salutary clauses might be introduced; such as binding the tenant, under a severe penalty, to drain, enclose, lime, marle, &c.; also, to attend to certain courses of green and white crops. Such are the clauses, by which both parties would soon find benefit; and with which, on a certainty of reasonable leases, tenants would chearfully comply.

SECT. 5. *Taxes or Cesses paid by Tenants.*

THE taxes are; cesses for the support of roads, bridges, &c. The cefs for roads is laid on the barony, to which they belong; other cesses on the county at large. Though those taxes are sometimes considered a grievance, yet, in general, they are paid more chearfully than any other species of tax, both on account of the benefits the public derive from roads and bridges, and also the advantage the circulation and return of money is to the tenantry of estates, who are

always

always the executers of the public works; so that the money they pay returns back to themselves.

Hearth-money and window taxes are always considered a grievance among the poorer class, and are frequently paid with murmur and discontent, as their ideas are, that no future advantage can derive to them for money so laid out; they never consider, that such taxes are for the support of a government, which protects them and their property.

There are other taxes settled by acts of vestry, for the repairs of houses of worship, paying sextons, &c.; but these affect the individual, only in a very small degree.

SECT. 6. *Proportion of working Horses or Bullocks,
to the size of Farms.*

WITH respect to the proportion of cattle to the size of farms, there is no fixed standard or rule. A farm of twenty acres may require as many cattle to cultivate it, as another of fifty acres, according to the quantity of arable land the farm may contain. Few bullocks are made use of. Except in large farms, two or three horses are about the number usually employed. Very little ploughing is performed till after Christmas, of course the fewer cattle are necessary. Drawing turf and manure occupies more time in the year, than ploughing. Occupiers of small farms generally
lend

lend and borrow horses, to and from each other, and especially when the farmer has but one horse, which in small farms is frequently the case.

SECT. 7. *General size of fields and enclosures.*

FIELDS and enclosures vary according to circumstances. In the vicinities of towns, they are generally small, from one to five acres and upwards.

THE nature of the situation is frequently (or should be) a guide for the size of enclosures; exposed aspects require enclosures to be small, the better to secure shelter, and wet swampy land must be always improved by small enclosures; at least the expence of draining is lessened. These are points, pretty well understood by the generality of the farmers of this county.

Upon a great scale, the best improved parts of the county, with respect to regular and useful enclosures, are the greater part of the baronies of Dungannon, and Clogher.

Between Omagh and Drumquin, for two or three miles from the former; and from Omagh to Dromore; and also from Omagh to Fintona, may be set down in general, as being well divided, and in some parts planted with quick-set, but very few forest trees. The farmers throughout Lord Mountjoy's estate, chiefly in the barony of Strabane, are making rapid strides in
point

point of enclosures, generally small, from one to six acres; and very few enclosures are formed, without being planted with thorn quicks, and timber trees.

About Cooks-town the enclosures are very regular, and judiciously laid out in town-parks, and upon an extensive scale, which, with many other useful and extensive improvements, reflect the greatest honour on the late and present proprietors.

SECT. 8. *Nature of Fences.*

THE nature of fences varies with circumstances, or locality of situations.

In mountainous situations, where stones are plenty, dry walls, badly built, are commonly made use of. Where culture is in question, this mode serves two ends, namely first, by clearing the land of stones, and secondly, for fences to divide it; on this account, if the stones be found very numerous, the enclosures are made small, and the walls very thick, at bottom sometimes four feet, and commonly four feet high. This the farmers consider a cheaper mode, than that of drawing part of the stones away altogether, in which they are perfectly right when over-stocked with stones, which in those situations is usually the case.

When stones are not found sufficiently plenty to form dry walls, fod-walls are introduced, sometimes

When

with a stone foundation; the fods are laid edge-ways, and built about four feet high, and sometimes topped with furze. Such perishable walls require to be renewed every second or third year, but this is not considered expensive, as the old fods mixed with dung, and sometimes lime, answer extremely well for manure for potatoes, and sometimes as a top-dressing for grass-land.

Bogs and swampy situations are generally divided from arable land by large drains, so as to divide the summer pasture, and confine the cattle to the bogs at that season; but this mode is chiefly confined to fertile bogs, as spongy quaking bogs are seldom accessible, except in very dry seasons.

The mode of fencing by common ditches is in general very bad; they are so ill built, that they frequently tumble down the first winter after being built. The dimensions are always too small, five feet wide, and three feet deep, for the gripe is the general size; of course, the bank must be very poor. For want of an off-set,* the thorn quicks, if planted at all, are left quite bare after the first winter, and too frequently little

* An off-set, or scarcement, (the latter is the country phrase) is a space, which should be left between the verge of the gripe, and the face of the bank, from six to twelve inches, according to the nature of the soil, or the position of the ditch.

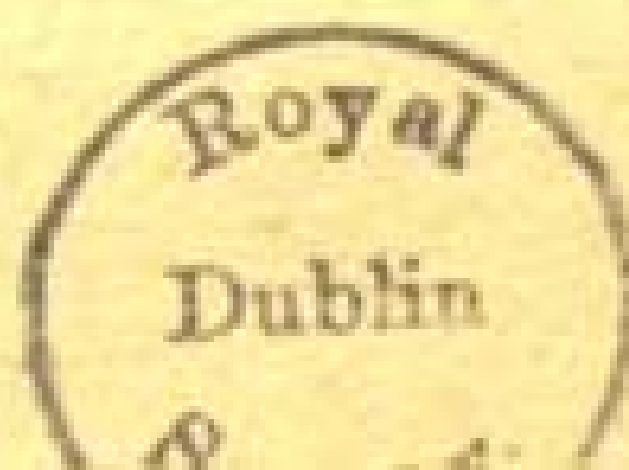
pains are ever taken afterwards to afford them any relief. About towns however, we sometimes meet with good hedges, which are better attended to than throughout the county at large: this is owing to the narrow scale townspeople are generally concerned in, and the necessity they are under of securing their small concerns, on account of the high rents they usually pay. Though about towns they never attend to the leaving of a scarcement, they notwithstanding, by patience and perseverance, get up the hedge through time; if the ditch should slip or give way, which indeed is almost always the case, they patch up from the bottom of the gripe, with fods, stones, &c. to meet the quick.

Hence it is plain, that for several years there must be perpetual trouble and expense, whereas a reasonable scarcement would have saved both.

When I come to treat of Lord Mountjoy's improvements at large, the article, *fences*, shall be fully treated of, according to the different modes, which were found necessary to be adopted in those extensive concerns.

Mode of hedge-rows, and keeping hedges.

Hedge-rows are rarely met with in this county, and the few, which occur, are but slovenly managed. In most cases they are let to run at random, without
taking



taking any pains to manage the trees, by directing their heads to the right or to the left, so as to assist the quick-set with a free circulation of air; which is a secret our people know nothing of. In some cases the trees have been lopped too severely, and in many instances have been pollarded, to the great destruction of the timber.

In short there is very little attention paid to the old timber, in hedge-rows, scarce as it is. I hope however, it may not be the case in future with the young growth, as most of the farmers and others, who plant, have got into the habit of planting quick-wise, most commonly mixed with thorn quicks, instead of planting tall, aukward, and ill rooted standards at the backs and tops of ditches, where they are always exposed to cattle and other insults and accidents. As to the keeping of hedges in a neat, garden-like order, either by square or taper clipping, it is quite out of the question, except in some particular places, such as about towns, and some few farm-houses of the first class; but all are attached to the old mode of cutting hedges, which causes them to be always bare at bottom. Hedges are seldom cleaned more than one or two seasons, after being planted, and then are left to chance.

The precarious manner of procuring thorn quicks, from Dublin, very often of a bad quality, and almost always materially injured, by being too long out
of

of ground, with bad packing, and at the mercy of indolent carmen, must be always a bar to this improvement, but of this I shall speak more fully in another place.

SECT. 4. *Nature of Manures.*

UNDER the article *Mode of Culture*, I have made some remarks on common manures, to which I refer.

With respect to mixed manure, (a kind of compost commonly made up of common dung, mud, or mire, backs of ditches, scrapings of streets and roads, and other materials, such as can be collected, and sometimes lime) the farmers and cottiers of this county are not inferior to those of any part of the kingdom. The abundant crops of potatoes to be met with, in all parts of the county, are convincing proofs of what industry is used in the various ways and means of collecting manures, because without manures, in our very best soils, there can be no chance of securing a tolerable crop of potatoes, and the mixed manures are always found the best, and if a little lime can be added, it is found still better; but lime alone, without being mixed with other materials, is not found to answer for potatoes in most cases; but there have been instances of strong old leas, when early ploughed, and roche lime turned in, producing

cing large crops of potatoes, without any additional manure. To answer this end most effectually, the best season to plough in the lime is July or August, and let the land remain in that state till spring, when it should be ploughed again, and well harrowed, the better to mix the lime effectually.

The practice of burning moory soils, and rich black bog, is universal throughout the county, nor did I ever hear of any cause of regret from pursuing this system, which in this county is very ancient. Excellent crops of potatoes are generally procured by this mode, and that frequently without any other additional manure. Dung and compost, however, are most frequently mixed with the ashes, and sometimes lime, as, in this case, corn crops are certain to succeed after potatoes, at least one good crop, which would be found uncertain, had the potatoe crop depended upon the ashes alone.

No manure operates more powerfully the first season than ashes, nor is there any species of manure less abiding.

Manuring meadows by irrigation or watering, is finding way fast through many parts of the county. From the trials, which have been already made, and the great benefits resulting from them, there is every reason to hope, that this salutary system will shortly become general.

Considering how rich this county is in limestone, yet lime, as a manure, is upon a limited scale. Binding
clauses

clauses in leases would, no doubt, remedy this in some measure. If instead of the sorry lime-kilns, commonly called pot kilns, which we find scattered through the county, substantial draw-kilns were introduced, there would not be the least danger, but that lime would soon become a universal manure. For many years back, I have had roche lime, from ten pence to thirteen pence a barrel, of thirty-six gallons, whereas it is a well known fact, that the farmers, in general, pay from one shilling and eight pence, to two shillings and two pence, in their peddling way of working their *pot-kilns*.

A lime-kiln of what I call the composite kind, or that composed of partly an inverted cone, and partly a cylinder, is certainly the best construction. The best in the county is at Rash, designed several years ago by the late bishop of Clogher, which construction has since extended to other parts of the kingdom. The dimensions of the kiln at Rash are as follows: the conical part eight feet high, and the diameter at bottom about eighteen inches; the cylindrical part of the same height as the cone, making altogether sixteen feet. The diameter of the cylinder, and of course the largest diameter of the cone, is eight feet. The fuel used is turf, and, when well attended, it will turn out about fifty barrels of roche lime, in the twenty-four hours. There is a lime-house attached to this kiln, of forty feet by twenty, height of the walls fourteen feet; it is slated, and cost in the year 1791 sixty guineas. The kiln was built several years before,

before, and cost fifty-six pounds. If built at this time, they certainly would come higher. Were I to build another kiln, and that my situation could afford it, I would prefer twenty feet, for the whole height, to sixteen feet, or I would rather have the cylindrical part eleven feet, and the conical part nine feet.

A kiln of this description, when well attended, might afford lime sufficient for perhaps thirty or forty farmers of the first rate. Now suppose the whole cost, at this day, might be about two hundred pounds, surely this sum laid on forty large farms, in addition to the rents, could never affect the farmers in any degree, proportionable to the advantages they would derive from always having lime at certain and cheap rates.

In pursuance of an original plan of the late Lord Mountjoy's, a large lime-kiln and lime-house are now building in a central part of the estate of Newtown-stewart, the object of which is to sell lime, to the tenantry of the estate only, at a reasonable price, not exceeding fourteen pence a barrel. This cannot fail in obtaining the desired ends, namely, in enabling the tenant to lay on more lime than what he could, in other respects, ever have any chance of doing, and of course in raising the value of the landed property. The good effects, which may arise from this mode, cannot be doubted; they are already sufficiently proved by a similar practice, followed for several years back by a neighbouring gentleman, Mr. Stewart of Stranorlar, in the county of Donegal.

Marle is rather scarce in the county, particularly in the baronies of Strabane and Omagh; nor do I find it is a favourite object of the farmers, though I have experienced wonderful effects from it, several years ago, in the demesne of Rash, on a dry soil.

Many parts of the baronies of Dungannon and Augher abound with lime-stone gravel, yet I find it is not used in any proportion, equal to what it should be.

SECT. 10. *Mode of Draining.*

OPEN drains are in common use, only temporary to save the crops in moist situations, when the latter end of the spring happen to be wet.

The secret of hollow draining is very little understood in any part of the county, much less the intercepting, or cutting off springs. Sod drains are not known in the county.

Some farmers, in forming ditches, take advantage of the situation of the ground, so as to answer a double purpose, namely, that of enclosing and draining, but this system is by no means pursued so fully as might be wished for; it is however gaining ground.

Though, in point of conveniency and regularity, the following the courses of springs with ditches, so as to

answer the purpose of both enclosing and draining, may be considered an awkward manner of disposing of the fields and enclosures, yet, in wet and exposed situations, it should be preferred to any regular mode, for the following *good* reasons. First, draining the land is considerably, if not wholly diminished, by the act of enclosing : secondly, shelter is rendered more complete, by following the natural and meandering courses of the springs : and thirdly, when those ditches are planted with forest-trees, the shelter is not only more complete, but the whole space, as far as the improvements are carried on, appears a solid body of planting from many points of view.

By attending to those natural circumstances, and planting a few trees in the intersections of fields, which might be always done at very little expence, both beauty and profit would always be the reward of the proprietor.

In general, attention is paid to the draining of fertile bogs, so far as they are connected with, or lie convenient to arable land. In such situations, immediately at the junction of the bog and arable, the soil scarcely ever fails to be rich and fertile, and particularly if the arable rises boldly over the bog. Draining in such cases is not the great object of the farmer ; his aim is manure for his farm, in which he is seldom disappointed. Some more prudently attend to both objects, manure
and

and draining the bog below, and, in such situations, natural springs frequently occur, and are in general easily intercepted.

When I come to treat of Lord Mountjoy's improvements at large, I shall have an occasion to enlarge upon this subject, that being the only part of the county, where this species of improvement is carried on to any great extent,

CHAPTER V.

POLITICAL ECONOMY.

SECT. I. *Roads and Bridges.*

ROADS and bridges are generally well attended to by the gentlemen of the county, many of whom are excellent judges of such public works, and take great pains to have them well executed. Very few counties in the kingdom can boast of better or more convenient roads; some parts of the post road, however, between Monaghan and Strabane are an exception; but those parts are intended to be improved. I have accompanied Captain Taylor, some time ago, on the post-road between Omagh and Newtown-stewart, and then approved very much of the new line he adopted; but since having weighed this matter well, I am strongly of opinion, that the proposed line should be on the east side
the

of the river, the whole way from Omagh to Newtown-stewart. The limits of this work cannot afford to shew my reasons in this place, but, if called upon at a future time, I shall be ready to answer; but to return:

Besides the accommodation of the traveller, and the use of roads from town to town, to mills, &c. other objects should be in view. The principal are limestone quarries, and the means of being able to get into extensive bogs, to carry off bog-timber, which at present (and it must be the case for many years) is the chief resource of the whole country, for cabins, loom-timber, and many other purposes.

No species of improvement could tend more to serve the community at large than the above; many thousands of acres might be limed, which for want of roads to the quarries are given up. The more land is brought into culture, the more difficult it is to get at limestone quarries, because the carriage of limestone generally takes place in the summer season. It is universally allowed, that limestone could be procured twenty years ago, upon much easier terms than at present, as at that time very little grain or potatoes were in the mountainous parts, to prevent the carriage of limestone; hence the great necessity of making roads, and the sooner the better.

All persons, whose property lies convenient to a good limestone quarry, should exert themselves, in having roads conducted, as well as those, on whose
lands

lands the quarry or quarries are. It should be a general cause; they should go further, by cheerfully and unanimously contributing to put quarries in good working order; first, by giving a power of keeping them dry, when necessary; secondly, by sinking so as to be able to work upon a fair face to advantage, and, of course, by being able to get at the best part of the stone, which is generally the lowest in all quarries; and thirdly, by employing intelligent persons, to see that all be fairly carried into execution. Such a person might have the general charge of roads for a certain district, and for dividing and regulating bogs among tenantry. I speak from considerable experience of the utility of such a person, and especially where there is a large landed property, and a numerous tenantry.

Without an enumeration of some of the principal quarries, I could not, with any degree of accuracy, point out the several roads, that should be introduced, merely an account of the carriage of limestone.

The county is rich in limestone quarries, generally of an excellent quality for land. Here I shall mention some, to which roads would be found of the greatest advantage.

In the barony of Strabane, between Gortin and Dunnamanagh, is a famous quarry called the Butter-loop, situated between a cluster of the Munterloney mountains, and some of the first magnitude in the county.

county. The greater part of the limestone is carried on horseback in small creels, or cretes, containing about two hundred weight. Roads to this quarry might be made at very little expence, as the materials are always to be found upon the spot; and, though the general character of the country for many miles is mountain, yet every *mountain* has its *valley*, through most of which roads might be conducted with the greatest ease. It would be for the interest of the county of Londonderry, to contribute to a road leading to this quarry, as that county is rather scarce in limestone, in the part of it, which lies nearest to this quarry.

Wilmount, within two miles of Dunnamanagh, abounds with limestone. Roads from this place into the interior parts of the mountains of Munterloney would be found of great use.

Near Newtown-stewart are quarries of great extent, to which roads in some directions are very much wanted.

Drumquin in the barony of Omagh is very extensive in limestone, and the county for several miles around it is destitute of that article. Roads throughout this whole country would be found of the greatest advantage.

There are many other valuable limestone quarries throughout the county, such as Ballygawley, Cookstown, &c.

In my different excursions through the county, I have remarked (and indeed it is invariably the case),
that

that, where limestone is most plenty, there the roads are few, and, in general in bad order. Clauses in leases, obliging tenants to contribute towards making roads to limestone quarries, under certain rules and restrictions, might probably be of use; but, if not done in a general way, I doubt it would be found difficult to bring particular individuals to comply. I only give it as a hint.

As to roads in general, much expence and useful labour might be saved to the public, by farming them; that is, by assigning a certain distance to one or more persons to keep in repair, after being first securely made. This mode is followed through many parts of England, and, I find, is now practised in parts of the barony of Dungannon with good effect.

Throughout the kingdom, roads and bridges always interfere with the two busy seasons of the year, namely, spring and autumn, as these are the seasons the judges are on circuit. The labourers, who should be employed in tilling the land, and saving the fruits of the earth, are too often taken up in finishing off public works, before the judges enter the county.

From this circumstance it is plain, that much inconveniency and unnecessary expence arise; and too frequently the food of man and beast is lost, or much damaged, by not being able to attend to it in due season.

If the roads were parcelled out into certain districts at an annual sum, suppose six pence a perch, more or less, as the case might require; the farmers, who are
likely

likely to be the undertakers, would find it their interest to take care, that their public works should not interfere with their private business, at least, so as not to check the spring and autumn works. In this case they would prepare materials occasionally, and have them in readiness to lay on at every favourable opportunity.* By such judicious management much advantage would accrue to the public, and we would seldom find bad spots in roads, which in the present case too frequently occur. Road-overseers, (I mean the under ones) according to the present mode, never find it their *own* private interest to attack a breach in a road, or set right a pipe or a gullet, which may have got out of order, or let off water from ditches or water-tables, or to do any other trifling matter that may occur, and which if early attacked, the cost is nothing in comparison to the letting such jobs lie over from assize to assize.

The farming of roads &c. would remedy all those inconveniencies, because, the moment the undertaker found any thing amiss, it would be his interest to set it right immediately,

* Soldiers stationed in different quarters might be applied to great advantage, to make and repair roads in time of peace; the good effects of which have been long ago experienced in the highlands of Scotland. The farmer by this means might be eased of the weight of county cess; the soldiers would have more pay than usual, and, what would be found better, his time would be better employed than in the dram shop; the military road, in the county of Wicklow, may serve as a rule to go by.

immediately, as the laying out of money in due season is always found the cheapest way of going to work.

It would also be found good policy to allow the farmer or undertaker that part of the road, which may lie next to his own land; by which means, he would be the more industrious to clear his ground of stones, which to him would be a desirable advantage, and of general benefit to the public, since the more land is cleared, the greater, of course will, be the extent of culture.

There is no reason, why a new road should not be contracted for in like manner. In all cases, inspectors are absolutely necessary. An active person employed in this manner, of approved judgment and fidelity, would do away at once petty road-overseers, and would not be attended with perhaps one fifth of the expence; as the former might answer for a whole barony, at suppose twenty pounds a year, which would make only a small figure in paying the number of overseers usually employed in the same district.

Contracts of this nature should not be for a less term than seven years, to keep roads in repair; if only for one or two years, contractors will have no permanent interest in the work, and of course they will not take such pains to do it well, as if the terms had been longer. Indeed, the longer the term of contract is, the better; it acts upon the contract or in the same manner as a long lease does on a farmer, which requires no demonstration.

How far the country might be enriched by introducing more roads is evident, not only from the useful purpose of cheapening the carriage of limestone, but also the great advantage of being able to procure bog timber at a much cheaper rate than the present.

Extensive bogs we find richer in timber than small scattered patches, and the great bogs invariably afford more bog-fir than bog-oak, the former being of three times the value of the latter. It is also found, that timber is in larger quantities in the middle of large bogs, than at the edges; hence the necessity of making roads quite through them.

I have been often an eye-witness to scenes of struggling and great fatigue in getting out logs of timber to the hard land, frequently at the distance of a mile from where the bog was found. Roads would certainly cheapen this business, not to mention the many other advantages, that would naturally follow the introduction of them. It is in vain to set about reclaiming extensive bogs, without first forming roads, and making large drains and water-tables. A bog may be drained in some measure, but how are hard materials for covering them to be brought in, without roads?

Under this head, I beg it may be understood, that I principally allude to flat extended tracts of red spongy bog, most commonly in a floating state, which, of all species of bogs, are the most difficult to improve; but more of this under its proper head.

Before

Before I dismiss this subject, I shall beg leave to suggest to the gentlemen of the county of Tyrone a plan, which, I apprehend, might not be attended with much expense. They are now in possession of the map of the county, made out by Messrs. William and Conyng-ham M'Crea, in the years 1774, 1775, and 1776.

Since that time, a great number of roads have been made throughout the county, all of which are useful, and many of them materially so. In order to render this map more complete, I apprehend, that all the roads, which have been introduced since it was finished, might be surveyed, and laid down upon it. When this part of the work shall be completed, the gentlemen may go further; a copper-plate might be made out, and a great many impressions struck off. The plate should be the property of the subscribing gentlemen, and any new lines, that may be introduced hereafter, might be delineated on the plate, and thus have new impressions made out occasionally.

I am informed, that artists will agree to make out the engraving, and strike off the maps, by allowing them a certain number for their own emolument. The certainty of this may be easily known, by applying to any of the eminent print-sellers.

Bridges.

A great mistake in bridge-building is, that the piers and abutments are not well attended to, in having
them

them sunk sufficiently deep. More bridges, pipes, and gullets have given way through this cause, than through all other causes put together. In clayey and sandy situations, the course of the river or brook is perpetually changing; therefore too much precaution cannot be taken to guard against accidents, that frequently arise from such causes. Where the current is rapid, there the more care should be taken in sinking deep; but such sites for bridges should be avoided as much as possible.

Every day's experience shews us, that bridges are much more secure in dead or smooth running water, than when constructed on fords, or near them, and especially upon the upper side.

Bridges are, in general, built too narrow. The sinking of foundations, centering, and mason-work, between a bridge of twelve feet wide, and one of eighteen feet, bear not the same proportion, of two to three; in point of expence; that is, if a bridge, twelve feet wide, should cost 200*l.*, it does not follow, that one, eighteen feet wide, should cost 300*l.*; this every person, the least conversant in bridge-building, must know.

In this county, it is only throwing away public money, to introduce cut-stone coping on the battlement, as the country people carry it away, and few of the road-overseers give themselves any further trouble about it. Stones, placed edgewise, of about a foot high, and reaching quite across the wall, are preferable

able to cut stone, as there is no temptation for stealing the former, and this part of the work comes as cheap as any other part of the battlement; whereas cut stone costs from 8*d.* to 1*s.* a foot, running measurement, according to the thickness of the wall.

The side-walls of small bridges, commonly called pipes, or gullets, are generally built of lime and stone: where such are only flagged over, this precaution is altogether unnecessary. By sinking well, where the case may require, and using heavy materials at bottom, a dry wall is fully as secure as a wet one, or that built of lime and stone, which, from much experience, I know to be the case.

There is more foul play and tricks used in bridge-building, than in making of roads. Masons find it their interest to make bad work, in order that the job may the sooner come *round* again, and common road-overseers are seldom sharp enough to prevent this fraud; hence the great use of intelligent honest inspectors.

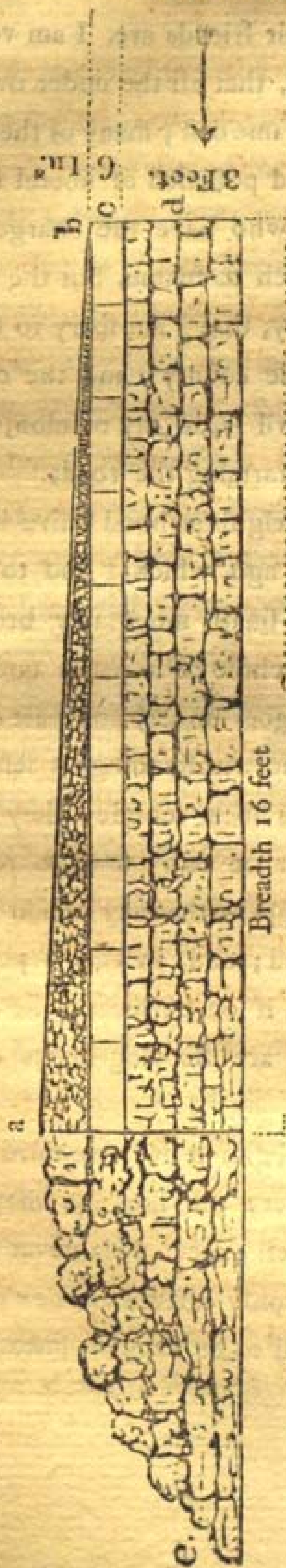
I have, more than once, experienced instances of the foundations of bridges being undermined, previous to floods, in order that the whole fabric might tumble down; nor have I ever known road-overseers to be any way active in detecting such villainy. Indeed, so long as overseers have a double interest in public works, we cannot expect much fair play, for many of the overseers themselves are also the executors, and, where

where that is not the case, their friends are. I am very far, however, from supposing, that all the under overseers of the county are of the same cast ; many of them I know to be men of ability, and possessed of liberal sentiments. It is not the men, who have the charge of public works, that are so much to blame, but the system adopted, and the partiality, that I am sorry to find so prevalent through the whole county ; and the only sure way of preventing this evil is, in my opinion, the appointing of inspectors, and farming the roads.

I have introduced, in the neighbourhood I live in, a species of bridge, some years ago, which I find to answer extremely well for a small mountainy brook. When the water is low, the whole of it passes under ; and, in times of floods, part goes under, and part over the bridge. The passenger, notwithstanding, is seldom stopped, as mountainy floods soon subside ; they seldom last longer than an hour or two ; and, in roads not very public, it seldom happens that any person may go that way during the flood ; and, in case a person should pass during that time, if on horseback, he may ford it ; if on foot, there are stepping-stones convenient.

This kind of bridge may be built for one-third less than in the usual way, where the situation may be found answerable ; and, if well executed, is never subject to be out of repair : it is only calculated, however, for opens, which are intended to be flagged, instead of small arches.

The under sketch may serve to give some idea of this simple structure.



Fall from *a* to *b*, of sixteen inches, should be well secured by a strong pavement, or rather thin stones, placed edgewise, especially towards *a*.

c. The flags covering the pipe or gullet.

d. The side-wall, which should be well sunk, if the foundation be of a soft nature.

When the pipe is filled with *flood-water*, it will soon encrease over the flagging, *c*, and gradually rise, till it arrives at *a*, from whence it will tumble over the rocks, or large stones, *a, c*, without doing the least injury, if the stones are securely placed, by sinking them well, and fixing the largest at bottom. The bottom should be well paved, and made a dead level, which should continue so for some distance below *e*. One of the great secrets, in building all sorts of bridges, is, that, if the water is not naturally level, or nearly so, means should be taken for that purpose.

In the section, across the pipe or gullet, the shape of the road will appear thus, and give some idea of the quantity of water, that may be discharged over it.



The pipe is capable of discharging six cubical feet of water, and the segment, *a, b*, is equal to nearly ten cubical feet. But there is no necessity of being confined to one pipe; more may be introduced, if the case should require it, and the excavation made in proportion. Instead of flags, logs of oak may be used, which will last for ages.

SECT. 2. *State of Navigations and Navigable Rivers.*

THE navigation from Strabane, for upwards of three miles, where it falls in with the river Foyle, is certainly of infinite service to the county, on account of cheapening the carriage of goods of various sorts, from

Derry to Strabane, the whole of the way by water. I understand, that it is in contemplation to lengthen the canal a considerable way further down the river, in order to avoid some shoals and sand-banks, which, in dry seasons, much impede the navigation.

There come up from Derry goods of various sorts, such as timber, coals, iron, flax-seed, liquors, groceries, &c. There go down from Strabane, linen, corn, hides, tallow, potatoes, turf, &c.

The navigation, from Coal-island, near Dungannon, to Lough Neagh, in length about three miles and a half, is at present but indifferently attended to; in many parts it is almost choaked up with weeds. The chief use of this canal is for conveying coals from the colliery. Some timber and other articles are brought up to Coal-island, which are dispersed through the country on cars and horses.

The only navigable river in the county, except the river Foyle, is the Black-water, which runs from Lough-Neagh to Black-water town, distance about ten miles by water. In this course there are two or three shoals, which require to be removed. The boats are from twenty to eighty tons burden, and bring to Black-water town several kinds of goods from Newry (from which town there is also a canal to Lough-Neagh), such as timber, iron, coal, culm, slates, ashes, salt, &c., and bring back barley, oats, and sometimes potatoes, and also linen cloth, as there are two

or three extensive bleach-greens in the neighbourhood of Black-water town. Armagh is only four miles from this village, with almost a dead level the whole way; a canal, of course, would be found quite practicable.

A canal, made from Verner's ferry, or from the Moy to Dungannon, both about the same distance, not exceeding five miles by land, would render the county of Tyrone completely well circumstanced, perhaps as much so as any county in the kingdom. A few years have shewn, of what infinite advantage the Strabane canal has been, and is likely to prove to the community. A canal, from either of the above places to Dungannon, could not fail in producing the like effect, since the country, for many miles about each of those principal towns, is nearly alike circumstanced, with this difference, that Dungannon is quite surrounded by bleach-greens, which is one principal reason for introducing a canal. Situated as those towns are, at both extremities of the county, renders them very advantageously situated for trade; either of them being within twenty miles distance of any part of the county, and considerably nearer to all those parts most eminent for the linen trade. Linens might be at once sent by water to Dublin, to England, or to any other distant part, instead of sending them on cars to Dublin, which at present is the common mode. Dungannon is at present, and has been for many years back, a flourishing town;

town; how far a canal would add to its prosperity, requires no demonstration.

I have not sufficiently examined the country about Dungannon, so as to be able to form any idea of the best line for a canal, or how far water might be secured in quantity sufficient to feed it; but the latter, I conceive, there could be no doubt about, from the great number of extensive bleach-greens all through the neighbourhood, the waste water of which must be very considerable.

SECT. 3. *State of Fisheries.*

I know of no regular fishery in the county, except that near Strabane, which is confined to salmon. This is immediately under the inspection of the persons, who rent the royalties of the rivers, which ultimately fall into the river Foyle.

Though there are severe fines and penalties against poaching, or killing of fish unlawfully, yet vast depredations are always committed by idle fellows, who make this business a great part of their occupation. The most destructive way of destroying fish is, by night, with lighted faggots or straw, at the time the salmon are about to spawn, or emit their young.

Those, who pay for privilege of fishing, would act well for themselves and the community, if, instead of
paying

paying yearly salaries to water-keepers, as they are called, they would allow them the full amount of the fines settled by law. I have tried both ways, and found the latter to succeed completely.

SECT. 4. *State of Manufactures, whether encreasing.*

THERE is no manner of doubt, that the linen manufacture is daily encreasing, notwithstanding the great number of people leaving the country for America every year, and also the number to supply the militia.

There cannot be a greater proof of the encrease of the linen trade, than the great rise of flax land. About ten years ago, half a rood, or twenty square perches (generally Cunningham measure, less, by nearly one-seventh, than plantation measure), let at 8*s.*: now (in 1802) the same quantity of land frequently brings double that sum. Another circumstance clearly points out the encrease of the linen trade: common labourers, who were not much in the habit of weaving some years ago, generally work out two or three yards of linen at night in the winter time, after the common day's labour is over. I mention this, to shew the industry of the people; and many of this description are obliged to work at common labour for their employers in the day time, at least for a great part of the season.

From

From a long residence, and an intimate knowledge of this country, I can assert, that at least one-third more land is now occupied by flax, than what had been ten years ago, which is a convincing proof of the encrease of the linen manufacture; the great rise on linens, of late years, is another. Every day the industry of the people is gaining ground on bog and mountain, particularly the latter; and it is also notorious, that, ten years ago, as much land was taken up with crops of potatoes, oats, and barley, as at this day; this also shews, how much the culture of flax has been extended of late years.

At Cook's-town, a muslin manufacture is established, and is likely to succeed. At Strabane, by Mr. Ross, corduroys, and other articles in the cotton way, are manufactured to no small extent. In the barony of Clogher, much druggets are made for home consumption, but there is no regular establishment. Near Coal-island, in the barony of Dungannon, and at Fintona, in the barony of Clogher, are coarse manufactories of earthen-ware, tiles, fire-bricks, &c. In every town, and in many villages, soap and candles are manufactured, and even in some country places.

Of encouragement to them, and the peculiar aptness of the situation for their extension.

Some years back, the Linen Board gave premiums for the encouragement of flax-seed of Irish growth; the practice of sowing Irish seed, however, has been discontinued, for reasons known to the growers, who must be certainly well acquainted with the difference between foreign seed, and that of Irish growth; nor is it likely, that they would prefer paying such high prices for foreign seed, if they found the Irish growth to answer the main end, which is that of having the good quality of the flax in view.

I do not know of any scheme, that could tend to encourage the linen trade, more than that of saving of fuel in bleaching. The quantity of turf, that is annually used in the county, is most astonishing.

I am surprised, that some enterprizing bleacher, before this time, has not taken a hint from Count Rumford's system, which could not fail in answering the desired end.*

In some bleach-greens, upwards of 10,000 kishes of turf are annually consumed, or an area, at least equal to 11,000 cubical yards, of made up fuel, fit for consumption.

* At the Linen-hall, in Dublin, an apparatus is set up for the saving of fuel.

sumption. Sixty kishes of turf is a reasonable allowance for a cottier, so that one bleach-green consumes as much fuel as 166 cots. This is a serious consideration, and should be an object worthy of the attention of all those concerned. I make no doubt, but furnaces, properly constructed, might save four-fifths of the fuel consumed at present.

The following established Bleach-greens will serve to shew the present state of the Linen Manufacture in the County.

<i>Names of Bleachers.</i>	<i>Places of abode.</i>
William Shaw, -	Castle Caulfield, near Dungannon.
James Guaherty, -	Dungannon.
Duffin and Co. -	Ditto.
Thomas Rodman, -	Ditto.
William Grier, -	Ditto.
Thomas Grier, -	Ditto.
Robert Grier, -	Redford, near Dungannon.
John Grier, - -	Dungannon.
John Wilcock, -	Ditto.
Ditto (two), - -	Near Cook's-town.
—— Cook, -	Ditto.
James Grier, -	Ditto.
Thomas Grier, Jun. -	Ditto.
J. Patterson, -	Ditto.
James Cook, -	Ditto.
John Kenny, -	Ditto.

<i>Names of Bleachers.</i>	<i>Places of abode.</i>
William Anderson,	near Cook's-town.
A. Stewart, - -	Coal-island.
Brown & Sloane,	Ditto.
Thos. Grier & Co.	Ditto.
William Pike, -	Ditto.
— Purcel, -	Brookfield, near Dungannon.
Jackson & Eyre,	Blackwater-town. These have two more bleach-greens adjoining, in the county of Armagh.
John Chambers,	Omagh.
— Smiley, -	Near Strabane.
— Quin, - -	At Duglafs-bridge, below New- town-stewart.
— Sproule, -	Spa-mount.

With some others, now establishing, or in contemplation of being shortly set on foot.

My information, with respect to the bleach-greens about Dungannon and Cook's-town, was from Mr. Wilcock of Dungannon, an eminent bleacher.

Some bleach on their own account; that is, they buy the linen cloth. Others bleach for the country, at so much a yard; but the greater number bleach for themselves, and for others.

There are still many eligible situations in the county for bleach-greens, many of which, no doubt, will shortly be occupied, from the rapid progress of the trade.

The

The following situations, among many others, are commodiously situated for water, aspect, and fuel.

Three or four, between Lord Mountjoy's demesne, at Rash, and Newtown-stewart, on the river Struel.

One at Drumquin, by removing a corn-mill, and placing it a quarter of a mile below the village, where the fall and situation are much preferable to the present.

One or two on the Poa, or Fairy-water, between Poa-bridge and Dodean-bridge.

One above Mr. Chambers's green, near Omagh.

Several might be introduced, along the river between Omagh and Fintona, and from Ballinahatty to near Dromore. The situations are very good along those rivers, but in some parts turf is rather scarce.

I have already mentioned drugget; here I beg leave to recur to this article, the encouragement of which would be found of the greatest advantage to the lower class, both as to wearing apparel, and keeping them fully employed, at a season when flax may sometimes be out of the reach of the poor.

From the beginning of June, till towards the first of September, is the most dormant part of the year for spinning of flax. The poor people's stock, or what they generally grow themselves, is commonly spun by the first of June; and the remainder of the season, till the new flax comes in, is commonly supplied by flax purchased at the markets, or elsewhere.

During

The above period, therefore, is that, in which the poor might be, in some measure, employed in spinning of wool, as at that season it is generally procured upon cheaper terms than flax. Besides, summer weather answers best for spinning wool. A spinner can manage flax by the light of the fire only; wool requires more regular light: hence the latter is the best subject for the long day.

But there is another consideration of great consequence, trifling at first view as it may appear. The root of the common fern is at this season replete with an oily glutinous substance, which is well known to make an excellent substitute for oil or butter, without which wool cannot be manufactured, unless the fern-juice be made use of. A pound of wool requires a quarter of a pound of butter, or the same proportion of oil, to prepare it for spinning, which may be saved by attending to the exudation of the fern, when cut up in small pieces. Perhaps it might be an object worthy of chemical enquiry, to find how long this juice might be preserved, and how to prepare it for that purpose. So far as I could learn from the common people, the root is cut into short pieces, bruised in a mortar, and then put into a cloth, and pressed out.

I have seen beautiful pieces of drugget, made up in this country by house-keepers. When thickened in the tuck-mill, it is warmer, and lasts longer than otherwise: in this case, two parts are generally composed of wool,

wool, and one of flax; in the usual way, the wool and flax are equal.

I hope our northern farming societies, when more generally established, will attend to this hint.

SECT. 5. *Population.*

DOCTOR Beaufort's Memoir, of his map of Ireland, makes the number of houses to be 28,704. From a great number of views, that I have taken in different parishes, I find the average of persons to each house rather exceeds six, which number, by allowing something for emigration, I shall abide by, so that the whole of the inhabitants may be set down at 172,224; a great population indeed, which, I believe, is very near the truth.

CHAP. VI.

RURAL ECONOMY.

SECT. 1. *Prices of Wages, Labour, and Provisions.*

SEVERAL causes affect the rates of wages and provisions. Since the introduction of militia and yeomen, the value of labour has been considerably raised. Also, when the linen trade is good, the price of labour is sure to rise, as most of the labouring class are also weavers. In spring and autumn, labour is always higher than at other seasons. Labour is always higher about towns than in country places; yet most labourers prefer the latter, as the jobs are generally long and steady, and provisions are to be had upon more reasonable terms.

It may appear somewhat strange, that, when provisions are highest, common labour is always found lowest, and especially if the linen trade be on the decline. Singular as this may appear, it is a fact that is fully known, and the principal cause is obvious: the farmer,

farmer,

farmer, in order to save provisions, endeavours to get through all, or part of the labouring work, by his own family, which was almost universally the case in the years 1800, and 1801.

Task-work, also, makes a material change in the price of day labour, as a good labourer can earn more money by the former than by the latter; of course, he will prefer the mode, by which he can make most.

Farmers generally feed their labourers, and, on that account, the wages are low, commonly six pence half-penny a day, except in the time of harvest, when they generally get a shilling a day. But by far the greater number of the farmers get their labour done upon a different footing, as the cottiers are obliged to work for them to a certain extent, to pay for their cot-takes; and the farmers are always sure, that the number of days specified must be served in the busy seasons. Sometimes contracts between farmers and labourers are so made, as to work a certain number of days in each week throughout the year, but this mode is not common.

Either for common labour or task-work, no regular steady rules are established throughout the county, except in lord Mountjoy's improvements, which shall be noted in their proper order, when I come to treat of that place.

The middle prices of provisions for the last ten years ending December 1799, may be stated as follows.

Oatmeal

			<i>l.</i>	<i>s.</i>	<i>d.</i>
Oatmeal, a peck of 10lb.	-	-	0	1	0
Potatoes, by the stone	-	-	0	0	3
Beef in winter, of a bad quality	-		0	0	2½
———— in summer, generally good.	-		0	0	4½
Mutton the year round, from 3 <i>d.</i> to			0	0	4
Pork, in winter,	-	-	0	0	3½
Bacon,	-	-	0	0	6
Herrings, by the 120, from 3 <i>s.</i> to			0	4	6
Salmon, from 3 <i>d.</i> to	-	-	0	0	4

but in winter salmon is generally sold by hand, or at so much a price; but this kind of salmon is of little or no value.

			<i>d.</i>
New-milk, in summer, by the quart	-		1½
———— in winter	-	-	3
Butter-milk, always bad, and dear.	-	-	
Fresh butter, of 18oz. to the lb. from 7 <i>d.</i> to			10
Cheese generally bad, from 6 <i>d.</i> to	-		8

The loaf is never in proportion to the price of grain or flour. If the shilling loaf in Dublin be 6lb. the six-penny loaf, in all the principal and petty towns of this county, seldom weighs 2lb; all rules and regulations, relative to this business, are generally overlooked by those, who should put them in force.

SECT. 2. *Habitation, fuel, food, and clothing of the lower rank; their general cost.*

THERE are two denominations of lower ranks, universally to be met with.

The first comprehends such as have small farms, by far too limited to make out a support in any degree comfortable, perhaps for more than one half of the year, and too frequently not so much. Many of this class are under-tenants, or what is commonly called the *third man*, and sometimes the fourth and fifth, and too often more steps removed from the lord of the soil. The further the distance from the landlord, of course the greater must be the poverty of the last undertaker, as every occupier must, or is supposed to have profit in the land.

The second class are chiefly cottiers, who frequently derive under tenants, of different degrees, down from the lord of the soil. Many of this description are weavers, as well as labourers. This class of people are generally more comfortable than the former, as they run no risque, and have but little to lose. But the under tenants (commonly called *sky-farmers*) are by far the most miserable part of the community, as has been observed in another place.

With respect to habitations, they are in general very bad, and especially such as are occupied by cottiers,
who

who commonly engage only by the year, and from year to year. Sometimes the cabin is built by the farmer, commonly of stone and clay mortar, and sometimes of fods only. In the barony of Dungannon, some scattered cabins are built of mud, or yellow clay mixed with straw for litter, but those cabins are poorly made up; the roof is generally of bog fir, or bog oak, and thatched with oat or barley straw, and sometimes with rushes and sprit, heath, broom, refuse of flax, &c.

But the most general way of building cabins is by both parties, that is, by the farmer and labourer, in which case the latter is allowed some abatement in the first year's rent. Sometimes the whole is built by the cottier, and in this case a whole year is generally allowed for the trouble and expence of building, which is generally from three to five pounds. We seldom find the cabins of the poor substantial or comfortable, and, when built according to the last case, little can be expected in point of either, since the poor labourer has no permanent interest, but only from year to year. Hence we find so many cabins perpetually going to destruction through all parts of the country.

I have remarked, that a cabin may be built, for from three to five pounds; the difficulty of procuring the roof, of bog timber, is the greatest the builder has to encounter with. The woods of Munterloney are almost cut down, which, for many miles round, and for a great

number of years back, supplied the country with timber for roofing, cars, and plough timber, with every other article the country stood in need of; now the principal dependence is on the bogs, the procuring timber from which in their present state is always attended with many difficulties. The thinning of Lord Mountjoy's improvements is now beginning to afford the country some relief, which, of course, will increase every year; alder, birch, scotch and spruce firs, and mountain ash, are the only articles, which can be cut away at present, to ease more valuable timber; those articles are from fourteen to twenty years growth, and are well calculated for cabin building, and many other domestic purposes. Regular prices are fixed for every article suitable to the country, which shall hereafter be explained, when I come to treat of the improvements at large; here I shall only take notice of such articles as are commonly made use of in cabin building, this being the subject under consideration.

In the neighbourhood of Omagh, and within a reasonable distance of the improvements of Rath, a cabin of the following dimensions may be built for the under prices.

24 X 14 feet

24 X 14 feet in the clear, side-wall 6 feet, 2 gables.

	£.	s.	d.
Stone, and clay-mortar, - - -	1	10	0
Three couples, or principals, - -	0	15	0
Three dozen of ribs, - - -	0	15	0
Two wheel-car-loads of wattles, -	0	5	5
One brace-tree or beam, to support a chimney, - - -	0	8	0

The above articles are procured from the improvements.

Two door-cases of bog-oak, - -	0	4	4
Two doors of foreign stuff, - -	0	8	8
Two windows, cases, and glazing, with lead-light, - - -	0	6	6
Thatch, I set down at - - -	1	0	0
Labour of roofing, thatching, &c. -	0	15	0
	<hr/>		
	£.6	7	11

A cabin, of the above description, is reckoned in this country a respectable and comfortable mansion for a cottager.

Fuel.—Turf or peat is universal, and to be procured almost through all parts of the county upon reasonable terms. It frequently happens, however, that, in most towns, this article is extravagantly high, though such towns may be surrounded with bogs. This arises from a kind of monopoly, as many individuals have usurped a right to large tracts of bog, which the poor are too often deprived of. This should be made a subject of serious

serious enquiry by gentlemen of landed property, in whom the royalties of bogs are most commonly invested. Coal is used at Strabane and Dungannon occasionally.

I believe, by all leases, the tenants have no right to more privilege of bog, than a reasonable allowance for their own consumption; notwithstanding that they may have large tracts annexed to their farms, all of which the lord of the soil may dispose of at pleasure. If, instead of suffering tenants to engross large tracts of bog, as they usually do, to the great detriment of the poor, landlords would set about to quarter and parcel out such tracts, and particularly in the vicinities of towns and villages, they would soon experience the good effects of it. In many situations, the acreable rent would be found to exceed that of the best arable land in the same neighbourhood. There is a very strong instance of this between Dungannon and Verner's ferry, where there is a very extensive bog judiciously laid for sale by the acre, and which, I am told, lets on an average at the rate of two guineas by the acre, and is by no means of a good quality. Here the proprietor makes a good yearly revenue; the poor are accommodated for many miles round; and, by the good manner of cutting out the bog upon a regular face, great future benefits may derive from meadow and pasture.

General Cost.—The cost of fuel depends, in a great measure, on the distance it is to be brought, as the
price

price of horse-labour is always high, seldom less than half a crown a day.

Sixty kishes is generally the allowance for a cottier, the kish being equal to a cubical yard, but it is generally heaped as high as it can be conveniently carried, and especially when the turf is of a light spongy quality. The usual price for cutting, and making up ready for burning, is 14s. by the hundred.*

	£.	s.	d.
Forty kishes, being considered equal to a			
hundred, - - - - -	-	1	1 0
Drawing, at ten turns a day, - - -	-	0	15 0
	<hr/>		
	£.	1	16 0

The above is pretty near the average of the country parts of the county; but, in some towns and villages, the case is very different; the kish is seldom less than 1s. 1d., and often, in winter time, so high as 2s. 8½d. Regular modes, of parcelling and dividing bogs, can alone ease the inhabitants of towns of this grievance, at least to a certain degree, as numbers of the townspeople would find it their interest to cut their own turf, and, consequently, the poorer class belonging to towns,

* A hundred of turf is equal to forty wheel-car-loads, or 120 slide-car-loads. Twenty clamps, eight feet long, four feet wide, and six feet high, tapering to the top like the roof of a house, are equal to a hundred, and in which state they are generally sold; the measurement to be settled in four days after the clamps are made.

towns, who might not be able to cut turf, might buy upon cheaper terms, when the bulk of the inhabitants were in the habit of cutting for themselves.

Food.—Potatoes and oatmeal are the chief articles, which compose the poor man's food the year round. In the severe years of 1800 and 1801, large quantities of barley-meal were used, without which half the people must have starved. Before those periods, barley-bread was quite unknown.

The poorer class cannot afford to use much butter, being obliged to sell the greater part of it, in order to purchase necessaries, which they want, such as soap, candles, tobacco, salt, &c. In summer and autumn, milk is chiefly used; the remainder of the season, herrings are most common with the poor.

Sometimes a pig at Christmas may fall to the lot of a family, but this is not often the case, unless potatoes are plenty. Two or three labourers frequently join in purchasing a cow in November, which generally costs 6*l.*, and in return get 2*l.* for the hide and tallow.

The general prices of food are given in the preceding section, to which I refer.

Cloathing.—Although a good deal of woollen cloth is made up by the farmers for their own consumption, yet a small portion of it falls to the lot of the lower class. Common frize, bought at the country shops, is the general cloathing for the common labourer, at least for the coat and great coat. This frize is chiefly

brought

brought from Connaught; here it is coloured or dyed according to fancy, but blue is the favourite colour of all classes. Tickers, cheap corduroys, &c. are commonly worn for waistcoat and breeches.

The women commonly wear druggets and coloured linen for coat and petticoat, and the cloak is generally of some cheap shop-cloth, chiefly of a grey colour, tho' they affect scarlet, when they can afford the price. The young women are fond of yellow and green stuff petticoats. Shoes and stockings are only secondary considerations; on Sundays and holidays, and going to fairs and markets, they are always worn by the women, both young and old.

General Cost.—Some years ago, cloathing was considerably cheaper than at present.

	£.	s.	d.
A middle-sized man will require 8 yards of frize, or any other narrow cloth, for a coat, waistcoat, and breeches,	-	0	18 8
Trimmings, 5s. 9½d.; taylor, 4s. 4d.	-	0	10 1½
Two shirts, 10s.; shoes 5s. 6d.; two pair of stockings, 4s. 8d.	-	-	1 0 2
Hat, two years, 3s. 3d.	-	-	0 1 7½
Great coat, two years, 16s.	-	-	0 8 0
	£.2	18	7

It is seldom the case, that a labourer, or even a middle-rate farmer, is thus comfortably cloathed at once; the

the above, however, may serve as a statement, which is tolerably accurate, according to the prices in 1800 and 1801; but I should be still nearer the truth, were I to add another pair of coarse shoes or brogues, which would bring the expence to 3*l.* 4*s.* 1*d.* instead of 2*l.* 18*s.* 7*d.*

Womens' cloathing is also considerably higher at present, than was the case some years ago. Drugget, which formerly sold at 1*s.* a yard, now sells at 1*s.* 4*d.*, and, when striped, a penny or two-pence more in the yard; but, in this statement, I suppose the drugget plain,

						<i>£.</i>	<i>s.</i>	<i>d.</i>
A middle-sized woman will require eight								
yards for coat and petticoat,	-	-	-	-	-	0	10	8
Making up,	-	-	-	-	-	0	2	2
A grey cloak,	-	-	-	-	-	0	11	8
Making up,	-	-	-	-	-	0	1	1
Shoes and stockings,	-	-	-	-	-	0	5	6
Other wearables,	-	-	-	-	-	0	6	0
						<hr/>		
						£.	17	1

If the coat be of cotton, and the petticoat of quilted stuff, the price will be higher; and, if the cloak be scarlet or crimson of the cheapest sorts, it will still add to the expence, perhaps up to 2*l.* 5*s.* or 2*l.* 10*s.*

Farmers'

Farmers' servant-girls appear very smart on Sundays and holidays ; and, at fairs and markets, linen or cotton gowns are common with this class, and petticoats and short cloaks of the former, which they contrive to spin for themselves, after complying with the task they are obliged to perform for their employers.

The industry, with which this class apply themselves, is most worthy of praise ; they are generally obliged to spin a dozen of two-hank yarn in the day, besides some drudgery in the house ; yet they make out time to spin a little for themselves weekly, which in the season amounts to something, so as to afford them such wearables, as have been already mentioned, with other necessary articles. Instead of doing a little for themselves daily, and in order that the wheel might be always fully employed, the usual mode is, to give up five days close application to the employer, so as to spin six hanks in that time ; the sixth day is their own.

From this account, an active girl may spin for herself fifty-two hanks, or dozens of yarn, in the year, which may be rated equal to fifty-two yards ; nor is it uncommon to find numbers of this class, who are equal to this industry, and sometimes more.

It has been shewn, under the article *Extent of Culture*, that a family, consisting of six, would consume, in the season,

17½ cwt,

	£.	s.	d.
17½ cwt. of oatmeal, here I shall say,	10	10	0
36 barrels of potatoes,	9	9	0
Fuel I have stated to be,	1	16	0

	£.	s.	d.
Mens' cloathing,	3	4	1
Womens' ditto,	1	17	1
The rest of the family, say,	3	0	0
		8	1 2

£.29 7 2

The drawback for the *cot-take*, in point of provision, may be thus stated, after deducting some allowance for feed.

	£.	s.	d.
Half an acre of oats,	2	2	0
One rood of potatoes,	4	10	0
		6	12 0
	£.22	15	2

It may be thought a matter of surprise in other countries, how a cottier, with six in family, could be able to make out 22*l.* 15*s.* 2*d.*, with many other incidental occurrences.

In this county, and throughout all the North of Ireland, so far as the linen trade is in a prosperous way, the difficulty is easily answered; the wheel and the loom

loom answer all. If a farmer's servant-girl be able to clear 52s.* a year, besides her wages and maintenance from the farmer, what must a united family of six persons do by their industry in the same time?

* I take for granted, that fifty-two yards of fine linen will be equal to 52s., clear of all expense.

CHAP. VII.

GENERAL SUBJECTS.

SECT. 1. *Number and Size of Villages and Towns.*

THE barony of Dungannon contains the following towns and villages.

1. Dungannon, one of the most prosperous towns in the North of Ireland in the linen trade, nor is it inferior to any for its rapid progress in building. When the new town will be completed, Dungannon altogether will have no equal in the North. In the buildings there is one fault, which generally prevails, and that is, that the houses are narrow, which, in buildings in general, is certainly bad economy.

2. Cook's-town, tolerably eminent in the linen trade. The muslin manufacture is likely to take place here.

3. Aughnacloy; linen and yarn.

4. Stewart's-town; ditto.

5. Callidon.

6. Pomeroy.

6. Pomeroy.

7. Moye; extremely well situated for trade, having the Blackwater river navigable, so far as Blackwater town, from Lough Neagh.

The above are the principal towns in the barony; the following are the villages.

1. Orritor.

2. Tullyhog.

3. Dunnaghy.

4. Brackogh.

5. New-mills.

6. Coal-island; navigation might be improved.

7. Donaghmore; brewery and mill for preparing barley.

8. Castle-Caulfield.

9. Eglish.

10. Carnteel.

11. Benburb; a famous limestone quarry.

The Barony of Clogher contains,

1. Clogher.

2. Augher.

3. Ballygawley.

4. Five-mile-town.

5. Fintona; good linen market.

The above are small towns, but of more consequence than country villages.

The

The Barony of Omagh contains,

1. Omagh, the assize town.
2. Dromore.
3. Trillick.
4. Ballinahatty.
5. Six-mile-cross.
6. Killeter.
7. Derg-bridge ; bleaching might be established.
8. Drumquin ; bleaching might likewise be established here, by removing a mill.

The above are villages, except Omagh.

The Barony of Strabane contains,

1. Strabane ; a good market town for many articles, and especially cloth.
2. Newtown-stewart ; a good market for cloth and yarn. Several bleach-greens might be established on the river Struel, between this town and Omagh.
3. Dunnamanagh.
4. Ballimagorry ; situation for a bleach-green.
5. Ardstraw-bridge ; - ditto.
6. Gortin.
7. Claudy ; a situation for a bleach-green.

Except the two first, the above are small villages.

Strabane is at present improving ; its canal is the chief cause. Newtown-stewart is most eligibly situated for improvements of many sorts.

SECT. 2. *State of Tithe, its general Amount on each Article—what Articles are exempt, and what charged by Modus.*

UPON this subject I have but very little to say, with respect to any new light, that might be thrown upon it. Much has been said by others, with regard to reforming tithes, &c., which, in my opinion, can answer no material end.

With respect to this county, I find, in general, a very good understanding between the incumbents and the people. Some let their tithes during their incumbency; some yearly, at so much an acre, seldom exceeding two shillings for good arable and meadow. Others lay on so much an acre against oats, barley, hay, flax, and potatoes: the three last articles are, in general, let at moderate terms, frequently not acreable, only so much by modus. The most general way is by yearly composition; nor could I learn, that the extravagant prices of provisions, in the years 1800 and 1801, made the least alteration in the raising of tithes throughout the county. When let by composition, large and small tithes are of course included in the contract, though the latter are seldom of any material consequence to the incumbent.

The following is a list of small dues, given by a neighbouring clergyman as a very old custom in his parish, but never exacted. I suppose the same holds good in most parishes throughout the diocese, and also not demanded; at least I never could learn, that they were.

Modus.—Turf 6d.; garden 1s. 1d.; Easter dues 4d.; a new-milch cow 9d.; stripper cow 4½d.; sheep or lamb 1d.; foal 6d. Marriage 2s. 6d.; christening 1s. 6d.; burial 1s. Each tradesman 1s. yearly.

Oats and barley are the principal articles, on which an acreable charge is made; the former from 4s. to 6s., and the latter sometimes as high as 8s.; but this mode is not general.

SECT. 3. *Use of Beer and Spirits—whether either, or which is encreasing.*

THE extreme dearth of food, in part of the year 1799, and the whole of the years 1800 and 1801, put a total stop to the distilling of spirits, and, in a great measure, to brewing.

For many years back, spirits have taken the lead of malt liquor in a considerable degree. I am not altogether clear, but the quantity of spirits, distilled in this county for the last forty or fifty years, was more than
double

double the quantity of beer brewed. I am certain, when all the private liquor is considered, the comparison will not be thought surprising.

At present it is a pleasant reflection to find, that the scene is about to be altered, and that in a superior degree, in favour of malt liquor. The number of breweries lately established, and about to be fitted up, is a convincing proof, that malt liquor is taking the lead, or at least bids fair for it. Another circumstance is the rapid demand brewers have, insomuch, that few of them will give any credit.

The following are established breweries.

One at Dungannon, on a large scale.

Two at Donaghmore, near Dungannon.

One at Stewart's-town.

One at Aughnacloy, on a large scale.

One at Newtown-Stewart.

Two at Strabane.

SECT. 4. *State of Education, Schools, and Charitable Institutions.*

A SCHOOL, under the patronage of Mr. Stewart, &c. I am informed, has been established at Cook's-town some time ago.

At Rash, under the protection of Lady Mountjoy, and Miss Gardiner, a school for twenty-four girls has

been lately established. Sewing, spinning both linen and woollen, manufacturing straw hats, &c. are the chief occupations of the girls; nor are their moral duties neglected, but, on the other hand, strictly attended to.

With respect to education, attainable from day-schools by the lower class, very little real benefit can be derived; as, when children are able to perform any sort of work, such as herding of cattle, they are then taken from school. From the age of six or seven, to that of ten or eleven years, is the usual time for children to be kept at school; at this early period they acquire but little, and that little is generally forgotten, before they come to the age of understanding.

Even the children of farmers and others, above the level of common labourers, fare but very little better than those of the lower class; as their situation in life obliges them to early habits of industry, without which rents cannot be paid.

From night-schools alone, real benefits, to the foregoing classes, are most likely to derive. What I shall here offer on this subject, is founded upon considerable experience.

An extensive night-school has been established, under the sanction of the late Lord Mountjoy, for the purpose of instructing the labouring boys of the demesne, being principally planters. This has been an early institution of his Lordship's, so far back as the
year

year 1783, and has continued to flourish and prosper to this day.

It generally commences about the first of October, and continues to the first of February, and sometimes later. Hours of attendance, from six in the evening to ten or eleven o'clock at night. A guinea a month is the master's salary, for any number of boys not exceeding sixteen, which is the highest number allowed. The boys are always divided into classes, and three or four guineas are allowed in the season, to be distributed in small premiums, so regulated, that every individual may, at one time or other during the season, come in for one or more. This mode not only has for its object the stirring up of emulation, but enables them to purchase paper and candles, as a reward for their diligence.

The hope of obtaining premiums for the time to come, or for the next winter season, has an amazing good effect during the summer months, as they are as industrious as possible, between working hours, to keep in mind, or rather encrease, what they have acquired the preceding winter; and, the better to enable them to do this, they are generally allowed, from ten to two o'clock, to instruct each other, in such parts of the demefne as they may choose to resort to: but when this indulgence is given, which only takes place in the longest months, they go to their work at five in the morning, and quit at seven, or, perhaps, half after seven in the evening.

The result of this salutary institution has proved demonstratively its good effects. Within the last fifteen years, many useful persons have been sent to various parts, as planters, &c.

But the great object is, the preventing of idleness, which is always best accomplished, by filling up the *scraps of time*.

Many similar institutions might be adopted throughout this extensive and populous county, though, perhaps, not with equal facility; yet they could not fail in being productive of a great deal of good. When we shall have the happiness of seeing farming societies established, they, no doubt, will consider this object. Much might be done by contributions at houses of worship. Grand juries might also countenance such institutions.

I often regretted to find such a number of children, both male and female, occupied the greater part of the year in herding cattle; but this wretched habit is not peculiar to this county. This must be submitted to, till our system of enclosing becomes more perfect.

But since, in our present exposed state, those little *herds** are indispensibly necessary, we should endeavour to fill up their vacant time as usefully as possible.

From

* Herds, or such as have the charge of cattle, most commonly turn out indifferent labourers.

From nine or ten o'clock in the morning, till two or three in the afternoon, in the summer season, the cattle are housed, for the purpose of encreasing manure: during all this time, those, who have the charge of them, do nothing but idle away time. In every district, a country school-master is to be found, and a small pecuniary matter would answer to pay for a few hours each day for the schooling of those children; this might also be an object for farming societies, &c.

SECT. 5. *Of absentee and resident Proprietors.*

THERE are very few proprietors in the county, who may be considered as total non-residents, or, at least, such as live altogether out of the kingdom. For instance, Lord Belmore has several properties in the county, yet he is set down as a non-resident, because he lives in a neighbouring county; the like may be said of others. Some there are also, who have properties in the county, yet reside on rented farms in other parts of it; yet here I do not consider them as actual residents, they not living on their estates. There are several clergymen, possessed of considerable property, exclusive of church livings, which are here omitted altogether, as the account of the number of parishes is given under the article *Ecclesiastical Division*, and which compose a large portion of the county, when joined to bishop's lands.

The following is a List of the principal Proprietors.

Abercorn, Marquis of

Archdall, ———, Esq.

Bateman, ———, Esq. R.

Bailie, ———, Esq. R.

Belmore, Lord

Blackard, ———, Esq.

Buchanan, John, Esq. R.

Brabazon, ———, Esq.

Crawford, Henry, Esq.

Colhoun, ———, Esq.

Crawford, John, Esq.

Callidon, Lord, R.

Caulfield, ———, Esq. R.

Charlemont, Lord

Earne, Messrs. R.

Eccles, Daniel, Esq. R.

Ferguson, Sir Andrew

Forfyth, ———, Esq. R.

Gladstanis, George, Esq.

Galbraith, ———, Esq. R.

Gorges, Hamilton, Esq. R.

Gage, Mrs.

Gorman, ———, Esq.

Hamilton,

Hamilton, James, Esq.

———, Sir John

———, William, Esq.

———, Hon. A. C. R.

Irwine, Gorges, Esq.

———, Henry, Esq.

Johnston, Charles, Esq.

Knox, Hon. Thomas, R.

Lifford, Lord

Lendrum, James, Esq. R.

Lighton, Sir Thomas

Lowry, Robert, Esq. R.

———, Mrs. R.

Lindsay, Robert, Esq. R.

M'Causland, John, Esq.

———, Oliver, Esq.

M'Clintock, ———, Esq.

Montray, John, Esq. R.

Montgomery, Hugh, Esq.

Maxwell, Warren, Esq.

Mountjoy, Lord

Moore, Nathaniel, Esq.

———, John, Esq.

Malone, Mrs.

Northland,

Northland, Lord, R.

Perry, George, Esq.

Pettygrew, Robert, Esq. R.

Powerfcourt, Lord

Richardson, John, Esq.

————, Sir William, R.

Reynell, Richard, Esq.

Strong, ———, Esq.

Saville, ———, Esq.

Stewart, John, Attorney General

Stewart, James, Esq. R.

Tradennick, ———, Esq.

Verner, James, Esq.

White, Francis, Esq.

Waterford, Marquis of

Those, marked R. may be considered steady residents, or, at least, they live the greater part of their time in the county. Besides the above, there are a great number of freehold properties in perpetuity, but comparatively small; the occupiers of which, with very few exceptions, live on their properties, and are, of course, a useful part of the community.

SECT. 6. *Of Circulation of Money or Paper.*

THE great perfection, to which the linen manufacture is brought to throughout the county, but more particularly in the barony of Dungannon, causes a great circulation of ready specie. Except with principal bleachers, and linen merchants, paper currency is not common. In towns, small notes are pretty general. With respect to weavers, and the lower manufacturers of linen, ready cash is the only currency.

Of jobbers in cattle there are many; with those, of course, nothing is to be met with but hard money, as paper, in our fairs and markets, is never taken as cash.

On the whole, a smart circulation of hard specie prevails, between dealers in cloth and yarn, jobbers, &c.

SECT. 7. *Of Farming or Agricultural Societies.*

NOTHING, in the way of farming or agricultural societies, has yet appeared in the county; it is, however, a pleasing reflection to think, this may not be long the case, as the minds of the people are of late much turned that way.

SECT. 8. *Of Mills of every kind.*

I BELIEVE there are only two flour-mills in the county, one near Dungannon, and the other near Strabane; but the wheat, manufactured in both, is principally the produce of other parts, as at present very little of this grain is grown in the county.

The best mill in the county, for manufacturing oatmeal, is at Cook's-town, which, with very little expence, might answer for a flour-mill.

A capital mill for wheat and oats was built a few years ago by Lord Mountjoy at Rash, and there is no doubt, that the neighbourhood will soon afford plenty of wheat to supply it.

I counted no less than 124 mills in the county in 1800. Grist-mills are the common names that mills go by, but this is understood only of such as prepare oatmeal and malt, and sometimes barley for bread, which was universally the case in 1800 and 1801.

It is not easy to point out, with any degree of accuracy, the number of effective mills in the county, as so many of them are perpetually out of order, some demolishing, others repairing, &c.

In order to ascertain, as nearly as possible, how many mills, kept regularly to work, might be equal
to

to the supply of the county, I selected six in different parts of the county. I found the *sutton*,* annexed to the six mills taken together, amounted to about 28,000 acres, between arable, pasture, &c. The county contains 467,700 acres; so that about one hundred mills, kept fully employed, may be deemed sufficient for the county.

There are mills of other descriptions, such as beetling-mills, one of which must be at every eminent bleach-green; tuck-mills, for thickening woollen cloth, and sometimes drugget, which are plentifully established throughout the county; flax-mills, for scutching flax; but these are not so numerous as the quantity of flax, raised in the county, seems to require, nor are they constructed, in general, to the advantage they are capable of, since it is well known, that, by means of fluted cylinders, flax or lint might be broken at the same time. This would save a great deal of *severe* labour, which, according to the present mode of breaking flax, or preparing it for the scutchers, is unavoidable.

To the above may be added a plating-mill, for making spades and shovels, at Fintona, and one about to be

* *Sutton* is a certain district claimed by mills, in virtue of leases or agreements between the lord of the manor and the miller; sometimes a whole manor, at other times a half manor, &c.

be set up at Newtown-stewart; but these have been taken notice of in another place.

As in all countries, many of the mills of this county are great nuisances; if better constructed, much fewer would answer. There is no end to the disputes between parties, on account of the injury lands sustain by mill-dams, &c.

How far steam-engines might remedy this inconvenience, is a matter I shall leave others to judge of. I shall only remark, that the first cost would be found the only material expence, as fuel is so plenty, particularly in the baronies of Omagh and Strabane. By adopting steam-engines, many acres of choice meadowland might be saved to the public.

SECT. 9. *Of Plantations and Planting.*

CONSIDERING the extensive properties in this county, and the eligibleness of many parts of it for planting, yet we cannot boast much of the progress of this necessary improvement.

At Killymoon, a great deal had been formerly planted, and, of late, additions have been made. It would be much in favour of the extensive plantations of this place, had judicious thinning taken place many years ago. It is not yet too late; much may still be done for present and future emolument.

At Liffen, the seat of Mr. Staples, near Cook's-town, the planting is very prosperous: but there is only part of these improvements in this county; the remainder lies in the county of Derry.

A considerable scope has been planted by Lord Northland, and his son Mr. Knox, within the last twenty years, which is at this time in a thriving state.

Lord Callidon has planted considerably in the ornamental style, and, in general, with good taste.

Mr. Montgomery planted considerably near Aughnacloy.

Sir William Richardson planted, with good taste, his demesne at Augher, and the plantations are in a flourishing state.

Mr. Montray, at Favoroyal, near Augher, is in possession of large tracts of natural woods, which are managed in an economical manner.

At Clogher, the bishop's demesne and deer-park afford some old timber; but this beautiful demesne has been much injured in this, its chief ornament, some years ago.

Mr. Eccles, near Fintona, has done a good deal in the way of planting, and so has Mr. Lendrum.

The Rev. Mr. Hill has great merit for his taste in planting and ornamenting about his glebe-house, in the parish of Longfield, near Drumquin.

Mr. Lowry has planted a considerable number of trees at Pomeroy; but his situation requires much planting, and in very heavy masses.

Mr.

Mr. Stewart, the Attorney General, has planted with taste and judgment, in a mountainous situation at Athenree, near Six-mile-cross; and, like a real planter, he is laying a good foundation, by establishing his own nurseries.

The Hon. A. C. Hamilton has planted considerably, from time to time, at Beltrum-castle, near Gortin.

The Marquis of Abercorn has, and is planting largely, at Baron's-court, near Newtown-stewart. I cannot learn, that he claimed any premiums from the Dublin Society, but I am certain, from the extent of his young plantations, he was frequently entitled to do so. On the whole, Baron's-court is strongly planted, and all the plantations are going on prosperously. It is to be hoped, that the Marquis will persevere in his original plan, namely, that of planting out the greater part of the north side of Bessy-Bell mountain, which overlooks his demesne. Greater difficulties have been fairly conquered by Lord Mountjoy within these last fourteen years.

I might have mentioned several other improvements upon small scales. On the whole, the people are beginning to look forward, and see what is their real interest.

With very few exceptions, the foregoing have been undertaken within the last fourteen or fifteen years; and it is a pleasing reflection to find, how much the

face

face of the country has been in that short time improved, in consequence of those plantations.

The following sketch may serve to shew the extent of Lord Mountjoy's planting at Rash, near Omagh, since the year 1779. But first I must remark, that no regular account has been kept of the number of trees planted, or the quantity of land taken into plantation, prior to the year 1791, as in that year the claims for premiums on the Dublin Society commenced.

Of the Effects of the Encouragement heretofore given to Planting by the Society, particularized in the List annexed.

<i>Premium planting.</i>					<i>Planting not claimed.</i>
YEARS.	A.	R.	P.	TREES.	TREES.
In 1791 and 1792,	11	3	29	35,212	6,882
— 1792 and 1793,	23	0	30	76,087	13,674
— 1793 and 1794,	12	3	20	31,708	16,031
— 1794 and 1795,	29	2	30	65,603	11,190
— 1795 and 1796,	33	0	0	84,550	1,660
— 1796 and 1797,	31	0	25	86,910	6,067
— 1797 and 1798,	16	1	30	44,450	18,535
— 1798 and 1799,					30,430
— 1799 and 1800,	7	0	0	20,040*	7,488
— 1800 and 1801,	12	1	31	39,410	24,805
	178	2	35	483,970	136,762

A.	R.	P.	
178	2	35	Premium planting, 483,970 trees.
68	0	0	Not claimed, - - 136,762 —
100	0	0	Prior to 1791, - - 200,000 —
141	0	0	Old woods. —
			- - 820,732
487	2	35	

Besides

* No premium granted, being under ten acres.

Besides the above, there were given to the tenants of the estate, since the year 1795, upwards of 100,000 transplanted trees; and, from the commencement of the improvements at Rash to the foregoing year, I dare say, there were double the number here mentioned given out, of which, however, no regular account has been kept. Without exaggeration, 300,000 trees were made presents of to gentlemen, since the year 1784.

The article, alluding to the account of premiums, is perfectly accurate, both as to the quantity of land, and the number of trees; but the plantations, formed between 1791 and 1801, both years included, for which, from local causes, premiums could not be claimed, are only supposed to be, according to the usual mode of planting here, fair transplanted trees, not less than four years old, and at least once transplanted, at about the distance of six feet apart, which is found nearly equal to 2000 plants to the acre; but premium planting is never confined to this number.

The plantations, formed prior to the year 1791, are supposed to be equal to one hundred acres; if surveyed, I dare say they would amount to more. These are supposed 2000 plants to the acre at present, but exceeded that number considerably some years ago, as a large portion of this part had been originally under nursery, which had been from time to time thinned

out; and, of late, cutting out, instead of thinning by transplanting, took place.

For the last twenty years, there never were less than six acres of fair well established nursery at Rash, for the supply of the improvements, &c. By doing the plants full justice in point of room, an acre may afford annually 20,000 plants, as 40,000 are not too many for an acre, when completely stocked; so that, by letting the plants remain two seasons in the nursery, there may be always an annual supply of 20,000; but this must be understood of gentlemen's nurseries, who may be supposed not scarce in ground; but it is quite otherwise with nursery-men, who commonly overstock their nurseries, and, of course, the plants are too much drawn up for want of room.

Six acres of nursery, according to the above statement, would produce, in twenty years, 2,400,000 plants; and I have shewn, that

820,732 trees were planted in the demesne;

100,000 supposed to have been given to tenants.

920,732

This shews a great difference, between the supposed produce of six acres of nursery in twenty years, and the number here stated, which can only be accounted for by the great quantities of trees put out as nurseries

series (now massive plantations), prior to 1791, and what were given as presents to the gentlemen of this county and others.

Of any improvements, which may occur for future encouragement, and particularly for the preservation of Trees when planted,

Without close attention to the following requisites, it is in vain to plant.

Complete fencing, and guarding against cattle. Preparing the soil according to circumstances, particularly in rendering it sufficiently dry, when it is naturally too wet. Encreasing shelter by every means, where necessary; and planting judiciously the different species of plants, agreeably to the soils and aspects they are best calculated for.

The different modes, made use of for the encouragement and preservation of plantations, shall be fully stated, when I come to treat of Lord Mountjoy's improvements at large, to which I shall refer as a model, that has been found, from several years experience, to have completely answered the end.

It is in the power of the Society to adopt a mode, by which planting cannot fail of being considerably improved.

Hitherto,

Hitherto, no restrictions have been laid on the size or age of plants, under the head of premium planting, and, of course, vast quantities of seedlings have been planted, since the commencement of this *salutary* institution.

Seedlings in general are not calculated for our soils, upon the great scale of planting. It is in vain to pursue the same modes here, as are practised in Scotland, and other parts of Great Britain; the luxuriance of our soils, in general, points out the absurdity of the system.

The Society requires, that a certain number of plants must be first planted to each plantation acre, and that a given quantity must be kept up for a certain number of years. When seedlings compose part of such plantations, they must be narrowly watched from time to time, in order to keep up the quantity specified by the Society.

I know, from much experience, that this mode in the end becomes very expensive, and that at the loss of many thousands of trees, which might otherwise be saved; and, after all, the desired end is scarcely ever completely answered, at least, not so effectually, as if the planting had been formed, the first day, of regular well-conditioned transplanted trees, that would at once defy the luxuriance of our spontaneous growth, and give no further trouble, after being fairly planted, till the operation of thinning should take place.

The improvement I beg leave to suggest is, that the valuable trees, such as oak, larch, Spanish chestnut, beech, sycamore, elm, ash, pine, &c. should at least be once transplanted, and that for two seasons before they are put out for good; so that, in most cases, the plants should be four years old at that time, which, for the generality of deciduous trees, is certainly the best age.

In this case, the number of valuable trees might be limited to one thousand to each acre, which might be replaced, in cases of accidents, agreeably to the term specified by the Society.

I would lay no restraint upon any quantity of inferior timber the Society might think proper to allow, over and above the number above stated, such as birch, alder, mountain-ash, &c.; these, with some of the popular and fallow kinds, are free growers, and capable of taking care of themselves, though put out as seedlings, or cuttings.

SECT. 10. *Of Nurseries within the County, and Extent of Sales.*

THERE is not a nursery for sale within the county, though few counties in the kingdom are better calculated for that purpose. I am fully convinced, that planting would go on rapidly, were there only a few established

established nurseries, where planters might resort to, without being at the expence of sending to distant parts. It is not the price that ever deters men, who only plant upon a small scale, but the distance of carriage, and the hazard of suffering by bad packing, and of the plants being too long out of ground. These are certainly some of the principal causes of planting not being more general, and not any pecuniary views.

In the course of my agricultural excursions in 1800, and 1801, I have had many unpleasant reflections, in travelling over waste tracts, which are scarcely calculated, or ever can be, for any purpose, except for planting, and where little or no expence in enclosing would be found necessary, particularly in rocky situations, where large stones are in plenty, and might be easily collected to form rough dry walls.

The first great point to attend to, should be to give every kind of encouragement to nursery-men, confining them only to common articles, such as thorn-quicks, ash, oak, beech, larch, fir, sycamore, alder, &c. Grand juries and farming societies might do something by way of encouragement, as well as the Dublin Society.

Were nurseries established sufficiently numerous, gentlemen would be induced to plant one hundred trees for the one they do at present; and, when planting became general, there would be no temptation for stealing, since it is a well-known fact, that, when any

article becomes plenty, the temptation for pilfering diminishes in proportion to the encrease of the article. I dare say, when potatoes were first introduced, it was found difficult to save them from the common people. I know, from experience, that, when the turnip system was first established at Collon, by the Right Hon. John Foster, for the first season vast quantities of them were taken away by the common people; but it was soon found, that, by giving up a small part of a field for the purpose of supplying every poor person, who might want a few turnips, and giving a little turnip-seed to such as might be disposed to sow it, it soon put an end to any thing like pilfering.

So, with respect to timber-trees, if nurseries were established, so as to make these articles general, and that gentlemen would turn their thoughts upon dividing with their tenants, or otherwise encourage them to raise or purchase plants, we would, in a very little time, find all people disposed to pursue one common cause. This, with long leases, and other encouragements, would soon make a great change in favour of planting.

I have often turned my thoughts, with respect to the most eligible situations for nurseries in the county. Strabane, Omagh, Aughnacloy, Clogher, and Dunganon, appear to me the best; not only on account of finding at those places favourable soils and situations, but also of dividing the county tolerably regular, and, in general, convenient to the neighbouring counties,

ties, which could not fail of finding material advantage from such situations.

Besides the encouragement already mentioned, given by the Dublin Society, &c., much might be done by the gentlemen of landed property, without being at any material expence to themselves. A kind of guardianship over the respective nurseries is as much as might be expected from them or their agents; to see that the sales might go on regularly, the prices settled once a year, and proper returns of stock made out, with other useful regulations.

The nursery, we shall suppose at or near Strabane, might be patronized by the Marquis of Abercorn, the Bishop of Derry, the Hon. A. C. Hamilton, &c.

That at Omagh by Lord Mountjoy, Lord Belmore, Mr. Stewart the Attorney General, &c.

That at Aughnacloy, Clogher, or probably Fintona, by Lord Belmore (as he has extensive properties in the county), Sir William Richardson, Mr. Montray, Mr. Montgomery, Mr. Eccles, &c.

That at, or near Dungannon, by Lord Northland, Mr. Knox, Lord Powerscourt, Lord Callidon, Lord Charlemont, Mr. Stewart of Killymoon, &c.

SECT. 11. *Prices of Timber, and State of it in the County.*

THE prices of timber are very high, and it is difficult to procure upon any terms. The Hon. A. C. Hamilton's woods, in Munterloney, for many years back afforded the chief supply to the county for cabin-building, slide-cars, ploughs, &c., but those woods are now almost cut down. The woods were chiefly of oak, and will, of course, be a considerable time before they come round again, as the time limited to keep cattle out, after being cut, is by far too little, not more, I understand, than eight years. Indeed cattle should never be suffered to get into woods at any period.

At present a couple, or principal, for a cabin of sixteen feet wide, costs from 5*s.* to 8*s.*; a dozen of ribs for a cabin, from 6*s.* to 10*s.*; a slide-car 5*s.*, and so on. The timber is never sold by the foot from those woods, as the dimensions are too small for that purpose.

Ash is remarkably scarce; it is chiefly used for wheel-cars and ploughs: the stuff for the former usually costs two guineas, and the latter from 12*s.* to 16*s.*: many of the latter are made of oak and birch, but ash is much better for that purpose. Ash is frequently sold by the cubical foot, at so high a price as 3*s.* 3*d.*

Foreign

Foreign fir at this time (1801) sells at Strabane so high as 6/. per ton.

The chief reliance the county has, is upon bog-fir, which many of the bogs produce in great plenty, but it is in general attended with great difficulty and expence in being able to manage it, for want of roads, and proper conveniencies to raise it. This timber is sometimes sold at half a crown the cubical foot, for the purposes of loom-timber and mill-shafts, but bog-timber in general is sold by bulk, especially bog-oak. Even-grained bog-fir is looked upon to be full as good for roofing and lofting stables, &c. as foreign fir or pine; it makes excellent laths, and, when beaten out into small filaments, is found to answer for ropes, which are principally used for cording of beds, and, in damp places, will last considerably longer than hempen ropes. Twenty yards is the usual length for a bed-cord, which is commonly bought for 10d. The roots and fragments of the bog-fir are used for this purpose, and it is a kind of trade with many poor people in the vicinities of bogs.

It has been stated, under the article *Habitation, fuel, food, &c.*, how far the thinning of Lord Mountjoy's improvements serves the country, so far as alludes to cabin-building. Here I shall only add a few articles, used for other purposes.

A slide-

	£.	s.	d.
A slide-car of spruce-fir, - - -	0	3	3
Car-feet of birch or alder, per pair, -	0	0	6½
A ladder, from twelve to eighteen feet, of spruce-fir, from 6s. 6d. to - -	0	10	0
A plough of birch, - - -	0	12	0
A two-horse harrow of birch, - -	0	8	0
Shovel, and fork-handles, of ash, each,	0	0	6½
Swingle-trees of ash, each, - -	0	0	6½
Rakes, finished, of ash, each, - -	0	1	1
Turf-kishes of various sorts, each,	-	6	6
Manure-kishes, each, from 2s. 2d. to -	0	4	4
Potatoe-baskets, each, from 6d. to -	0	1	0

SECT. 12. *Quantity of Bog and Waste Ground.*

It is not easy to ascertain the quantity of bog and waste ground throughout the county; and, even if it could be actually made out, it would only answer for one season's information, as every year adds considerably to the quantity of land brought into culture, meadow, and pasture.

Perhaps, within the last twenty years, this county has made as rapid a progress, with respect to the bringing in of waste land, as any other in the kingdom, and particularly mountain; yet a vast deal remains to be done,

done, and much of what has been done is still capable of further improvement.

Possibility and means of improving it.

To enter into a minute detail of the different practical modes, necessary to pursue for the improvement of the great variety of soils of this county, would require a large volume, which, however, at a future day, I hope to set forth in another work, now in tolerable forwardness. At present I shall only state a few observations, relative to the great outlines of reclaiming unprofitable land,

I have already treated largely on the subject of roads; but the nature of the object under consideration requires me to say a little more here. It has been observed of what infinite advantage roads are, in helping to get at bog-timber, limestone, &c. Now, in case of bog-timber and limestone being altogether out of the question, and that a large scope of bog or mountain was in contemplation of being reclaimed, the first object the cultivator should have in view, after draining, are roads, to draw forward materials to reclaim such parts; therefore draining and making of roads should go hand in hand, since their dependance on each other is so nearly connected.

It is the public who pay for roads, and there is no doubt that every encouragement should be given to them,

them, to make the most they can of every circumstance, that may naturally occur in their respective districts, for the improvement of their lands.

Since timber is at present so extravagantly high, and the prospect of a supply of it, for domestic purposes, so very remote, every advantage should be taken, to accommodate the public with the kind of wood, that naturally offers in almost every bog in the county, enough, I dare say, to supply the country for ages; but the extreme difficulty of being able to get at it, when raised, renders it, in many cases, dearer than foreign timber, when all the trouble attending it is considered.

Among the various means of improvement, none appears more effectual than watering or irrigating land, when at all practicable. It is, indeed, a very pleasing reflection to find, what rapid strides this useful improvement is making of late. But, as might be expected, the people in general are ignorant, both of the proper application, and execution of the work; but, no doubt, they will soon fall into measures so nearly connected with their real interests, and where so little speculation is necessary to remove every doubt of hazard or risque. It is the genius of the people of these parts, to embrace immediately any improvement, in which a speedy return of gain is the prevailing object; among which the subject under consideration is one of the utmost importance, since the expence is nothing, when

when compared to the great benefits to be derived, and especially, when the work is executed in a good manner.

Farming societies, no doubt, will always encourage this species of improvement.

Mr. Stewart, of Stranorlan, in the county of Donegal, has set a good example on foot, with respect to draining and irrigation. He brought over from Staffordshire a person, who has given a strong specimen of the good effects of irrigation, and, of course, has set a good example to others. This person is now (1802) actually employed, at so much a year, by the *Raphoe farmers' society*. Indeed I may date the commencement of irrigation, done in a workman-like manner, from Stranorlan, in the year 1800, which was the commencement of Mr. Stewart's operations.

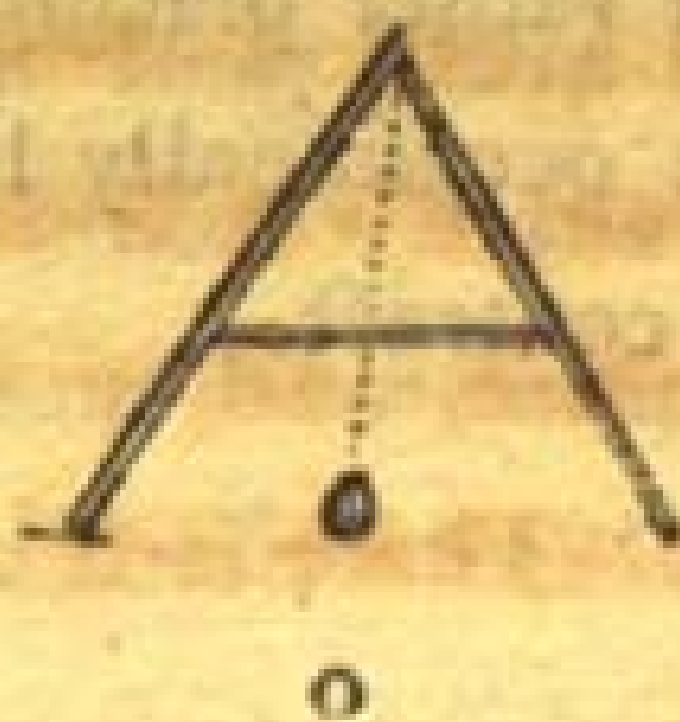
I am very far from being against importing persons from England and Scotland, for the purpose of watering, or any other improvement; but, upon the other hand, in some particular instances, I approve of it. In general, however, I apprehend, that this country would reap more solid advantage, and that in a shorter time, by sending persons to those parts, and particularly to the *Lothians* of the latter.

The subject in question admits of so many modes of performing it, that it would take up a volume to do it any degree of justice, and, after all, much would remain to be done. There is scarcely a spot, which does

not require some mode peculiar to itself. There is, however, one circumstance, which must always be complied with where necessary; otherwise watering, instead of improving land, will injure it, and render it worse than before the operation took place. This is, the effectually getting clear of springs, and stagnated water, before irrigation be attempted.

The great point to consider is, to cheapen the work as much as possible, where draining is necessary prior to watering, as many of those drains, necessary to drain the land, may be also found useful to act as conductors or leaders, to answer irrigation; that is, when the act of irrigation is not going on, many of the drains may perpetually act in draining.

There has been a good deal said of late, on the subject of draining, by Elkington and others, to which I refer. In many cases, great accuracy in levelling is requisite: the spirit level is not in the power of every farmer, and even if it was, few understand the application of it. The common mason's level is tedious; for expedition, the isosceles triangle is the best, and is as accurate as any: with this a man can level almost as fast as he can walk, attended by a boy to carry pins, to stick down where the level may point out.



There

There is a great deal in habit in any undertaking; so with levelling; a good eye never fails to facilitate this kind of business.

In 1801, I found a great number of Lord Mountjoy's tenants busily employed in watering their meadows and pasture-grounds. As it was the first year, of course it was managed in a slovenly and imperfect manner. I singled out a person, who was in the habit of watering for some little time before in the demesne. This man has an exceeding good eye, and has also a great liking to irrigation, which is every thing. I sent him, with his simple triangular level, through the estate; and, in the course of a few weeks, he made a wonderful reformation in the ideas of the people, so that now the greater part of them are practitioners, and irrigation is become quite a science among them.

I only mention this circumstance as a hint to improvers, as every neighbourhood in the kingdom must have some persons, whose abilities are superior to those of others, and therefore it should be the object of the proprietors to select them.

The advancing of money to poor tenants, at the time of taking out a lease, would, no doubt, in many instances, produce a good effect, in forwarding the means of improvements, or rather placing the money on such a footing, as to be occasionally laid out on improvements, according to contract.

Tenants

Tenants in general are so wretchedly poor, that a great length of time elapses before any permanent advantage can derive to them from the improvement of their farms. Indeed it is too frequently the case, that, during the whole course of the lease, for want of means or ability, the farm does not yield probably one-fourth of what it might have done under good management, and laying out some money early, for ditching, draining, liming, &c.

Instead of the landlord being a loser by this mode, he would find, at the expiration of the lease, a great benefit, and encrease of property.

If, for example, a farm consists of twenty acres, at 10*l.* a year upon a thirty-one years lease, let the landlord, for the first fifteen years, advance 3*l.* a year, to be laid out in draining, liming, &c. The next sixteen years, the rent may be raised to 13*l.* a year. By this mode, the landlord will be nothing out of pocket; and it is very plain, that no interest, accruing from 45*l.*, could be equal to the encreased value of the land, at the expiration of the lease.

There might be other modes adopted, to enable the tenant to get on, according to circumstances; I only suggest this as a hint.

It is evident, that long leases must be a powerful means of improving lands. Upon short leases, such as twenty-one years, men have no spirit to get forward, and especially where confidence does not exist between

master and tenant, which, indeed, is too often the case.

Farming societies may produce a good effect, by giving premiums, and also by employing persons, skilled in the improvement of bog and mountain, to instruct the people.

Much might be done with respect to burning of lime upon a large scale. Public lime-kilns should be introduced, and some bounty or premium offered; indeed, without them, lime would find its own level, by charging a reasonable price. This is fully demonstrated by Mr. Stewart aforesaid, who built a kiln several years ago, and continues to sell the lime to his tenants at a reasonable rate, and to tenants of other estates at a more advanced price than what he charges his own. The good effects, produced by this institution, soon became evident throughout his estate, since, for every barrel of lime, that had been formerly laid on the land, twenty barrels have been used since the establishment of the kiln.

From my own knowledge of this county, I am inclined to believe, that, by establishing lime-kilns, and selling at a reasonable rate, it would be found one of the best improvements that could be introduced.

A barrel of lime, containing thirty-six gallons,* generally costs from 18*d.* to 2*s.* The carriage of limestone,

* The barrel should be forty-two gallons.

stone, for perhaps three or four miles, renders this article extremely high, as the stone is considerably heavier before than after it is burned. The true plan, therefore, is, to have the lime-kiln built as convenient to the quarry and bog as possible, particularly to the former.

At a public lime-kiln, where business is well attended to, there will seldom happen any disappointment; whereas there is no end to the delay and trouble attending lime burned in the usual way, in little sorry pot-kilns,* which are perpetually out of order.

Fully convinced of the utility of a public kiln, I have engaged in this business upon a large scale, and am convinced, that I shall be able to sell lime at 14*d.* a barrel the year round.

Obstacles to improvement, and the best means of removing them.

The means of improvement, being understood and complied with, must, in some measure, remove the obstacles.

The

* A pot-kiln is nothing more than a hole dug out of the side of a dry bank, built up with stones, without any cement, one side of which must be broke up for the purpose of getting out the lime, when burned. These kilns are of various sizes, but seldom exceed thirty barrels of roche-lime.

The following seem to be among the greatest obstacles to improvement.

Rack-rent appears to be the most distressing to the community at large, but particularly to the cultivator of the soil, and never fails to affect the head landlord in some degree. The more intermediate tenants there are, between the lord of the soil, and the person who cultivates it, the worse for both, because it is very evident, that every person, who may have a claim or an interest in the land, will, of course, have some profit. This clearly points out, that the landlord is not paid the real value for his land, and that the under or lowest tenant pays a great deal too much.

Happy would it be for the prosperity of the kingdom, if no person was concerned in land, except the lord of the soil, and those, who actually cultivate it.

Agents, not acquainted with country business, may be considered a great bar to improvement. The improvement of land depends very much upon the activity and knowledge of agents.

I believe it is a general custom throughout the kingdom, to exact duties of men and horses from the tenantry of estates, to bring home the landlord's fuel, corn, &c; I know it is generally the case in this county. In another place, under the article, *General State of Leases*, I have pointed out some objections to this mode; here I have only to remark, that I consider it a great impediment to industry, because such as are bound

bound to fulfil such *petty* engagements, must always attend at seasons when their own works are most pressing.

The situations of many mills are also great obstacles to improvement.

There is another circumstance, much complained of by farmers in general. They have a notion, that bog and mountain, newly reclaimed, must become subject to tithe, so soon as they are brought into a state of cultivation. I understand, that some security is settled by law for new improvements; of this, however, the people are in general ignorant.

SECT. 13. *Habits of industry, or want of industry among the people.*

It is rare to find more industrious people, than those of this county generally are. The want of industry proceeds more from not having the means of being industrious, than from the inclination of the people towards idleness. In tracts, capable of producing corn, potatoes, and flax, we find few specimens of sloth or inactivity; both men and women are usefully employed. At night, in the winter time, it is very common for a labourer to make 6*d.* or 8*d.* by weaving, after his day's labour. Girls, of nine or ten years of age, generally make from 1*s.* to 1*s.* 6*d.* a week by spinning.

It

It is only in the mountainous parts that we find any thing, that appears not industrious. In those parts, the management of potatoes, oats, and turf, is chiefly the outer work, which occupies the men only part of the year; the remainder is generally employed in weaving.

Whenever task, or piece-work, occurs, it never fails to excite industry.

The hardship the poor people, who occupy mountainous parts, labour chiefly under is the want of flax, as many mountains are not fit to produce that article; therefore they must purchase, frequently at a dear rate. Perhaps there is no way, by which the poor could be more materially assisted, than by laying up stores of flax when cheap, and selling it to them at the first cost; this might be a consideration worthy of the attention of farming societies and others.

The various exertions, used by many in collecting manures, are surprising. I have frequently found half an acre of potatoes in the possession of poor families, who had not a four-footed beast except a cat or dog; and all made from mud or mire, ashes, rushes, spirit, &c. Broom and furze, in strong clay soils, answer extremely well for manure for potatoes, and of these the poor take advantage where they are to be found. I have known good crops of potatoes produced from common heath or heder.

SECT. 14. *The use of the English Language—whether general, or how far increasing.*

EXCEPT through the wilds of Munterloney (chiefly in the barony of Strabane) the English language is most prevalent; indeed throughout the county it is gaining ground every day. The Roman Catholics are the only sect, who are fond of speaking the Irish language, and with them too it is wearing off very much.

The people of this county in themselves differ as much, perhaps, as those of separate kingdoms. The people of the baronies of Dungannon and Clogher are much more polished, than those of Strabane and Omagh generally are. The inhabitants of Strabane and its vicinity seem quite a different race of people from those of Munterloney, who are in the same barony. In like manner those, in and about Omagh, differ from the parishes of Tarmonmaguirk and Tarmonmungan, in the same barony. This observation holds good with respect to all the towns, and country parts.

SECT. 15. *Account of Towers, Castles, Monasteries, Ancient buildings, or places remarkable for any historical event.*

I do not recollect having met a round tower in the county, or any remains of one; and although round towers are peculiar to many parts of the kingdom, yet very few of them are to be met with in the North.

Old castles are numerous, but in general they appear to have never been of much consequence, or of any considerable strength; many of them, however, are partly composed of a very strong cement, and almost impossible to reduce, even with gun-powder.

The following are the most considerable in the county.

One in the town of Newtown-stewart, but not very ancient. Another near the town, circularly built, and of great antiquity. This, we are informed, had been the residence of the kings of Ulster. Part of this old castle projects eight feet beyond its base, and has the appearance of being suspended in the air, so great is the strength of the cement, which keeps the stones together.

At Baron's-court, near Newtown-stewart, is an old castle, similar to that in the town, and it appears to be of
about

about the same antiquity. We are informed, that both were burned by the Irish in 1641, and even at that time inhabited. A fourth castle is said to have been near the town, but at present we can make out no traces of it.

Kerlish castle, near Drumquin, appears to be very ancient, and is of considerable extent.

Two old castles near Dunnamanagh, in the barony of Strabane.

Benburb, on the borders of the county, in the barony of Dungannon, appears to be the largest in the county. It is built on a limestone rock, upwards of 120 feet nearly perpendicular, over the Black-water, which at the castle forms nearly a right angle, so that two sides of it were completely fortified by nature. Though the materials for building are here remarkably good, both lime, sand, and stone, yet the castle was but weakly built, the cement was bad, and the stones commonly of the pebble kind.

At some distance from the castle, in the village of Benburb, is a small ancient building, which appears to have been a watch-house belonging to the castle; this is strongly built. Another small building, near the latter, seems to have been intended to support a sundial.

At Augher, in Sir William Richardson's demesne, is a beautiful old castle upon a small scale, which is kept in tolerable preservation.

The castle of most consequence in the county, is that of Mountjoy, or Mountjoy-castle, on the borders of Lough Neagh, which is indeed a fine venerable pile of building.

From the great number of town-lands throughout the county, of which the word *castle* makes part of the name, such as Castle-town, Castle-rod, Green-castle, &c. we have reason to conjecture, that numbers of castles formerly existed, of which, at present, we can trace nothing but the names. This observation is not peculiar to the county of Tyrone; it is general throughout the kingdom.

Except old castles, other ancient buildings are very rare.

As to monasteries, though a considerable portion of land is tithe-free, yet I do not recollect having seen the remains of any old monastery.

Danish forts and Druids' altars are very numerous; the former are held in great reverence by the common people, in any of which we seldom find the traces of the plough or spade. The planting of such conspicuous spots would add much to the beauty of the country, and the fencing of them would be attended with very little expence, as they are so circumstanced, that the fence is already in a great measure completed, or at least might be made so with very little trouble. There are few places where trees would prosper better, the soil having been originally collected and brought there
from

from other parts; and on this account, and from its never being broken up, we frequently find it both deep and rich.

There are other monuments to be met with, held in great veneration by the lower class, and particularly those of the Roman Catholics, such as stone crosses, many of which are filled with hieroglyphic figures, and holy wells, as they are called, where people make stations, or perform a kind of pilgrimage. The common people not only act this kind of mummary, as they suppose, for the salvation of their souls, but give the waters to their cattle, at certain seasons, as an antidote against disorders, which probably do not exist.

SECT. 16. *Churches—Resident Clergy—Glebes, and Glebe-houses.*

WITH very few exceptions, the clergy are all residents. There may be some instances of pluralists, but this is not common in this county at present. As to glebes and glebe-houses, the questions are answered in the first chapter, under the *Divisions* of the county.

SECT.

SECT. 17. *Whether the County has been actually surveyed—when and whether the Survey is published?*

IN the years 1774, 1775, and 1776, a survey of the county was made out by Messrs. William and Conyng-ham M'Crea. A very accurate and well executed map was made out for the gentlemen of the county about the same time, which is always to be seen in the Grand jury room of the county, at the time of the assizes, for the purpose of inspection.

Under the article, *Roads and Bridges*, I have taken notice of this subject, with respect to the manner of improving this map, to which I refer.

SECT. 18. *Weights and Measures, liquid or dry—in what instances are Weights assigned for Measures—or vice versa.*

EXCEPT tar, and treacle or molasses, liquids are sold by measure; these articles are generally sold by weight. Honey is sometimes sold by weight. Selling by weight is preferred, in order to avoid waste, because those glutinous substances adhere, in a great degree, to the vessels, in which they are measured; so that, by first weighing

weighing the vessels, in which they are intended to be put, waste is effectually avoided.

Oats and potatoes are occasionally measured, between parties in the country, but very seldom in the public market.

SECT. 19. *The Weight or Measure, by which Grain, Flour, Potatoes, Butter, &c. are sold.*

GRAIN is commonly sold by weight in the public market, but oats are usually sold by measure between farmers, and especially feed-corn. Six stone, of 14lb. avoirdupois, is reckoned equal to a measure of oats, and three measures, or eighteen stone, to a barrel. When bought or sold by weight, the price is commonly settled by the stone. Seven stone is considered equal to a measure of barley, and three measures, or twenty-one stone, are equal to a barrel; this is also usually contracted for by the stone. Twelve stone is a barrel of malt, which is always sold by weight. Barley is seldom sold at the public market; private distillers buy vast quantities of it by private contract, and by sample.

Flour is sold by the hundred weight, of eight stone, or 112lb.; it is also retailed by the stone, and by the pound.

Oatmeal

Oatmeal is almost universally sold by the peck of 10lb. by retail; twelve pecks being equal to the long hundred, or 120lb., which is the usual standard for oatmeal. In some parts oatmeal is sold by the score, which is equal to two pecks, twenty of which are considered a barrel of meal, being equal to 3 cwt. 2 qrs. 8lb. of the short hundred, or 112lb.

Potatoes are generally sold at market by the stone, but the farmers sell large quantities in the country by the measure, which is reckoned equal to eight stone; but, when heaped, as is the usual custom, the measure generally exceeds nine stone. A measure of potatoes weighs more in winter, than in spring or summer; the same remark will hold good for oats. Oatmeal certainly encreases in weight by age, but since that article is sold by weight, there is no danger of the poor suffering. In general, throughout the county, forty stone of potatoes is equal to a barrel.

Fresh butter is usually sold by the pound of eighteen ounces; but salted butter is sold by the standard pound of sixteen ounces.

Flax-feed is always sold by the gallon when retailed, and by the hogshead when sold by wholesale. The hogshead contains from sixty to seventy gallons.

Hides and tallow are sometimes sold by the short hundred, or 112lb., and also by the long hundred, or 120lb.; either of which cannot affect the buyer or seller, as the price by the pound is always understood.

Candles

Candles are sold by the pound, and soap by the stone and the pound.

Notwithstanding the murmuring, respecting weights and measures in other counties, I think in this county there is no just cause for complaint, since the pound of sixteen ounces, and the stone of fourteen pounds, are so well understood, by which the foregoing and many other articles are governed. I scarcely know of any exception, unless in wool and fresh butter; the former is rated at 16lb. to the stone, and, whether sold by wholesale or retail, the price is generally governed by the pound.

APPENDIX.

*An Account of Lord Mountjoy's Improvements at Rath,
and the manner of carrying them into execution, from
the year 1778, to the present time.*



SECT. I. *Seminary and Nursery.*

EARLY in the year 1778, the first ideas for the improvements took place; but, for the two first years, little more was done, than the establishing of seminaries and nurseries, which, considering the great extent of the design, required to be upon a large scale. It was not the supply of the demesne alone, to raise trees for, that was in contemplation, but that of many large masses of planting throughout his Lordship's estates in this county, amounting, in the whole, to about 36,000 plantation acres. Those objects, with that of being able to supply a numerous tenantry with such forest-

trees as were found suitable, required to keep up extensive and regular courses of seminary and nursery.

It was soon found necessary to establish nurseries in various parts of the demesne, in order to save the expence of carriage, and also to give the young plants a habit, from their infancy, to bear the different exposures they were intended for, with a certainty of success. This scheme was found to answer completely; indeed, upon so large a scale, it would be wrong to confine the nursery to one or two particular spots.

The Right Hon. John Foster, no doubt, was the first who established nurseries and seminaries, to any great extent, in his own demesne at Collon, in the county of Louth; and it is to him alone we are indebted for this, and many other salutary institutions.

The late Lord Mountjoy was one of Mr. Foster's earliest pupils, with respect to planting; and time and perseverance have shewn, that his Lordship made a rapid progress, not in planting alone, but in various other improvements, such as draining, enclosing, laying down grounds of various descriptions, embanking, &c. These, with several other improvements (many of which fall within the plan suggested by the Society), I shall in this place endeavour to make clear.

At the commencement of the improvements, vast quantities of seedlings were ordered from Scotland and other parts. This was done with a view of saving, or rather gaining two seasons, as the plants, so purchased, were

were supposed to come round for planting out for *good*, two years sooner than those raised from seeds sown at the same time that the seedlings were ordered. In some instances this precaution answered; but, in general, the seedlings, raised upon the spot, proved vastly superior to any of those imported; and at this time (1802) there is no comparison at all between the seedlings, got from Scotch and English nurseries (generally two years old), and plants raised here from the seed, notwithstanding the difference of two years in point of age.

In six years we find, that seedlings in general, raised upon the premises, get the ascendancy over two-year-old seedlings, which were imported, and put into nursery the same day the seeds were sown; so that it is much better to wait patiently for the coming round of the plants raised upon the spot. The truth of this assertion I shall submit to any of our great planters, who are in the habit of importing seedlings, and have also established seminaries of their own.

What is here advanced is principally with respect to seedlings imported from Scotland and the north of England; as I would by no means have it understood, that there could be any material loss, in point of time, sustained by purchasing seedlings from Irish nurseries, when situated at a reasonable distance, and when care be taken in packing, and dispatch used, between the times of taking up the seedlings, and putting them into the nursery, or, what answers fully the same end, the
moulding

moulding of them securely till put out. Between these, and plants raised from the seed in the planter's own nursery, there will be found very little difference, provided the qualities of both are equal; this I know from long experience.

SECT. 2. *The general Plan of settling the great outlines of the Demesne and its appendages.*

HAVING settled the general plan for seminaries and nurseries, the next care was to ascertain the great outlines of the demesne, with the appendages and interior plantations.

This was not the work of a *day*; many days and hours were spent on this speculation, with close application and intense study. At length the general plans were settled, and the work went on regularly and pleasantly.

The demesne contains about two thousand Irish plantation acres, with many considerable appendages. It was also in contemplation to plant between three and four thousand acres in strong masses throughout the estates. Though the latter was settled, and regularly registered, yet it was only intended as a *stock* to work upon, when a great redundancy of nursery-trees could be spared from the improvements of the demesne,

mesne, &c., or when the works of the demesne should be brought to such perfection, as to be able to undertake the intended plantations throughout the estates.

At this time (1802) the demesne and its appendages are so far advanced, that the planting of about fifty acres would complete the whole, and this in grouping and slender plantations, as finishing touches, the great massive planting being all completed.

It is not easy to say with accuracy, how many acres there are of solid planting, as every season there are more or less planted, which never fall within the premium planting, or that reported to the Dublin Society. I am sure I may not be far from the truth if I say five hundred acres; though, by taking a superficial view, it would appear as if one half of the whole extent had been planted; but this circumstance is owing to the swelling and undulating disposition of all the grounds, both in the demesne and its environs.

This account may serve to shew, what industry and perseverance can do in a short time. Twenty-two years back, from the present year (1802), may be considered the commencement of the improvements; and, for progress, and high preservation, I am sure they are equal to any in the united kingdom. Raising shelter, judiciously improving the soils, planting out young, and adapting the plants to the soils and aspects, were the great objects to attend to, and which were the principal means of the rapid progress,

progress, made by all the plantations belonging to Lord Mountjoy. But I need not have said any thing with respect to the progress, as this point sufficiently proves itself.

During the above period, I can to a certainty declare, that it did not exceed five pounds to make any alteration or deviation from the general plan, first digested and arranged. Hence the good effects arising from setting out upon a cool, mature, and deliberate plan. I wish the same could be said, with propriety, of all the improvements throughout the kingdom.

The nurseries, &c. being settled, there was no time to be lost for enclosing, and preparing the soils intended to be planted. It was a general rule to enclose and plant the highest and most exposed situations first, which are chiefly the west, south-west, and north-west, these being the points most necessary to guard against. Another rule was much attended to, namely, to enclose some time before the planting took place, and also, to drain, where the soil required it. It was very common to enclose and drain for three seasons before the planting commenced, by which means the nature of the soils was entirely changed; shelter and draining having acted so powerfully, and the furze-seeds, sown on the backs of the ditches, becoming complete shelter in three years; and the stuff, cast out of the drains, went a great way in deepening the soil. But more of this in its proper place.

SECT. 3. *Modes of enclosing.*

1. Common ditches.
2. Louth fences.*
3. Sunk fences.
4. Drains in boggy and swampy situations.
5. Living fences, without a gripe or a trench.
6. Temporary dead fences, made principally of Scotch fir, cut down at the age of ten or twelve years.
7. Common paling, by post and rail, and by sheep hurdles.

1. The common ditch is chiefly adopted for all the interior parts of enclosures and plantations. The gripe is generally seven feet wide at top, and two feet at bottom, and, where the soil will bear it, five feet deep on the perpendicular. An off-set or scarcement† is always introduced, from six to twelve inches broad, according to the nature of the soil, or the position of the bank; if the ground falls away from the bank, six inches for off-set will answer; if the reverse, twelve inches are generally allowed; and, if the bank be on level ground,

or

* So called by the writer, from a specimen seen by him, many years ago, at Rosy Park, in the county of Louth, upon a small scale, but executed in a neat and workman-like manner.

† A common phrase in this county for an off-set.

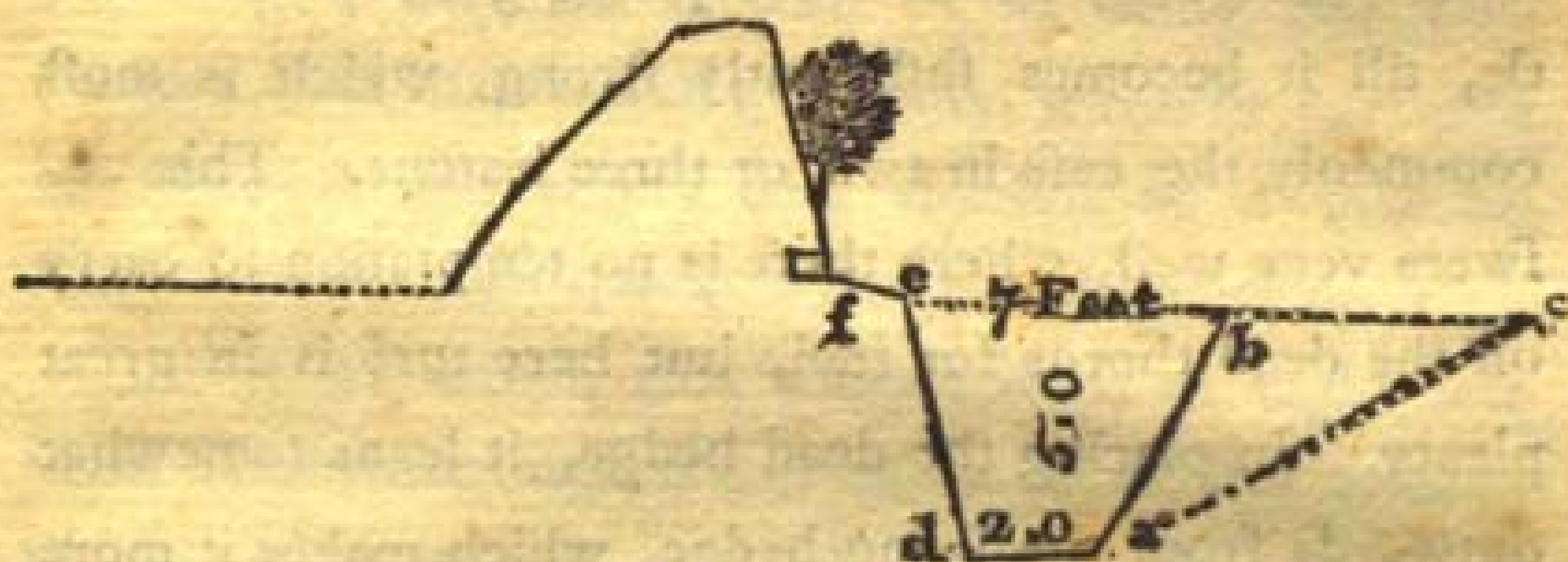
or nearly so, between six and twelve inches are usually left.

Upon a great scale, the expence of weeding ditches, for three or four years after they are made, becomes very considerable; this expence is in a great measure saved, by introducing a course of stones from six to twelve inches high; but, previous to this, all the vegetable soil of the off-set, and, also, the soil to the thickness of the course of stones, is cast back, to be convenient to bed the roots of the thorn quicks in. Another small course of stones is generally laid over the quicks, after being securely bedded in good soil. By using these precautions, and always planting strong thorn quicks, never less than four years old, having been two years transplanted into nursery before they are put into the ditches, the expence of weeding becomes next to nothing; and, even if the whole face of the bank should moulder away by the weather, the quicks are never injured, as the stones effectually secure the roots, which, in the common way of ditching, without off-set or stones, never fail to be materially injured.

The only objection people in general have to this kind of ditch, is, on account of cattle, particularly sheep, being able to walk along the off-set; a few stones, laid on the off-set, may prevent this, or, for want of stones, a slight bearding of brush-wood of any sort. A better hedge is obtained in two years, by planting four-year-old quicks, than can be in four years, by
only

only planting two-year-old quicks. Timber-trees are seldom planted with quicks in the demesne.

The shape of the ditch, when finished, is thus.*



In a few years, when the hedge becomes strong, which is most commonly the case the third year, the space *a, b, c*, according to the line *a, c*, is sloped and dressed, and so is the bank *d, e*, to the stone-course at *f*. Both slopes are dressed with the sward, between *b*, and *e*, and sward borrowed from any neighbouring spot; but, when the sward is scarce, hay-feed will answer; it is common to use the sward on the face of the bank from *d*, to *e*, and sow the slope, *a, c*, with hay-feed.

This mode always produces a good effect, and it is very evident it is economical. It is chiefly confined, however, to where the soil is disposed to wet or moisture; for, where it is perfectly dry, and there is no hazard in filling the ditches, the hedges are cut down at

* Cost from 2s. to 2s. 6d. by the running perch; and, when the sloping and dressing takes place, the price by the perch is from 4d. to 6d.

at once, after they have attained to sufficient strength, and the banks levelled in. The dead thorns are placed to the front of the quick-line, about two feet from it, which effectually secures the young growth from cattle, till it becomes sufficiently strong, which is most commonly the case in two or three seasons. This answers very well, where there is no temptation to carry off the dead thorns for fuel, but here turf is in great plenty. In placing the dead hedge, it leans somewhat outwards from the living hedge, which makes it more secure against cattle, and admits of more air, as the living hedge advances; a circumstance which should always be attended to, from the moment the hedge is cut down.

In some instances, hedges have been cut down within about three feet of the surface, and the side-shoots of what remained worked in to thicken it. I am not an advocate for this system, as a complete fence afterwards is with great difficulty insured, since a regular taper-fashion, from the bottom, cannot, without much trouble and expence, be accomplished; whereas, by cutting down the hedge at once, all this inconvenience is avoided, since the young growth may be easily managed, and kept within bounds. However, where perpetual fences are necessary, which, in pasture and meadow grounds, must be always the case, and where there is a hazard of carrying away the dead hedges for fuel, the cutting down of hedges, at a certain

tain

tain distance above the surface, seems to be the most rational mode.

2. *Louth fence*.—Instead of a wall, built of lime and stone, this species of fence has been adopted several years ago; first, on account of its being one-third cheaper built than a wall; secondly, it can be executed by common labourers; and thirdly, as it may be planted with thorn quicks when found necessary.

It was calculated, that a stone wall, of eight feet from the surface, would cost 2*l.* 8*s.* 3*d.* by the running perch. Upwards of two miles of the Louth fence have been made, and the average did not exceed 16*s.* by the running perch. In a circuit of between seven and eight miles, which is about the extent of the demesne-fence of Rash, the difference between 16*s.* and 2*l.* 8*s.* 3*d.* amounts to a large sum; but the applying so much money among the labourers of the neighbourhood, instead of masons indiscriminately collected from many parts, was an object of consequence to the labouring poor, which the ever to be regretted late Lord Mountjoy never lost sight of.

The under sketch may serve to give the reader an idea of the manner of building this kind of fence :



To every foot in height, there are two inches and a half of a batter or slope, in the face of the stone work from *a* to *b*, making in the whole one foot, eight inches, from the perpendicular ; the thickness of the wall at bottom is two feet six inches, and reduced to about ten inches at top, which is always covered with a sod, to project a little over the face of the wall, and may be produced to any length down the bank, or the back *F*.

If the triangle *a d c*, be not found sufficient to form the bank *F*, the ground may be excavated further to *g*, or towards it.

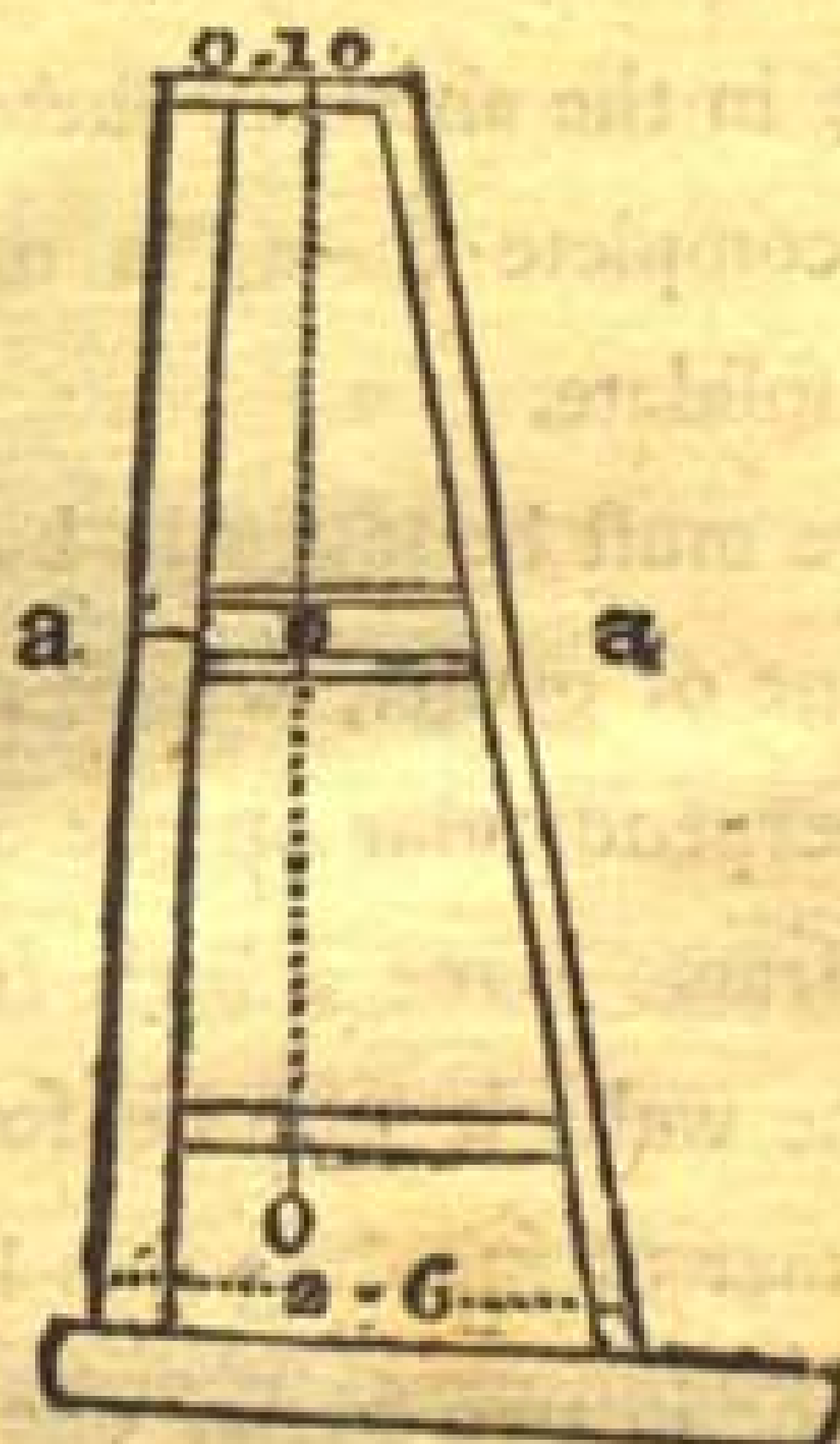
This sketch is represented as if built on level ground, or nearly so. When the ground rises bold behind the fence, less stuff will be necessary to form the back, and *vice versa*. The cheapest way of building these fences is,

is, when they are placed against the hill, and in such situations there is no hazard of finishing them off at once; but when the whole of the back must be formed, as is the case in the annexed sketch, two seasons are necessary to complete them, in order to give the mould time to consolidate.

The greatest care must be taken in building this kind of fence by a frame or gauge, which must be reduced on one side, and perpendicular on the other; or, if the back part of the frame leans a little from the perpendicular towards the wall, it will be found still better. But the safest manner of building this kind of dry wall is, to have the frame in two parts, one four feet high, and another about three feet, which, with a double course of fods, will raise the wall to nearly eight feet, which is the height usually adopted here. In making the gauges, the best way is first to make one to the full length of about seven feet and a half, and cut it after to the lengths required; this will be found the most accurate way. A range four feet high may be first carried on to any length, and afterwards come on with the second range, in which the short gauge is to be used.

Perhaps

Perhaps the under sketch may serve better to explain this, than all I have said.

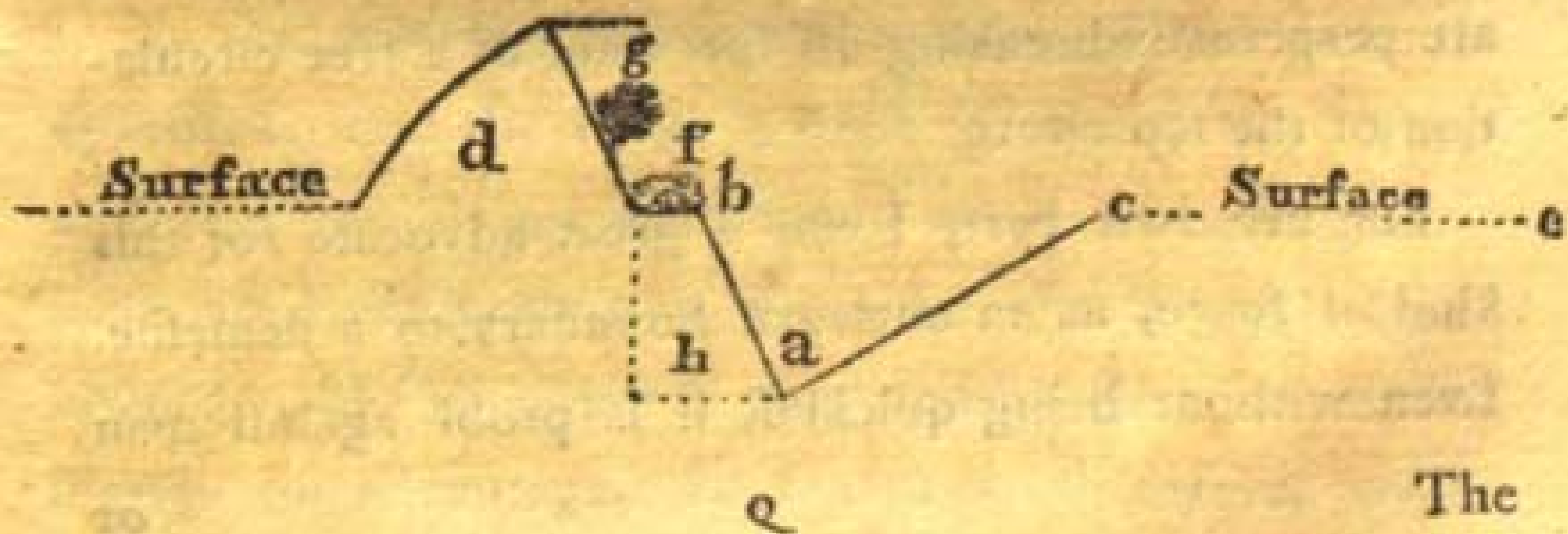


After the frame be made, it may be cut at *a, a*, which is the surest method to have it made accurate; however, where the back requires but little stuff to be cast to form it, and that it is intended to finish off in one season, the frame may be left of the whole length, and, in that case, one of the cross bars at *a, a*, may be omitted. In any case, the workmen will prefer the short frame, as it is more manageable than the other.

From what has been remarked, the situation must always determine the depth of the ground to be cut away; in proportion as the bank rises behind the wall, the more cutting will be necessary, and the less filling will be required. Where the situation is level, or nearly so, two feet below the surface is the usual depth

to sink for the foundation, and the ground afterwards sloped so far as may be found necessary to form the bank. I by no means advise that any stuff should be collected from behind the wall, to assist the forming of the bank, where there might be any hazard of injuring the foil when intended to be planted, or that it had been already planted, which here is almost universally the case as far as this kind of fence is completed, or where it is intended to be introduced.

At Rash the planting has gone on so rapidly, and particularly on the west and north-west aspects, where the Louth fences are principally adopted, that to wait for the completion of them would keep the plantations back, and retard their progress. Common ditches were therefore adopted and introduced, exactly in the direction in which the Louth fences were to run. In this case the only object was to form a stout bank, with an off-set, and quicked as formerly described, without setting any regard to the depth or form of the gripe, the depth of which seldom exceeds three feet; the reason of which shall presently appear from the following sketch.



The solid, *a, b, c*, is made use of for the back *d*; or as much stuff as may be necessary may be procured towards *e; f*, stones or brush-wood to save the quicks *g*, and prevent cattle from creeping up on the face of the ditch.

After some time, when leisure serves to build the Louth fence, the solid lump *b*, is cut away, which admits of a sure and solid foundation for the stone-work. But, the season before this operation is to take place, in case the quicks should have got too strong, it is necessary to cut them quite close, in order to have a young growth, capable of being bent down in a horizontal direction, to comply with the stone-work. But when the stone-work reaches within about three inches of the quick, a thin sod should be laid on the stones; the same precaution should be used over the quick, which prevents it from being cut or *galded* by the stones either above or below, which would soon be the case without taking this remedy. I should have remarked this precaution before, in building these fences, where temporary ditches are not in question; but it would naturally occur to any intelligent person, who has seen any fences faced with stone, where the quicks are perpetually breaking off for want of a free circulation of the sap.

For my own part, I am a great advocate for this kind of fence, as an outward boundary to a demesne. Even without being quicked, it is proof against man

or beast, and is certainly less subject to decay than a wall built of lime and stone.

Besides its cheapness and simplicity, there is another object, sufficient to recommend it. The beauties of plantations and dressed grounds are, in a great measure, lost to the spectator from the outside of a demesne, by a continued dreary wall, which never fails to tire the imagination, and offend the eye; the Louth fence may be occasionally kept low, so as in some measure to partake of a sunk fence; and, if quicking the face be adopted, which I by no means insist upon, the quicks are easily kept down to the level of the wall.

3. *Sunk fence*.—Situated as the demesne is, this kind of fence was obliged to be adopted, and that upon an extensive scale. A public road of great resort accompanies the demesne for upwards of two miles, which, being common to several of the approaches, and being fortunately placed so as to give no offence, or in any part of it to appear a nuisance, was of course continued, and widened from the original breadth to that of sixty feet; or at least it is now so far advanced, that little remains to complete it.

As the demesne lies on either sides of this general approach, and the views to the grounds, the river, and the plantations, with many other interesting objects, are so numerous and exquisite, that it was judged unpardonable to conceal any object, that could be shewn to advantage, sunk fences, therefore, were

adopted, and have been already carried on to a considerable extent, and are at present in a progressive state.

Hitherto the expence of the sunk fence was found to be nearly the same, by the running perch, as that of the Louth fence, namely, about 16*s.*, divided as follows; 4*s.* for the excavation, 10*s.* for stone-work, which includes quarrying, drawing, and building, and 2*s.* for sloping, dressing, and sodding.

In several parts, small bogs and quick-sands occurred. In such places, great precaution was necessary to secure the foundation, which was done by bedding strong hurdles, made principally of oak, under the stones; the hurdles are commonly four feet broad, and the centre of the wall is always placed on the centre of the hurdle. The largest stones are made choice of for the foundations, both for this and the Louth fence, and more particularly so in soft soils, or where there is any hazard of one part subsiding more than another. Another precaution was found necessary, both in cases of Louth and sunk fences, namely, two seasons are allowed to finish the stone-work, where the foundations are not good, or appear doubtful. The wall is generally raised three or four feet high the first season, and the year following is finished off. It was also found necessary to leave a small space unbuilt, at the junction of the firm and boggy soils, as the wall, when built on the latter, was always found

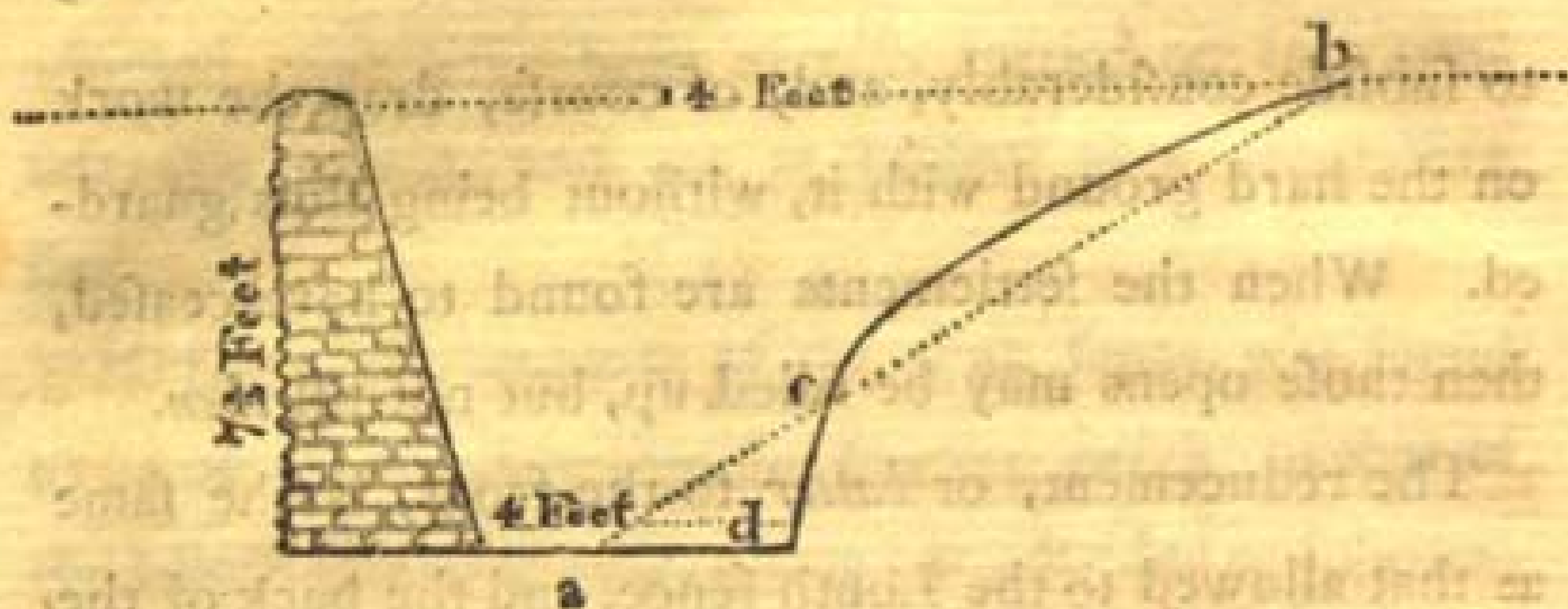
to subside considerably, and, of course, drag the work on the hard ground with it, without being thus guarded. When the settlements are found to have ceased, then those opens may be filled up, but not till *then*.

The reducement, or *batter* to the front, is the same as that allowed to the Louth fence, and the back of the wall is kept perpendicular, or rather inclining a little from the perpendicular towards the centre, as formerly remarked in the Louth fence. Workmen should be narrowly watched with respect to this part of the work; they think, when a fair regular section is made in the bank a considerable way, that it may be fully sufficient to guide them; and that, if the stone-work should even lean a little towards the bank, so as to pass the perpendicular, no material accident would take place; I know, however, from experience, that, in the hardest and firmest soil, this practice cannot be depended upon; so that the gauge and plummet must be always attended to.

So much for sunk fences in point of ornament; or rather (here), as to their admitting to view innumerable ornamental objects, which, by adopting any other mode of fence, would be for ever lost, at least in some measure.

In the inclined plane, this fence differs somewhat from the common sunk fence, by which means it is found more difficult to ascend, which is the great point to guard against.

The



The slope of the common sunk fence is usually made according to the dotted line, *a, b*. It is plain, that a person has more power to get over the fence from the plane, *a, c*, than from any part between *c*, and *d*; because, in the first instance, the person would naturally take advantage of some part between *a*, and *c*, to step from; but any part of the space between *c*, and *d*, is too remote from the wall to extend the legs.

There are a great many sunk fences of smaller dimensions, to turn cattle only, already completed throughout the demesne; some in act of making, and others in contemplation. No ground can be better disposed, to favour sunk fences, than those of Lord Mountjoy's demesne. With other early regulations, those of sunk fences, to divide the grounds, both for profit and beauty, were not forgotten. All this was found necessary, previous to determining the various interior plantations, as, by so doing, some expence might be saved, in curtailing the length of the line of the sunk fence, by projecting or making strong prominences in the line of planting, without in the least infringing on the line of beauty.

To divide the whole of the dressed grounds of the demesne, will require near one thousand running perches of sunk fence, at 12s. a perch. What has been completed cost about that sum. The general dimensions are; height of wall, six feet and a half; extent of excavation, from ten to twelve feet.

Here it is a very pleasing circumstance, that in all this great scene of dressed grounds, when completed, and divided by sunk fences, not a single bridge, or other contrivance, to lead from one division to another, will be found necessary, so as to cross the fence. Each extremity of every sunk fence has fallen, or is intended to fall, in with some plantation; so that the communication, from one division to another, is carved out through the plantation, in a curvilinear manner, so as to conceal the gate, which is always placed at the most prominent point of the curve.



a, The gate, made in the most simple manner, of a few ash rungs, not much stronger constructed than a sheep-hurdle, but made so wide, as to admit of a load
of

of hay or corn. Sometimes advantage is taken of some tree to hang the gate to, and it not unfrequently happens, that another tree may correspond to shut it to; and there have been instances of trees falling in to answer for heel-posts for the gate.

4. *Drains as Fences in boggy and swampy situations.*—

Where it may be necessary to introduce fences of this description, they must be done with patience and caution, as, if performed the first season, they seldom succeed, being subject to slip and give way at the sides, and to swell upwards at bottom.

The usual mode here is to sink them about two feet and a half the first season, which is most commonly done in summer weather. The weight of the stuff, thrown out of the drain, serves to press out the water of the space under it, and thus by degrees it becomes solid. In many cases three seasons are found necessary to accomplish this business.

Those fences are generally made double, forming between a spacious bank thus.



By thus intercepting the water on both sides of the bank, it in some time becomes solid, and fit to nourish trees,

trees, chiefly alder, birch, mountain ash, and woolly poplar, all of which are extremely useful for the country.

Not more than from a foot to eighteen inches in depth should be cast on the surface of the bank; in case it be a spongy red bog, more would render the whole a *caput mortuum*. Besides the use of the stuff cast on the bank, for the purpose of pressing out the water, it also serves to rot the surface, and render it more capable of nourishing trees, than it would otherwise do, and to render the whole more fertile; all the surfaces are made to meet, that is, the surface of the bank, and those of the drains.

By computing the area of the drains, and the solidity of the bank, or the stuff cast up, it would appear, that, at eighteen inches deep, the latter would only be equal to about one-half of the former; experience, however, proves the contrary; so subject is all spongy bog to be reduced, when divested of the fluid, which, for the greater part, composes it.

The reader will please to observe, that the inner sides of the drains are more sloped than the outside ones; the reason is obvious, as they have a greater weight to sustain.

Two shillings a perch is the usual price allowed for the large drain, and eight-pence for the small one.

Furze has been found to succeed in those banks, when they become sufficiently dry, but rooted plants

answer better than the sowing of the seed. Those of two years old are always to be had in great plenty from the backs of new ditches, where they are most commonly too thick. Furze, in such situations, not only serves the purpose of shelter, but also has a great power of absorbing the crude juices.

It is scarcely necessary here to mention the preparation of the soils inside of those banks for planting, as that does not belong to the present subject, and shall be taken notice of in its proper place. I shall only remark, that the interior parts are carved out into a number of quarters by drains, the stuff taken out of which is always cast on the surface, for the purpose of rolling it, as in the former case, but not near that depth, perhaps not more than three or four inches, as the case may require.

It is, however, of the utmost consequence to the future prosperity of the whole of the interior planting, to set about early and vigorously with the fences, and outside planting, which here I shall call a belt or screen, to secure and bring forward the other parts.

5. *Living Fences without a gripe or trench.*—By living fences I mean such as form a fence at once, planted on the surface, which are principally adopted in the best finished parts of the demesne, or in situations, which may forbid common ditches, or any species of clumsy fence. At Rash these are numerous at present, and are intended to be carried on to great extent.

For

For this purpose the common white-thorn is chiefly preferred, of which regular nurseries are every year formed, so as to have always a succession, as the demand is constant. Here it is common to plant two succeeding crops of potatoes, after forming a plantation; this is generally performed by labourers, and for their own use, in situations convenient to them. After this treatment, the soil must be in fine order. The second crop of potatoes is generally drilled. The strongest two-year-old quicks are made choice of, and put out in lines at about four feet apart, in a meandering manner, to avoid the trees. Here the plants commonly remain three or four seasons, but the first, and sometimes the second crops of potatoes or cabbages are planted in the intervals, which is always in favour of the quicks, and also of the plantations. By the time the plants have stood three or four years in the nursery, they are generally four feet high, which is about the height wished for. Hence it is plain, that little or no expence attends this practice, as the labourers manage it, on account of the crops. A few straggling shoots annually clipped off, to give the hedge a taper habit, is the only expence, from the time of planting the nursery, to that of the hedge.

One thousand quicks will go over fifteen perches, and, at that distance, will form a very close hedge.

One

	£.	s.	d.
One thousand quicks I set down at - -	0	3	3
Digging and preparing fifteen perches of a trench, - - - - -	0	2	6
Raising, carriage, and planting, - -	0	3	4
The value of the feed, and trouble in se- minary, planting, nursery, &c. - -	0	2	6
	<hr/>		
	£.0	11	7

This shews at a view, which I am sure I have over-rated, that fifteen perches of a complete fence may be had at once for 11s. 7d.

This system, once established, and regularly kept up, is well known to have cheapened the article *fences* to a great degree.

Honeysuckle and sweet-briar are always mixed with these hedges; a circumstance not so easily complied with in making common ditches.

But here there is another resource for forming hedges of this description in a more expeditious manner, but not altogether so cheap.

In going over extensive chains of plantations, it often happens, that the whole of any particular chain, or string, could not be completed in one season, nor perhaps in two or three seasons; in such cases, to secure every season's planting, cross fences were necessary to introduce, though for only temporary purposes. All such fences were planted with quicks, the same as the permanent fences, with this difference, that no
stones

stones were introduced at bottom. The object, in introducing quicks in those temporary fences, was, in order to have them ready trained, and fashioned for hedges in the course of a few years, when the use of such fences became unnecessary. The fact is, that hedges, thus raised, answered the same end as if they had been raised in a regular nursery, and at somewhat less expense.

But, in order to establish the roots equal to those, raised in a regular nursery, the backs of the ditches are in some measure cut away, so as to be able to get at the roots of the quicks, which are cut with a sharp instrument within about a foot of the stem, and then two or three inches of fresh mould are put over the roots, which causes them to throw out a great number of additional fibres. In this state the plants remain for two seasons, by which time they are generally furnished with roots and fibres in as great perfection as they could have been in the best managed nursery.

In some instances, where the soil is dry, and shelter is not essential, the ditches are levelled at once, and the roots cut and prepared as above stated; but, without those advantages, the first method is always practised, since the part of the bank, left unlevelled, affords some shelter, and, by leaving the gripe open, keeps the soil in the usual medium of dryness.

In order to secure strong and durable hedges, to form fences at once, another expedient has been often practised with success. The demesne originally abounded with small farms, many of which were well planted with white-thorn and some timber-trees, and, very fortunately, almost all the ditches were either curved, or otherwise meandered, so as seldom to appear stiff or formal. In levelling those ditches, many of the timber-trees and old thorns were of course suffered to remain. Indeed the whole of the latter was left undisturbed at the time of levelling the ditches, and their roots prepared by shortening them, and using a large portion of rich soil to excite plenty of new fibres.

Such thorns, as were judged proper objects to stand for *lawn plants*, were not touched or *doctored** at the roots; the tops were only lightened, and so fashioned, as to give them a propensity to spread, which requires both skill and pains, and a little patience. But such thorns, as were intended to form new hedges, were cut down within three feet of the surface, and, in two seasons after, were formed into hedges, with as much safety as plants of four or five years of age regularly raised in a nursery. Hedges, of forty years standing, have been thus managed here with the greatest success.

But

* A phrase of the writer, which he wishes to have understood generally in preparing large plants for ornament.

But thorns, thus prepared, answered here another material end, namely, the securing of scattered, grouping, or detached trees from cattle. Upon a large scale, there would be no end to the expence and repairs of common paling, and, even when done in the best manner, it carries with it a stiffness and sameness, that never fail to give offence. Either black or white thorn removes every inconveniency of this nature; and this scene is further embellished by planting with the thorns honeysuckle and sweet-briar, a mode generally pursued in forming hedges of every description, and especially near places of resort.

The same consideration, of *dolting* thorns, naturally led to another; it was soon found out, that every kind of forest-tree, with care, was capable of being treated in the same manner; so that here that system was put in practice fourteen or fifteen years ago, and has been since carried on, more or less, every year, according to the number, that may be necessary to keep up a succession, or rather to be in readiness as the grounds are laid down.

The method, principally adopted of late years, is, to leave a sufficiency of ornamental plants in nurseries at the season of thinning them. When left about six or eight feet square, crops of potatoes are occasionally introduced, the necessary preparation for which sufficiently prepares the roots of the trees for the foregoing

ing purpose. This system, for many reasons, is better than the former.

The method first pursued was, to select such plants, as were deemed proper objects for ornamental planting, through the plantations, that had been formed some years before. Oak, sycamore, wyth elm, beech, lime, and wood-maple, are generally made choice of; the height commonly from eight to twelve feet. At the time of *doctoring* or managing the root, the head is also attended to, by shortening, if necessary, and cutting away aukward branches, and also giving room, so as to enable the plant to spread before it be put out for good. But here it is necessary to remark, that neither the prepared thorns, nor the trees to be protected by them, should by any means remain longer than two seasons between the time of *doctoring*, and that of planting out; otherwise a second operation will be found necessary, which, of all things, should be avoided.

For a tree of the foregoing size, with five or six stout thorns to protect it, a hole of eight feet in diameter is generally allowed, more or less, according to the size of the roots. Old *doctored* thorns generally carry bulky roots, on which account the hole requires to be large; indeed the holes cannot be too large. When the soil is poor, two or three carts of good earth are introduced. Planting, according to this mode, almost universally requires additional soil.

In countries where thorn-quicks are scarce, which is always the case throughout this county, much might be made by attending to the suckers produced from the roots cut off, in stubbing and levelling ditches. Thousands of fine plants spring forth from the roots left, and those are always produced near where the incision was made, or where they have been maimed. The more the roots are cut and mangled, the more abundant will be the crop of young thorns. If the roots are cut into lengths of a few inches, and covered with two or three inches of good soil, in a bed or drill, they will produce fine plants; but this is not peculiar to the white-thorn.

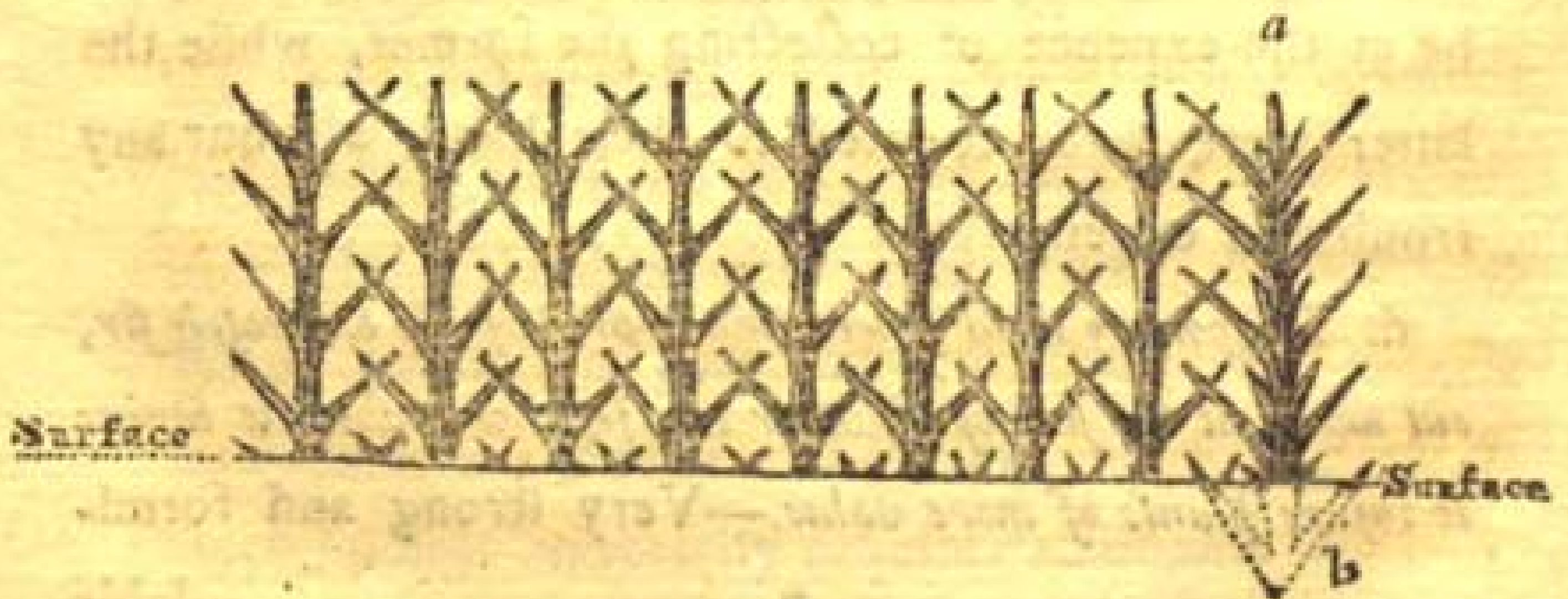
To those of extensive experience in country business, the foregoing hint may be deemed unnecessary; but, to this county in particular, it may be of some use. Five hundred plants, thus raised, will reach further in a ditch, than one thousand seedling plants of two years of age, and will make a completer fence, in a shorter space of time. Of this particular many of Lord Mountjoy's tenants are thoroughly sensible, as they would prefer the suckers to the seedlings, though they should be at the expence of collecting the former, while the latter were ready counted to their hand without any trouble or expence.

6. *Temporary dead fences, made principally of Scotch fir, cut away at the size of eight or ten feet, or when it begins to injure plants of more value.*—Very strong and formi-

dable fences, against man and beast, are made of this article. They are now only beginning; but, from the great quantity of fir and other trees that must necessarily be cut away, this species of fence no doubt will be generally adopted, especially in backward and remote parts of the demesne, and in the other improvements.

I call it a *chevaux-de-frise* fence; it is made simply thus. A trench, about two feet deep, and three feet wide, is dug out, in which the trees are placed upright, generally about two feet apart, so that when the branches are cut, at about the distance of eighteen inches from the stem, they will cross each other, forming alternately both acute and obtuse angles, and also projecting the *horn-work* at front and rere. The lower tier of *horns* are always let down below the surface, the better to strengthen the fence; and, when the mould is put in, the whole is well rammed, in performing of which much pains must be taken, lest any of the *horns* should be broken, which would spoil all.

The under sketch may in some measure assist the reader, in forming an idea of this singular species of fence.



The

The Scotch fir, *a*, is only represented as having the whole tier of branches, which, in the execution, is the case throughout. The dotted lines, *b*, shew the part of the fir under the surface, where part of the lower tier is represented also below the surface, to keep it firm, as has been already observed. In some cases the whole of the lower tier is below the surface, and when that takes place, the fir is let down to the second tier; this is necessary in boggy or sandy soils, which may be difficult to compress.

In forming this kind of fence, the last two years growth is cut away, being considered too weak. In general, two years growth is below the surface, and the growth of four or five years appears above it, after cutting off the weak growth.

It is scarcely necessary to remark, that the more luxuriant the trees are, the greater the distance they may be placed asunder, and *vice versa*.

In dry situations, permanent fences of thorn, beech, &c., of a small size, are generally placed behind this *chevaux-de-frise* work, which, in the course of four or five years, becomes substantial enough to guard against cattle, this being about the period the temporary fence will last. In moist situations, alder and mountain-ash are introduced, and, after being two seasons planted, are formed into a kind of hoop, four feet above the surface, which is found to make a complete fence against cattle, when the other has gone to decay. In

many instances, honeysuckle, sweet-briar, all sorts of common briar, dog-roses, &c. are let in with the temporary hedge; this contrast produces a most striking effect, and, by the time the dry hedge is decayed, those articles become a most formidable fence. When this plan is adopted, which must be always in dry soils, the back hedge is altogether omitted.

On the whole, this is a very cheap fence, since it is attended with little more trouble than that of planting a common hedge. When hedges are to be formed behind, the best way is to open the drill or trench, to the breadth of five feet, by which means both the dead and the living hedges may be carried on together, and thus prevent the opening of a second trench, which would only serve to loosen the ground about the *horn-work*.*

The stuff, used in this fence, is not sufficient for ribs for cabins, sheep-hurdles, common paling, &c.; and as it must be cut away at certain periods, it would, of course, go to loss, to prevent which, the above use is found the most eligible.

7. *Common paling of post and rail, sheep-hurdles, &c.*—Except to enclose corn and hay-stacks, turf, &c., very little use is made of common paling: the foregoing fence supersedes it, and is performed considerably cheaper; besides, the materials, necessary for a strong paling, are sold to the country-people, for cabin-building,

* This phrase is sometimes used instead of *chevaux-de-frise*.

building, to considerable advantage to the proprietor, and with infinite service to the whole country.

Great use is made here of sheep-hurdles, not only for folding sheep, but for many other purposes, such as securing the sloping parts of sunk fences, which have been made through dressed grounds, surrounding old quarries and sand-pits, which require to be filled and dressed in some time after the surrounding grounds have been laid down, and where the use of them is found necessary after that operation.

For these, and a hundred other purposes, sheep-hurdles are used; they are easily placed up, and soon taken down, when not wanted. Here they are made of oak saplings; it would be only throwing away time to make them of any other young stuff, which may necessarily be cut down, as they would last no length of time. Four shillings a dozen is the usual price paid for making them, and a dozen will extend four perches in length.

Several other species of fence might be mentioned, according to situations and circumstances, but the foregoing are in most general use.

SECT. 4. *Preparation of the Soils for planting.*

Many were the expedients made use of, to prepare the soils, and promote the planting of the extensive
and

and varied improvements of Rash. The four following I shall briefly state, being the most general.

1. Soils, that came within the power of the plough, were trenched by the Kentish wheel-plough, drawn by six bullocks in the yoke fashion. This kind of preparation answered completely so far; but there was another object in view, namely, as the ploughing was performed deep, a vast number of stones were discovered and procured, which otherwise would have been for ever lost; by this management they served to build a great part of the Louth fence, already spoken of.

There were about fifty acres of this description prepared for planting. The operation, it is true, was tedious; I dare say not more than a rood of ground daily was ploughed. The plough was attended by six or eight able labourers, besides the ploughman and driver. The men were provided with long oaken poles, shod with iron, which served as levers to turn out the rocks, which the plough discovered. Crow-irons were used for raising the smaller stones. All stones, that appeared above the surface, were previously taken up, and carried away before the ploughing commenced.

Upon the whole, this was found a cheap mode of procuring stones, as the parts where they were used lay very convenient. Had the distance exceeded a
mile,

mile, this plan would have been given up, as stones regularly quarried would have come cheaper.

There is at this time a very material difference between the growth of the trees, where the soil was thus treated, and in similar soils, which had no preparation at all. It is at least as the proportion of ten to fifteen in favour of the trees where the land was ploughed; that is, trees planted ten years ago, where the soil was prepared as above, are now (1802) fully as forward as plants put out fifteen years back, without any preparation. How long this great ascendancy may continue to prevail, time only will tell.

2. Large scopes of dry, hungry, shallow soils; some almost covered with broom, furze, and other spontaneous growths, in a state of nature. But the greater part was formerly occupied by *little farmers*, who knew that their inheritance was only to be of short duration, and, of course, worked out the soil to the lowest ebb.

To trench or plough soils of the foregoing descriptions was thought unnecessary, as that, of course, would only render them still lighter, and, consequently, unfavourable to planting.

In the first case, closets were formed through the native brush-wood, of different shapes and sizes, so as to contain from ten to thirty plants, more or less, at about three feet apart, and often nearer, but scarcely ever to exceed that distance. Five thousand plants to the acre are
not

not uncommon in such situations, where they are high, and much exposed to the west, &c , which, indeed, is generally the case throughout all the elevated plantations here. In those high situations, larch, beech, and Scotch fir are principally made choice of, and in all situations oak is never omitted, though in the dry hungry ones it gets on tardily for some years; but, through time, when shelter becomes established, and the soil rendered firm and compact by being at rest, it is surprising to find how rapidly the oak will get on; it seems suddenly to appear, after a certain period, as by enchantment.

The natural shelter, afforded here, required much attention to make it useful, without becoming injurious to the young plants: it was necessary to have them narrowly attended, and to cut away all straggling shoots of the spontaneous growths, that might whip, or otherwise injure the young plants. This work should never be omitted before the commencement of the autumnal storms, at which season plants are apt to suffer most by the intrusion of their encroaching neighbours, which should never be suffered to gain the ascendancy over the new-planted trees; otherwise all is lost without redemption.

In four or five seasons the young plantations generally out-top the native growth; but it is necessary for some time longer to keep down the brush-wood, for,

so long as it finds air, it will get forward, and cause the lower parts of the young plants to become naked; so that the true way is never to suffer the spontaneous plants to get a-head in the clofets; and the margins, left for shelter, may be taken away by little and little, as the young trees can afford. The nearer the Scotch fir are planted to each other, the sooner the native plants will difappear; but it is better economy to put in plenty of valuable timber at the beginning, than to depend wholly on Scotch fir, or any other species of pine, except the larch, fince, in time, they make but a poor figure and return, in point of profit, when compared to others.

I believe it is fcarcely neceffary to obferve, that, in thofe and all other expofed fituations, without planting very young, there could be no chance of fuccefs. Oak, beech, birch, hornbeam, fycamore, &c. never exceed four years, being generally two years transplanted. Scotch fir and larch are commonly put out for good at three years, in which cafe they are put into nurfery at one year old; but this fystem is only confined to the very expofed fituations.

Now that I am treating of expofed fituations, I fhall mention a circumftance of fome importance, which occurred a few years ago, and which was the effect of chance, rather than of premeditated speculation.

Some

Some seedling-beds of Scotch fir grew uncommonly thick and luxuriant the first season. It was judged that, if let to remain two seasons in the seed-bed, which is the usual time, they would be of little or no value. The great luxuriance was caused by a large portion of turf-ashes being used in the compost, a hint which has been since improved upon, and found of infinite service for many kinds of seedlings.

A number of beds were prepared to receive the plants, which were intended to be thinned out. The plants were raised by a small three-pronged fork, capable of raising only as many plants as occupied about two square inches, perhaps from twenty to forty plants. In short, about half the plants were taken up in this manner, and the void spaces immediately filled with good mould. Instead of bedding out the plants, thus raised, individually, they were planted out in smaller clusters, from four to eight in number, more or less. These clusters were placed at about nine inches apart, some promiscuously, and some in lines; the latter I recommend, unless the soil be extremely clean.

The plan proposed was, that the plants bedded out should be lined out, and formed into a regular nursery the year following; but behold, when that was attempted to be put in practice, the scheme failed, for the roots were found to be so matted and interwoven together, that any attempt to separate them was found impracticable, without injuring the whole. Of course
they

they were suffered to remain for another season, when they were put out for good in clusters, without any attempt to separate them.

The consequence of this species of planting was, that in three years it made a fuller figure in exposed situations, than planting in the common way had done in five seasons. In such situations what we want is, to cover the surface as soon as possible, and, of course, create shelter, and for both this method is extremely well calculated. It is idle to imagine, that we should debar ourselves from timber in future by following this plan; every experienced planter knows, that, if a seed-bed of any sort was suffered to go on its own way, a sufficient number of plants would survive, and kill all the rest; and in the present instance this is fully demonstrated, since only one stem can now be traced from those clusters, which were first planted out here, being only six years prior to the present year (1802).*

Since the above discovery, this practice has been continued here, but is principally confined to Scotch fir, that being the best calculated for exposed situations.

One

* This mode has an advantage over the common one, inasmuch as the wind has little or no power of disturbing the plants, they being balanced from the surface for several years. The writer never experienced an instance of any of this *cluster-planting* (a name which he has adopted) ever yielding to storms, whereas thousands give way every season when put out in the common way, and, in high moist situations, are perpetually loosening by storms.

One hint begets another. Every kind of underwood may be put out in clusters, or strong bodies together, instead of planting it singly. Back grounds may be filled, in forming shrubberies, &c. with strong masses of lilac, laburnum, syringa, &c.; and many other advantages may be taken, where shrubs and underwood are plenty.

I am not without some apprehensions, that many of my readers will look upon this mode to be a most slovenly one, and, as it were, a wilful waste of plants. So they may; but then it should be considered, how much time is gained by this method, and how little is the hazard we run; besides, Scotch fir is always a cheap article; ten thousand plants may be procured from one pound of seed, which in Scotland seldom costs more than three shillings. But to return to the second part of this subject.

On the worn-out grounds, occupied by farmers and labourers, there was nothing more to do than to enclose and plant; as trenching or ploughing, as has been observed, would only serve to render the soil lighter, which was chiefly the greatest fault of these grounds. Here, in general, shelter was to be created, which is usually done by sowing broom and furze-seeds, sometimes in crooked or zig-zag lines, but most commonly in patches. The latter mode in general should be preferred, as the broom particularly makes a conspicuous shew the second year, and, besides the
shelter

shelter it affords, gives a warmth and chearfulness to the whole during the year round. The violence of the winds is more completely broken by sowing in patches, than in lines, as the shelter, afforded by the latter mode, is only partial; the young plants are also more easily preserved from being swatched by the broom, in cases of patches, than in those of lines.

Though heretofore the practice of sowing furze-seed in patches has been adopted, yet the end, for which it was intended, had not always the desired effect. It never makes so rapid a progress, or, at least, is less conspicuous in patches, than on the backs of ditches, in the same space of time. On the back of a ditch it will make a figure, and afford shelter the second season; whereas, in patches, it performs little of either in less than four years, by which time the plantation generally affords itself sufficient shelter. The end of answering the protection of game is also frequently defeated, and especially where Scotch fir is thickly planted, which, in high situations, is here always the case. So soon as the Scotch fir begins to meet, from that period there is an end to any advantage arising from furze sown with a view of shelter through plantations; so that, on the whole, broom should be preferred for temporary shelter; but on the backs of ditches furze-seed should be always sown in preference to broom, on account of the great length of time it lasts when regularly cut. Here it is always sown
broad-cast

broad-cast over the whole of the back of the ditch, so that one-half may be cut whilst the other part remains for shelter, by which means complete shelter is never wanted. In four or five years after sowing, the part of the furze next the thorn-quicks is commonly cut, which always gives the latter the ascendancy for the time to come. A quart of sound seed is fully sufficient for thirty perches broad-cast, but considerably less will answer, when sown in a drill.

In this place it may not be amiss to remark, that the Scotch fir, usually put out in clusters, as stated in this section, is most commonly planted in grounds of the latter description, or those formerly occupied by farmers and labourers, as not being much subject to luxuriant weeds, or to such spontaneous growths as the former.

3. Thin, wet, spouty soils, in general much exposed.

To encrease the depth of soils of this nature, and also to drain and render them wholesome, for the reception of plants, were the chief objects to attend to.

From soils not more than three or four inches deep, with a hard substratum, almost impenetrable to water, little could be expected. Draining was found of little or no advantage to such soils; in some measure it served to carry off the redundancy of water, but very little encreased the depth of the surface.

Recourse, therefore, was had to another expedient, which answered both ends, namely, draining, and deepening the soil.

One-third of the surface was stripped, and laid upon the other two-thirds, causing the two swards to meet, the better to reduce them. This encreased the depth of vegetable soil from four to six inches, over which two inches more of the substratum was thrown up, which gave a depth, for planting, of eight inches. The last covering not only encreased the depth, but served to give weight and stability to the whole.

In performing this work, it was of little consequence whether the furrows and ridges were formed crooked or straight; they were sometimes one way, and sometimes the other; the disposition of the ground always directed the courses of the ridges; up and down hill, where the land was not over steep or sudden; but, where the ground tended abruptly, the direction was always carried obliquely to the hill, the better to prevent the soil from being washed away.

This mode varied according to circumstances. Where the soil was much disposed to moisture, the breadth of the furrows was three feet, and that of the ridge six feet; but, in soils more dry, the breadth of both were encreased, in order to prevent the drought from taking place too much in the summer season; a precaution which in many instances was very necessary, as nothing could be more essential than to guard against both extremes.

This work was always performed one year at least before the planting took place, by which time the sur-

faces

faces of both the ridges and furrows were thoroughly reduced, and the stiff soil, which was cast at top, had the full benefit of the winter's frost and summer's sun. As this work was generally performed in autumn, it frequently had the advantage of two winters and one summer, to ameliorate and form a good abiding soil, very fit for the reception of plants; considerably more so, than had it been planted the spring immediately after the operation.

Here it may not be amiss to remark, that spring-planting is almost universally followed; experience having long ago pointed out, that those soils and aspects are not calculated for autumnal planting.

Ground, prepared as above, is generally managed for 2*l.* an acre; being at the rate of 6*l.* an acre, if the whole had got a thorough trenching, which practice at the commencement took place in raised trenching,* as it is termed. It was, however, soon discovered, that the raised trenching became too dry in summer; nor was the quantity of vegetable soil, that the situations afforded, applied so effectually for the nourishment of the trees, in the latter, as in the former case. These considerations, with the great difference in point of expence, gave, of course, the preference to the former mode.

The

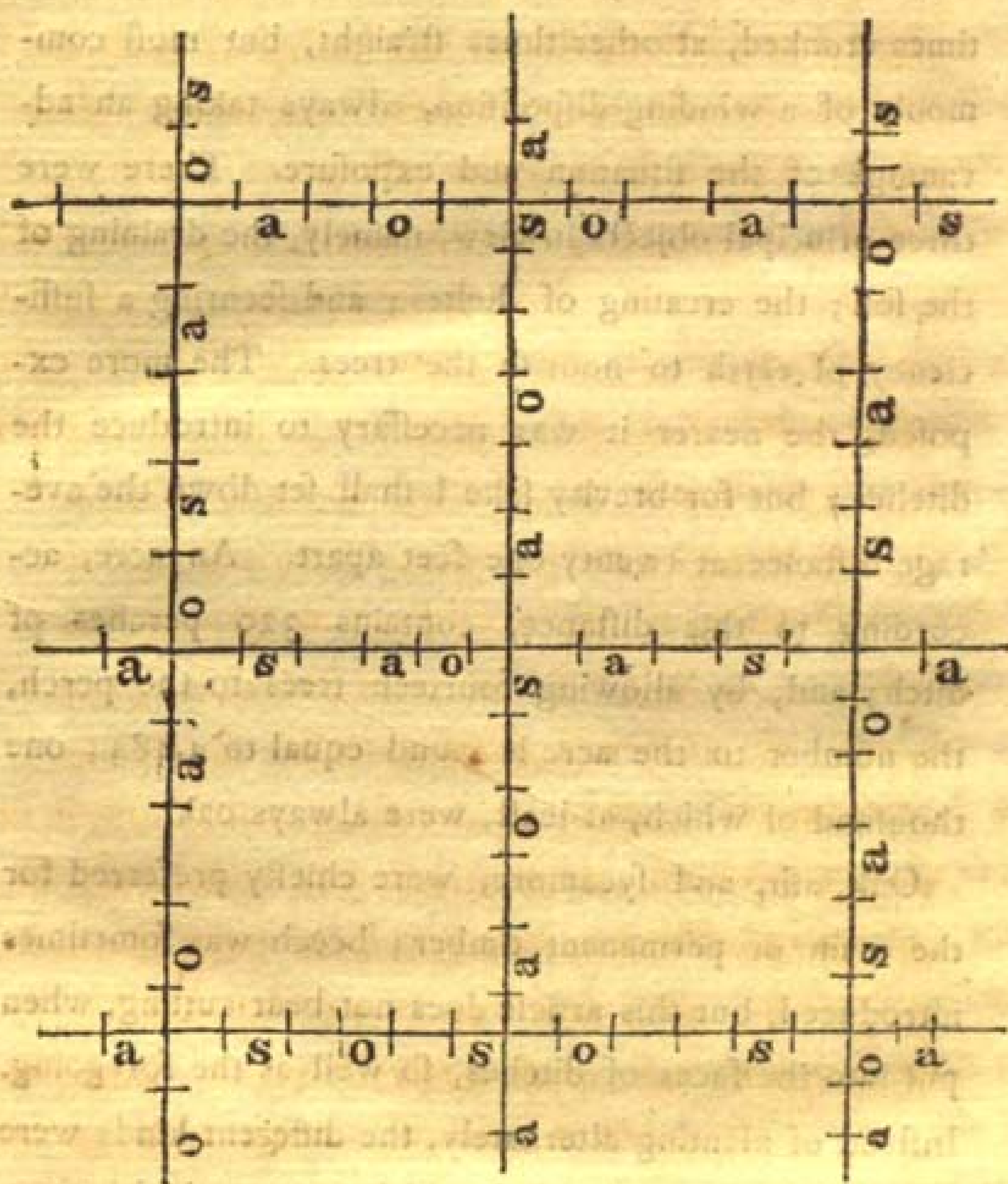
* Raised trenching is preferred in wet soils, and the trees are planted without levelling the ground, and left always in that state.

The fourth and most universal system of planting, in mountainous and exposed situations, was pursued according to the following plan.

Small ditches were made in several directions, sometimes crooked, at other times straight, but most commonly of a winding disposition, always taking an advantage of the situation and exposure. There were three principal objects in view, namely, the draining of the soil; the creating of shelter; and securing a sufficiency of earth to nourish the trees. The more exposed, the nearer it was necessary to introduce the ditches; but for brevity sake I shall set down the average distance at twenty-one feet apart. An acre, according to this distance, contains 320 perches of ditch; and, by allowing fourteen trees to the perch, the number to the acre is found equal to 4,484; one thousand of which, at least, were always oak.

Oak, ash, and sycamore, were chiefly preferred for the main or permanent timber; beech was sometimes introduced, but this article does not bear cutting, when put into the faces of ditches, so well as the foregoing. Instead of planting alternately, the different kinds were put in, in groupes; but I should have remarked before, that great quantities of mountain-ash, alder, birch, poplar, &c., were introduced in strong bodies between the valuable plants, varying all the articles (except the oak, which was universal) according to the nature of the soil.

The order of planting may be easily understood from the following sketch of four divisions, which I shall suppose equal to four square perches.



o, represents oak, two or three in a group.

a, ——— ash, from three to six ditto.

s, ——— sycamore, two or three ditto.

It is not at all necessary to be exact with respect to the inferior kinds planted in the intervals, as they are

to

to be cut away when they begin to interfere with the others; the more that are put in, the better. Sometimes Spanish chesnut and wyth elm are considered among the valuable kinds, but for the former the soil must be good, and naturally wholesome, which in those situations we seldom meet. Ash is always put in plentifully, because it is a good article for sale whilst young.

The general breadth of those small ditches is three feet and a half, and the depth from eighteen inches to two feet, and they are made for 4*d.* a perch, being equal to 5*l.* 6*s.* 8*d.* an acre. The surface of the gripe is stripped, and laid under the quick, with the sward downwards; the remaining good soil is cast over the sward, part under, and part over the quick. This might be performed in autumn, and the ditches may be finished in the course of the season. The stronger the plants are, the better, as, when cut, the stronger they will shoot; I often planted them so thick as a walking-stick. They should be cut before they are put in, but it is necessary to go over them again, after the ditch is finished, to dress and smooth off any wounds, that they might have received during the operation. The faces of those ditches are always fronting the east as much as possible, in order that the bank may afford the more shelter. The banks are always sown with broom-feed, broad-cast.

This mode may appear to be expensive, but I shall presently shew to the contrary.

It is about ten years ago since this system was first introduced, and since that time there have been upwards of one hundred acres planted, according to it. From part of the early planting, one thousand of the inferior trees per acre have been cut away, which sold for 8*l.* 6*s.* 8*d.* for the purpose of shovel and fork handles, which is only valuing them at two-pence each, clear of all expence, but they frequently sell considerably higher; good ones sell at four-pence each. But the profit does not end here, as the future growth of the timber, thus disposed of, will for several years answer many purposes, such as turf-creels, &c., for which there is always a great demand. But the thinning of the ash will, in a short time, bring more than double the above.

It is now clearly understood, and I am sure that I am under the mark, when I say, that, in fifteen years, each acre will return 20*l.*, and this by cutting away only such inferior stuff, as would, if suffered to remain, irrecoverably destroy the principal timber, which, of course, will require thinning in its turn, but not till considerable profit may be made of it.

In short, this is the most profitable system for mountain planting I know of; and its effects, as being picturesque, are already fully demonstrated here. Such planting assumes a fuller appearance in five years, than any other species of planting, in similar soils and situations, would have done in seven or eight years.

At

At the time this practice was begun, the idea of planting the closets or intervals was out of the question, the soil in general being so wretchedly bad; but two or three years made a wonderful alteration in it for the better; and every year, in proportion as the shelter is encreasing, and the drainage effected by the small ditches operating, the soil is becoming better and better; so that those closets are filled up from time to time with more valuable timber, such as larch and beech, and sometimes Scotch fir, to enliven the scene, and afford some variety for a few years.

It would be an endless performance to enumerate the different secondary modes of planting made use of here, as many of them differ very little from such as are practised in other parts. My chief object was to point out some of the most difficult undertakings, in order to shew what industry and perseverance may accomplish, and that in a few years. But before I take leave of this subject, I beg leave to lay before the reader the method followed with respect to an oak wood, which had been partly on the decline, and, of course, was cut down some years ago.

SECT. 5. *An account of the management of an Oak wood, which had been for many years on the decline, prior to the year 1792, at which period the following scheme was commenced.*

BETWEEN ninety and a hundred acres of straggling oak woods about ten years ago exhibited a miserable picture, being by far the greater part so far decayed, that the bark could not be stripped off in summer at the usual time of cutting down oak; so that it was a matter of indifference what season the trees were cut down at, since no profit of any account resulted from the bark.

There were various opinions and conjectures, previous to the cutting down; it was almost universally agreed, that, since the oak had given up, no new species would succeed, the soil being so dry and exhausted, and that it was better to let the oak continue in the state it was, to linger out its existence. These futile advices were laid aside, from the well known laws of nature, as it is a fact, that requires but little demonstration to prove, that every plant is capable of searching for juices most congenial to its own support. It is a very weak argument to advance, that, because the oak declined, other plants should not succeed; the former had absorbed all the nourishment from the soil,

soil, that was congenial to itself, but left ample allowance of other juices suited to different kinds of forest-trees, which, since the above period, is fully evinced from the rapid growth and vigour of every article put out.

As the situation was very much exposed to the west, shelter was a great object; on that account all the under-growth was preserved, which consisted chiefly of heath and whortle-berry; but these articles being of a very humble growth, and only occurring partially, recourse was had to another expedient to raise shelter, which was, not to plant for two seasons after the oak had been cut down; that is, that there should be two years growth of the suckers produced from the stools of the oak so cut, which, in general, afforded sufficient shelter.

Larch, beech, and Scotch fir, were the chief articles put out, as the soil is of a dry hard nature; but at present a great number of the latter are cutting away from the earliest planting, to give room to the larch and beech, which are going on most vigorously. Indeed, contrary to expectation, many of the oak, cut down, are out-topping every other kind; these, of course, are encouraged, and suffered to enjoy their birth-right.

From a desire of not making those tracts too naked of a sudden, at the time of the general cutting, many trees were suffered to remain, where there was any appearance

appearance of health ; but since, this practice has been found not to answer fully the end it was intended for ; the trees so left made but very little progress, and the early planting, even in the space of ten years, has already overwhelmed them ; and now, when it is absolutely necessary to cut them down, there is a great difficulty in getting them through the young plantations ; so that, on the whole, it is much better to cut down all the oak *smack-smooth* the first day (which mode is put in practice here of late years), unless some particular reasons demand the contrary.

The holes were always made immediately before the planting took place, as the soil was so scanty, that, by making them any length of time prior to the planting, it would be found much reduced by the weather, and, from its nature, would receive but little benefit from the influence of frost. Indeed, of late years, the mode, that is usually followed in such situations, is, to have two men making the hole, chopping the whole of its contents within itself ; two more follow planting, and scooping the mould towards the edge of the hole, so as to leave a sufficient cavity to receive the roots of the plant. By this means, not a particle of the mould escapes through the heath and other spontaneous growths. The surface and under-stratum of the holes are incorporated together ; and, if the season should prove very dry, the surface of the hole is *mulched* with

with moss, which is always found in great plenty upon the spot.

It is needless to observe here, that planting very young must be preferred; and that close attention must be paid for a few years to the plants, till they get the ascendancy of the native growth; spring planting is also found to succeed best.

Perhaps in this place it may be acceptable, to relate a circumstance relative to the application of lime on the stumps of oak-trees, immediately after being cut down.

Since the year 1794, the following practice has been invariably attended to with success, so far as time has proved the result. I shall only mention one subject, which may serve for the rest.

In spring 1794, a stool, or group of oak, consisting of five stems, all of which were so far decayed, that there was no chance of the bark stripping, had they been left uncut till summer, at the usual time of taking off the bark, were cut quite close to the surface, or so near it as the old stock could bear the operation. One gallon of lime, quite fresh (being a few minutes before slacked), was used for the five trees; it was scattered over the surface of the stumps, and a few inches round their edges; the whole was immediately covered over with sods, keeping the sward part uppermost.

The shoots, which were produced the summer following, were the most vigorous I ever saw, even from

stocks

stocks in full vigour and prime of life. Nor were they produced about the edge of the stump, as is usual in common cases, but at some distance from it. The shoots also were produced considerably fewer where the lime had been used, than where it had not, and, of course, they grew more vigorously.

It appears from this experiment, that the small portion of sap, which remained in the roots and stock, was effectually sealed up, and prevented from being exhaled at the natural time of flowing; as from the moisture the lime soon became incrusted, and acted as a kind of cement, and, of course, prevented suckers or young shoots from being produced, at or near the edges of the stumps, which is most common, as already observed.

I mention this for the information of those, who may be concerned in the management of decayed woods; a circumstance, which has been fairly proved very well worth attending to. The five stems only took one gallon of lime; a barrel of forty-two gallons (the standard) would go over, by this proportion, 210 trees; an allowance of timber in most cases sufficient for a plantation acre.

Moss, or any other moist covering, that may not be blown off by the wind, will answer as well as fods; and, if none are convenient, any mould will do; but, at all events, the lime must be covered, and kept so.

SECT. 6. *Of the advantage of sowing potatoes, as a preparative to assist the speedy growth of Plantations, and also, for the most effectual mode of laying down bad lands to the greatest perfection.*

BRINGING in land by sowing potatoes thereon, has been pursued here for many years back, with great advantage and benefit, both to the proprietor, and to the individuals who derive under him.

Within the last fifteen or sixteen years, prior to 1802, upwards of 150 acres have been sown with potatoes, chiefly by the labourers of the demesne; perhaps fifty of the above number of acres were planted, and the remainder laid down.

In the former case it is usual to plant first, and to sow potatoes immediately after, the same year, in order that the trees may gain time. The first season, it rarely happens that the soils are sufficiently loose and meliorated, to admit of setting the potatoes in drills; therefore the common bed-fashion is adopted; but, instead of making the furrows straight, they are frequently curved, so as to avoid the trees, and that they may always be secured within the ridge, the better to have the full benefit of the moisture, and reap every possible advantage from the good soil.

In

In this place it is rather unnecessary to remark, that the plants must be of a tolerable size at the time of planting them out, otherwise the potatoe stalks would overwhelm them. I shall only observe, that the trees, when put out, are not less than three feet in height, and that very few of the pine kind are planted in those cases, except larch, which is not so subject to suffer in the foliage as the other species are.

The second, and sometimes the third and fourth years, it is usual to drill out potatoes, in the same soil where they have been bedded or ridged out the first season; nor is it uncommon to have a crop of turnips the last season, which generally succeeds very well.

It is needless to remark how rapidly plantations, thus managed, get on; but this system must be confined to particular situations; in exposed ones it cannot be put into practice, as, by keeping the soil loose for such a length of time, it could not be friendly to young plantations, from what they must suffer by storms. In strong abiding soils, not much exposed, this mode can only be introduced to advantage.

In the second case, or that of preparing land for laying down by sowing potatoes, experience has fully evinced the great advantage of it in this demesne, and especially on coarse, boggy, and marshy soils, where this mode of preparing them for laying down is generally and successfully followed.

The usual mode is this. After the superabundant water and springs (if any) are cut off, a certain portion of the surface is burned, to assist in the manuring for potatoes; indeed very often the crop entirely depends upon the quantity of ashes so procured, without any assistance from other manures, and generally very plentiful crops are produced the first season. Two succeeding crops of potatoes are always taken off; the second crop is generally drilled, and, of course, a small portion of manure serves; but this manure is commonly composed of rich mould and dung; ashes being seldom used the second season, and especially where they have been used the preceding year, as it is well known they are too exhausting upon soils, if copiously applied, from the great propensity they have of absorbing the native oil from the soil.

Oats is the usual crop to lay down with, with plenty of hay-seeds, chiefly of the *white meadow* kinds, which are found to thrive best, and last longest, in most of those soils.

For the first crop of potatoes the labourers are not charged, but for the second crop they pay at the rate of forty shillings an acre. The crop of oats the third year is worth 4*l.* an acre, clear of all expence; so that this brings a yearly profit to the proprietor, during the operation, of thirty shillings annually, allowing an annual rent of ten shillings an acre for the original value of the land, had it not been brought into a course of culture

culture at all, which, indeed, is rather highly rated. Lands of this description, after being laid down, let from two to four guineas an acre for meadow.

In neighbourhoods thickly inhabited, as this is, there can be no doubt of being able to procure people sufficiently numerous to sow potatoes every season upon a large scale; and had this mode been adopted twenty years ago, about the time of the commencement of laying down the grounds, many pounds would have been saved to Lord Mountjoy.

In lands of the foregoing description, this mode is the cheapest, and most effectual to bring them into a profitable state. Even in the very best soils, I am confident that the taking off two successive crops of potatoes will always be found the best economy, both for the proprietor, and the community at large. If this system was fully and universally established, there could scarcely be any danger of the poor suffering, or experiencing the like distress they underwent in the years 1800, and 1801; nor could the country be overstocked with potatoes at any time, if the feeding of cattle with them were more universally adopted. If the poor man had six or eight barrels of potatoes to spare, from the stock generally allowed for his family, how better could they be applied, than for the support of his cow, and especially in those parts, where fodder is most commonly very scarce?

SECT. 7. *A description of the management of the banks of the river at Rasb, so far as it accompanies the demesne, on extent, including all its windings, of nearly two miles and a half.*

SEVERAL years ago this weighty business was undertaken; as it was foreseen that, unless the impediments, which obstructed the regular course of the water, were removed, the beauty of the river would be in a great measure lost, and the principal parts of the adjacent grounds soured, and rendered almost useless, from the long continuance of the back-water, which, by reason of the high banks along the river, could not escape, or fall back into the bed of the river, when the water fell, or partly subsided therein.

The first point most necessary to consider was, how to dispose of those banks, or *lips*, to the best advantage, which almost accompanied the river through the demesne, and always neat, and parallel to it.

Where the ground happened to lie hollow, or low behind the *lip*, there was no difficulty in disposing of the stuff to advantage, as it was either wheeled or carted back, so as to make the general fall to the river as abrupt as the nature of the place could admit of, in order to prevent the like accumulation of sand for the time to come. But, previous to the taking away those banks,

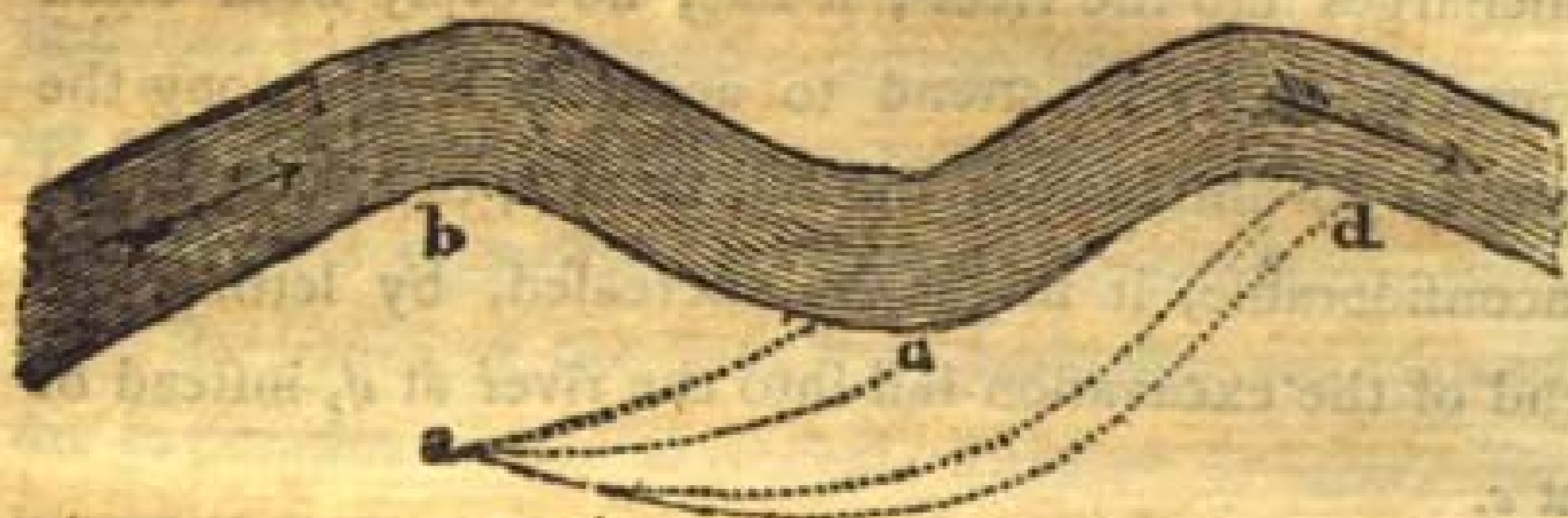
banks, the good soil or surface of the parts, on which they were intended to be laid, was taken off, and reserved for a top-dressing for the whole, when brought to the intended shape. This precaution was the more necessary, since those banks were principally composed of barren sands, and of themselves not capable of supporting any agreeable verdure.

In most cases the grounds lie very flat behind the banks to a considerable extent, what in these parts are termed holmy lands. Those *flats* or holmes being naturally extremely fertile, the covering of them with the barren banks was of course given up; therefore the barren stuff was in general cast into the river, or buried in some adjacent pits or hollows.

In order to render the soil wholesome, where the flats, and, in some places, concaves prevailed, and especially when situated at a considerable distance from the river, recourse was had to another expedient, besides that of cutting away the banks, and sloping them down to the water at low-water-mark; since, in such cases, the casting of the bank, &c. could only be of use, so far as that operation could be applied, to cause the water to run off freely when the bed of the river subsided, and also to prevent the accumulation of the sand in future.

APPENDIX.

The method is simply thus.



a, The lowest point of the holm, at a considerable distance from the river, suppose a hundred yards. This point may be lower than the point *b*, in the river at low-water-mark; but it may be considerably higher than the point *c*, a considerable way down the river, suppose three feet. Now, if the ground be excavated from *c*, to *a*, making the excavation shallower and shallower as you approach *a*, where it should rise out to the surface, it is plain, that the whole of that quarter will be laid dry when the river falls, or arrives at low-water-mark. In sinking about three feet at *c*, the breadth of the excavation is about twelve feet, and brought to a point at *a*. The section of the part excavated will appear thus,



swarded over, nor can it be perceived without a close inspection. Several of the foregoing contrivances have been introduced at Rash, none of which has been ever found to fail.

The back, or stagnated water, is the best guide to point out the course for introducing the excavations or discharges into the river; it has, however, been often found necessary to attend to accurate levels along the banks: for instance, if the fall from *b*, to *c*, was found inconsiderable, it might be encreased, by letting the end of the excavation fall into the river at *d*, instead of at *c*.

It is plain that, when the water subsides in the river, the waters of the flats and plains will fall into the excavations, and from thence be immediately carried into the river, and all behind laid perfectly dry in a few hours, which has been invariably the case here for many years back.

This work is always performed in the spring season, in order that the surface may be completely swarded over, before the autumnal rains set in. With respect to swarding, or creating a new surface for those excavations, the best mode by far is, to make use of the old surface; but, instead of laying it on in regular uniform fods, it should be chopped into a number of small pieces, and firmly beaten together by the back of the spade. Experience has, on many occasions here of making new surfaces, shewn the superiority of this practice over all others, in point of stability and firm texture; but it should be attended to early in the season, otherwise it cannot succeed; besides, the old surface goes further when thus treated. The excavations,
above

above alluded to, have in general been fwarded from the space or old surface cut away, where the excavation was to be introduced; though the area of the latter must, of course, be considerably the greatest.

It is well understood in this neighbourhood, that, since the banks of the river have been disposed of, and the excavations, &c. perfected, little or no injury has been sustained, and that the good effects resulting from it have been experienced so far up the river as the town of Omagh; but this requires no demonstration; the impediments, which were formerly the cause of the contraction of the water, being removed, the lands up the river, for a considerable way, must, of course, benefit thereby, since the water, in its progress thro' the demesne, meets no opposition.

Had the banks of the river, from the stone-bridge, which terminates the river on the north, to Newtown-stewart, been low, no doubt but the adjacent lands must have suffered by the sudden influx, which was occasioned by removing all impediments through the demesne; but they are quite the reverse; they are bold and permanent, and bid defiance to any encroachments or impressions the water can possibly make.

The foregoing part of this work cost upwards of one thousand pounds; it was almost all performed by task or piece-work, of which regular accounts have been kept, as well as of all other species of task-work,

since the year 1790, prior to which the various kinds of piece-works have not been brought under regular or distinct heads, though vast sums had been expended; but the real spirit of working by task did not commence till about the above period. To all parties concerned, every day's experience fully demonstrates the great advantages task-work has over common day's labour, which shall be fully explained in another place. But to return.

Wheeling or carting from forty to sixty yards distance; the price by the solid yard is generally from 2*d.* to 3*d.*, and so on in proportion. When the stuff was cast into the river, or immediately disposed of upon the spot, the price was usually fixed by the running perch, commonly from 5*s.* to 10*s.* according to the dimensions of the bank or lip, which in many parts exceeds six feet in height above the plane or general level, the base being from fifteen to thirty feet, tapering to a point; but the part of the bank next the river is generally the most abrupt.

But the great expence did not end here. Vast gullies, and breaches in the edges of the river, remained to be secured, many of which were of such magnitude, as to require a very strong barrier.

Large creels or kishes, made of oak and hazel, were generally made choice of; these were commonly six feet long, four feet wide, and from three to five feet deep, according to circumstances; and in many parts

two creels, perhaps five feet deep each, were let down by a kind of lever, one placed over the other, both being filled with stones after being securely fixed at front by a strong row of oaken piles, placed within about a foot of each other; the length of the piles generally from six to twelve feet, and sometimes more, according to the depth of the water. The piles are bound together by strong hazel wattles. The bark was previously stripped off the piles, not altogether on account of the profit to be made of it, but upon a presumption that they would last longer, which indeed proves the conjecture to be well founded.

The work is completed by sloping the bank down to the piles, taking great precaution in introducing tough fods, or such as best agree with water, and that are least subject to be wasted by the frequent agitation of the waves, at or near low-water-mark; a circumstance, which cannot be too well attended to, being the precise medium, at which the banks of rivers and lakes suffer most; as banks, when securely formed, and well sloped, seldom or ever suffer by *flood-water*. The common sedge, or reed-grass, is admirably well calculated to secure the banks; on many parts of the banks of the Mourne river (which is the general name) it grows spontaneously; and, where it fully establishes itself, it generally supersedes all other precautions in point of security. Here great industry is used to introduce the reed-grass, which has hitherto succeeded; it is cut into
large

large fods in some remote parts of the demefne, or wherever it can be procured, and placed behind the piles; and in many instances it is found to fucceed without any further affiftance; but this muft be underftood only of thofe parts, where the water has no power of making much impreffion. Many other plants are well adapted to fecure againft the incurfions of water, fuch as the flote-grafs, and the creeping bent-grafs. Rufhes and fprits make a ftrong and permanent fecurity to banks, but in a fine fcene they fhould not be introduced, but, upon the other hand, fhould be moft induftrioufly extirpated. Fortunately the banks of the beautiful river, which paffes through this demefne, are not much encumbered with any difagreeable plants of the native growth. Where the banks are principally compofed of barren fand, the *largest* fpecies of the native *colt's-foot* has eftablifhed itfelf, which is a moft fortunate circumftance, as the roots are fo extremely well calculated to bind the fand, and the great fize of the leaves effectually conceals it in the fummer feafon.

It is fcarcely neceffary in this place to remark, that the difpofing of the banks, and the creeling, piling, &c. went on at one time, fince the fecuring of the verges in a great meafure depended upon that mode; for, in moft cafes, had the banks or lips been firft taken away, or otherwife difpofed of, in one fummer feafon, and the piling, &c. introduced the fummer feafon following,
the

the verges of the river would suffer considerably in the intervening winter. At the commencement of those operations, part of the work suffered materially by not attending to the above precautions; this disaster, however, served one good end, namely, not to trust in future to the mercy of floods.

It is plain, that this business altogether must be attended with great expence. The making of the *water-creels*, at 1*s.* each, is equal to about 3*s.* 6*d.* a perch for creeling only, besides the expence of cutting and drawing the stuff. The number of piles, necessary to secure a perch in length, would sell for 8*s.* for cabin-building, &c.; so that, considering the expence of drawing stones, setting the creels and piles, sloping and sodding the banks, &c., the whole cannot be rated at less than one guinea a running perch, besides the original cost of disposing of the banks. Setting the creels, driving the piles, and sloping and sodding the verges, are always performed by day's work, as it would be found difficult to fix a price by piece-work; and besides, too much care cannot be taken in those operations, so that, even if they could be accurately settled by task-work, it should by all means be avoided, as the least mistake or hurry might be productive of a great deal of mischief; and there is never any temptation of doing any work, when performed by day-labour, in a slovenly or bad manner. Yet, notwithstanding, task or piece-work should always be preferred to day-labour, where there

is

is any possibility of settling the price with accuracy, or that there be no hazard in performing the work in a slovenly manner, without being easily detected. It requires a long and intimate acquaintance with country works, to be able accurately to investigate the various prices and rates of task-work, which must in a great measure depend upon the rates of common day-labour, being the best guide to go by.

So much for the weighty works of the banks of the river, which required to be managed, as above stated, in a most permanent manner. Those parts, which were most likely to suffer, were always first attended to.

But as to such parts as were not suffering materially, lighter materials were found sufficient to secure them. Spruce and Scotch firs, from six to twelve feet high, were found to answer this purpose extremely well. These were cut down with their entire branches, and packed together, as close as they could be placed, in the parts of the banks disposed to yield only slightly, or where strand-like appearances were about to take place. In such cases there is nothing more necessary, than to arrest the sands and other materials, which may be brought down the river by floods.

The strand or naked parts being judiciously covered with brush-wood of any sort (full of foliage, for the closer the better), and securely confined, a new surface is soon created. A few floods are sufficient to deposit
plenty

plenty of sand, &c. to form the new-made soil; after which there is no further trouble than that of planting plenty of sedge or reed-grass, and other aquatic plants, which are soon formed into a firm agreeable sward.

To enumerate the various expedients made use of in common cases, or where great exertions were not found necessary to secure the banks, would be endless. The simple circumstance of finding sand, and other productions after floods, detained on the banks by some slight cause, such as tufts of broom or furze, or, perhaps, rank grass or weeds, was the first indication, no doubt, to adopt simple means, which most commonly succeed best.

The great secret in this business is, to contrive means to collect the sand, &c. by the foliage of the brush-wood, and, when so collected, to prevent it from escaping into the river at the time of the ebbing or return of the water into its usual channel.

Since so much depends upon the brush-wood and branches being as rich in foliage as possible, the summer months answer best for all works of this nature; not only on this account, but because at that season labourers make greater progress than at any other season, since sometimes they must get into the water.

The common mode is to make a slight hedge of *stake and rice*, along the edge of the water at low-water-mark; it is of no consequence of what species of wood the stakes are composed, but the brush-wood, which
forms

forms the *rice*, or that part woven through the stakes, should be very close; fir-branches of any sort, broom, furze, or juniper, are very well calculated for this purpose. About eighteen inches is the usual height of this simple barrier above the surface of the water at low-water-mark, as its use is only temporary to detain the sand, because the reed-grass, and other water-plants placed behind it, soon penetrate through it, and join the water in the course of one or two seasons, and overwhelm the *stake* and *rice* altogether.

The bare parts of the bank, behind the *stake* and *rice* hedge, are in general filled up with young trees of spruce and Scotch firs (the former is the best) of different lengths; these are cut down, for the purpose of thinning the young plantations, with their branches quite entire, and placed in the breaches of the banks, or where the water is disposed to make any impressions, as close as they can be packed together, inclining the tops somewhat in the direction of the water; these are laid down, and secured with any rough pieces of wood, which are in general about the thickness of the small part of a man's leg. In order to secure these pieces firmly, hooked stakes are driven a considerable way into the bank, so that the hooked part of the stake may come in contact with the *leger* or rough piece, which binds down the brush-wood. In some cases, where the breaches are not considerable, fods and stones are used to secure the brush-wood from being carried

carried away by the floods; but this takes place only where brush-wood of any sort may be thrown in indiscriminately, and where the action of the water is not severe.

Whatever means may be used in securing the brush-wood, they are of no further use after two or three considerable floods have taken place, as the quantity of sand, &c., collected by that time, is most commonly sufficient to do the business for ever after.

Roots of aquatic plants are always scattered plentifully on the bare parts, before the brush-wood is laid on, which soon vegetate, and make their way upwards through the brush-wood, and assist in a surprising manner to arrest the sand, &c. The common couch-grass, so destructive to some cultivated land, is found to answer extremely well, when strewed on the bare parts, before the brush-wood be laid on; many other plants, not merely aquatic, will answer the same purpose.

Several large pits, and aukward spots, have been filled from time to time, in the *holmy* grounds in the neighbourhood of the river, and made completely even and uniform with the circumjacent land, by simply throwing in brush-wood of any sort, covered with a few sods and stones, to prevent it from rising, or being carried off by the floods.

At Rash such places are considered as receptacles, for the purpose of concealing the vast quantities of brush-wood, perpetually produced from the thinning of
of

of the young plantations ; and, though large quantities are annually disposed of otherwise, yet a great deal of the most inferior sort remains for this purpose. Whenever the brush-wood becomes a nuisance, it is disposed of, as above stated ; but the months of August and September are those preferred for filling pits or hollow parts, on account of the autumnal floods prevailing at, or shortly after, those times.

SECT. 8. *An Account of Task, or Piece-work, together with a comparison between it and common Day Labour, with some remarks on labouring Tools and Implements.*

UNDER the head, *Wages, &c.*, some remarks have been already made ; but I could find nothing like a regular standard throughout the county, by which any material knowledge might be obtained, except at Rash, which here I shall briefly state, and it may be depended on, as an accurate report.

At Rash, where common labour rates at 8*d.* a day the year round, a shilling is considered a fair allowance to make for task-work upon the average of the whole year. In the winter season a labourer generally makes as much by day's work as by task-work ; but in summer there is no comparison at all, that season being so favourable to the latter. But with
task-

task-work the labourers are always best pleased, and it is certainly most in favour of all concerned, so far as the nature of the work will bear it to be carried on in that manner.

Ditches of seven by five, that is, seven feet wide from the face of the bank to the verge of the gripe, and five feet deep perpendicularly, at from 2s. to 2s. 8d. the running perch of seven yards; ditches of six by four, from 1s. 6d. to 2s.; and so on in proportion. The dressing of the backs, and sodding the tops of the banks, are included in the prices of all ditches. The above dimensions, with respect to the breadth, are clear of the *scarcement* or off-set, which is commonly from six to twelve inches, according to the situation, or the nature of the soil.

Drains, in clay soils, from eighteen inches to two feet deep, at from 2d. to 3d. a perch; one halfpenny a perch is usually allowed for scattering the stuff on the surface, when they are intended to lie open for some time. When springs are in question, the prices, of course, must vary; for a given depth, suppose four feet, 6d. a perch is usually allowed, and, if further sinking be necessary, in order to intercept the springs, a second price is made; for an additional foot, after sinking four feet, 2½d. is added, 3d. for the next foot, and so on in proportion. When the depth necessary to sink, in order to intercept the water, cannot be ascertained at the commencement of the work, there is no
restraint

restraint laid upon the labourer, with respect to the breadth of the drain, since it is sufficiently understood, that labourers can make more progress when allowed sufficient room to work, than when confined in a narrow drain; besides, such drains cannot with propriety be finished off the first season. Filling in stones, in drains of all descriptions, is always done by day-work, a work which should never be trusted to taskers on any account, as one stone, awkwardly placed, might destroy the whole drain. This kind of work, too, is always performed by steady labourers. Bog-drains are generally at half the price of those made on firm land.

Trenching.—Double trenching, generally practised for nursery, at from 8*d.* to 1*s.* a square perch.* This kind of trenching, when performed in lea-land, is done by paring the surface about two or three inches deep, and turning the sward downwards, over which the remainder of the good soil is turned. The whole depth is generally from eight inches to one foot for seminary, but, when intended for nursery, the depth is generally more, and, in shallow soils, a few inches of the substratum are turned up. The usual mode, however, of preparing the soil for nursery is, by sowing potatoes twice, which is found by far the best economy.

* Though the Cunningham or Scotch measure is adopted in many parts of the county, and even in the neighbourhood of Rath, yet, when I speak of a square perch, I always mean the plantation one, or forty-nine square yards.

mony. Trenching is always performed before the frosts set in, and raised in round ridges of about three feet. By adopting this mode, the soil receives the full benefit of the frosts, and besides, slovenly or slight performances are more easily detected, than when the ground is trenched in the flat or level manner. Single trenching, for the purpose of levelling and smoothing the surface, in laying down grounds where the plough cannot act, at from 3*d.* to 6*d.* a square perch.

Removing earth by the solid yard, or a cube equal to twenty-seven solid feet. This kind of work is always measured, before the earth be removed, and not after. Wheeling, from twenty to sixty yards distance, from 2*d.* to 3*d.* a yard.

A great deal of boggy land has been covered or clayed here from time to time. A navigation wheelbarrow, well filled, will cover a square yard to the depth of two inches. A solid yard, in this case, is rated at eighteen barrows, at nine slide-car-loads, and at three wheel-car-loads. The price by the perch, or by the acre, is always regulated by the depth of stuff laid on the bog, which here is generally four inches, and has amounted to from 8*l.* to 10*l.* an acre, according to the distance the stuff was wheeled or carted.

It requires a great deal of address and accuracy to prevent fraud in carrying on such works. The most certain mode is, first of all to smooth and level the bog, to be covered, effectually, a year or two previous to the

the

the covering; indeed the longer the better, in order to give the bog time to subside, and to acquire a vegetable surface of some sort, to prevent the hard materials from sinking. When the bog is brought to the wished-for shape for laying on the clay or gravel (the latter is certainly the best, and the coarser the better), a number of stakes are put down in parallel lines, at about ten feet apart, or nearer (for accuracy, the closer the better), leaving only four inches of them to appear above the surface; the covering stuff is then laid on, to be equal to the tops of the stakes. It is easy to examine the stakes after the soil is laid on, where any suspicion may arise; but, as it is so easily detected, there is seldom any advantage taken by the taskers, and the more so, as a penalty is always inflicted where there is the least appearance of fraud. I should have remarked before, that the white meadow grass is sown in large quantities on the bogs, after being levelled, and previous to the laying on of the clay or gravel, which seldom fails to produce a permanent and strong surface, capable of preventing the hard materials from sinking.

To enumerate the different works, carried on by task throughout the demesne of Rath and its environs, would swell this article far beyond my present plan; I shall, therefore, only give a general hint how to ascertain a reasonable price.

It

It has been already observed, that the prices of task-work must be governed by those of common day-labour. Old established rules, such as the prices of ditches, drains, &c. are easily ascertained from long habit and experience; but it is not easy to determine the value, which should be fixed for many other works, which may occur in an extensive improvement, and it requires both ingenuity and address to be able to deal fairly with labourers, who are in general very keen with respect to the making of bargains favourable to their own views.

In order to settle any doubts, which may arise with respect to the fair value to be given for any job of task-work, which at first view may be found difficult to determine, the labourer should be kept ignorant of the mode of payment; that is, whether by day-labour, or by task-work. A few days, or perhaps a few hours, may determine what may be thought a reasonable price by task-work. It is needless to remark here, how very necessary it is to have a trusty confidential person to superintend any business of this nature, and especially at the commencement of it. If labourers are kept ignorant, during the whole time of executing any job of work, of the manner in which they are to be paid, they will, of course, work diligently, because, if the payment should be made in consideration of task-work, without working diligently they would in the end find themselves much disappointed. It is, however, by far

the best mode for all concerned, to determine the price as soon as may be convenient, by which the labourer will undertake his work at once with spirit and alacrity, and the employer will be certain of having his work done expeditiously.

I have often ascertained the object of my wishes, by placing a steady labourer, for a few hours *only*, at a job of labouring work, the fair price of which at first view appeared doubtful. A person may take out his watch after he turns his back to a labourer, walk away, and return again at a certain time, and thus be able to calculate the fair price, that should be given.

To enable task-labourers to carry on different kinds of work with ease and facility, something better than the common spade and shovel, peculiar to the county, is allowed to them. Ten pounds a year go a great way in purchasing drain-tools, navigation-shovels, pick-axes, casting-scoops, &c. Without allowing labourers implements properly calculated for different kinds of task-work, complete execution cannot be expected.

Complete implements for labourers, usually employed in task-work, are always in readiness at Rash, to be given out to them occasionally; and, in order to prevent those tools from being lost, or otherwise disposed of, severe fines are inflicted, generally double the value of the article; because, if only the value of it was charged, the labourer would suffer nothing by selling it at the same price.

In giving out implements to taskers, the first point is, to charge them double value on the debt side of their account, which charge is taken off at the conclusion of the work, when the articles are delivered up unbroken, or without being damaged, otherwise than common wear, for which they are never charged; but if they break an article during the time they have it in charge, they must repair it at their own expence.

SECT. 9. *Manner of training up Boys, so as to become useful, steady Labourers, with a number of ways to employ them to the best advantage the year round. Also, several Modes, by which old Men, when partly past their labour, may be applied to advantage to themselves and their Employers.*

A CONSIDERATION of the greatest importance is, that of raising a race of useful persons, at the commencement of every useful and extensive improvement. At Rosh this precaution was early attended to, which since has been productive of many solid advantages, both to the proprietor, and the individuals themselves.

Since, in all great undertakings, seminary and nursery should always precede *planting at large*, boys will be found very useful from the commencement; and, by the time the first course of seminary and nursery may

be over (probably in five or six years), they will, of course, become very expert, and fit to engage in the general planting; and, as this business encreases, others, of course, will be coming forward. After serving so long a period in the infant part of the improvement, they will be found more useful than grown-up persons, picked up indiscriminately through the country at large. At least boys, thus trained, the writer knows, from long experience, to have uniformly turned out the best planters and ground-workers, having, by early habits, acquired a degree of smartness and activity, which they seldom depart from when grown up, or even in an advanced stage of life.

Perhaps in this place it may not be amiss to shew how to secure boys, so as to make them attend regularly to the works of a demesne, till they may become of more general use to themselves and to their employers. Unless some effectual method be taken, they will always wish to wander upon every trifling occasion, or any advantage they think may turn out in their favour.

The method followed at Rosh I shall briefly state.

Boys, from ten to twelve years of age, are usually taken in from time to time. They remain two years at 4*d.* a day; the third year they receive 5*d.*; the fourth, and sometimes not until the fifth year, the wages are advanced to 6*d.*; and, in the course of a year or two after, they are raised to man's wages, or 8*d.* a day.

When

When a lad is found to have an extraordinary share of ability and smartness, one year of his time is given up, or, in other words, he is put on man's wages a year before the usual time.

I am apt to believe, that a system, which has been found to be of such general use by the ever to be regretted the late Lord Mountjoy, will not easily be forgotten by his successor; nor do I in the least despair of finding it become general throughout our extensive improvements in the kingdom at large.

It is easy to conceive, that the certainty of having the wages raised, at fixed periods, induces the boys to serve out their respective times. If, however, it should so happen, that a lad, through tricks, or other motives, such as going to service to a farmer, or the like, and if, after some time, he should change his mind, and wish to return again to join his work, in this case he must begin again, as if he never had been entered at all, though the transgression should be committed the last year previous to his being entitled to man's wages; thus few desertions ever take place.

Upon the other hand, if any person, either young or old, at *Rasb*, should meet with any accident, when actually engaged in any of the works, his time is always allowed, as if he had been at work. *Rasb* is seldom without a great number of invalids; the great number of working people, together with their intrepidity, fully accounts for this circumstance.

Here

Here is another great inducement held out; namely, some of the boys, through merit, deserve higher wages than others. Dexterity in pruning, grafting, inoculating, making cuttings and layers, clipping hedges, with many other nice works, which naturally occur in such an extensive demesne, are motives to give encouragement to the most deserving. The aspiring lads do, therefore, avail themselves of such opportunities as lie open to them. The most active will, of course, be first promoted to serve gentlemen as planters, &c.; the next class step into the place of the first, and the third into that of the second, and so on, step by step, to the lowest boy. Thus, like the army, there is always a series of promotions after the first takes place.

Here it may not be amiss to point out the most likely ways of employing the boys to advantage the year round, since the case is not the same with them as with grown-up labourers, who may be set to many kinds of stock-jobs in all weathers; whereas with young lads there must be works laid out suited to their strength and constitution, particularly in the winter months; otherwise they will not be found useful.

I shall now state the principal works suited to boys, and particularly such as occur at Rash, and shall begin with the spring quarter, at which season there never can be a loss for useful employment for them.

The most awkward of the planting labourers are generally employed in making holes for trees; the most expert

expert of the boys are commonly engaged in planting them, for which purpose they are better calculated than labourers in general are, especially where the soil is loose, and the plants small. The weakest of the boys answer to carry the plants about from place to place, and also to dress and settle the ground after the planters, to pick off stones, and to do other useful works. This class also, with an intelligent person over them as a *captain*, are extremely well calculated for bringing up the rear of the planting, by sowing broom, furze, and laburnum-seeds for shelter.

In like manner they may be employed in planting out nurseries. Indeed in that species of planting there are so many ways of performing it, that the weakest of them may be employed to as useful purposes as the strongest.

When much planting is to be performed in one season, which here is commonly the case, small parties are formed, with an intelligent person at the head of each, and especially when the season's planting lies scattered and detached; but, when the work lies connected and compact, the reverse is the general practice, in order to keep all as much as possible under the eye of the head planter; a system which, in all cases, let the work be what it may, should be attended to as much as possible.

So much for the spring, and now for the summer quarter, which naturally points out the necessary works.

I believe

I believe I need not point out, that weeding and cleaning the plantations, nurseries, seminaries, ditches, &c. must form the most essential parts of the summer works. For these works boys are extremely well calculated, since a boy, in such cases, may be found as useful as a man, and frequently more so.

The regulations, with respect to tools and implements, may probably, with some propriety, be introduced here, though some hints have already been given upon that head.

Each boy is furnished with a scuffler or pushing-hoe, a weeding-knife, &c., which are numbered and charged to their respective accounts; otherwise those articles could never be kept together with any degree of regularity. At the latter end of the season, when the works of the nurseries, &c. are over, the implements are put up, and the charge taken off the boys till the ensuing season, when it commences again, and so on. But this system is not confined to the planters alone; it is general in all other departments in the demesne.

As the care and management of tools and implements in an extensive demesne is a matter of great consequence, and one which the master of works should be particularly attentive to, I shall throw out a few observations by way of advice.

The first thing to consider is, to take an exact inventory of all the tools and implements in the place,
ranging

ranging every article under its proper head; the charge of which should be given to one person only, who should be of a sharp retentive turn. Every set of articles should be numbered; for example, wheel-barrows No. 1, 2, 3, &c., and so on with all other articles. This will enable the person, who is in charge, to keep a regular account. Next, let that person charge the articles to those, who may occupy them; not the real value, but the double of it, or, at least, considerably above the value. This charge should remain in force, till the articles are returned, whether broken or not. Wear and tear upon all articles cannot be avoided, nor is it fair to charge such to the labourer's account; in some instances, however, according to contract, it is common and fair that taskers should return articles in the same order, in which they got them.

There should be, of all kinds of tools and implements about a demesne or place, some spare ones in readiness, in order to supply the place of such as may chance to be lost or broken. Such need not be numbered, because they only stand as substitutes, in case a repair only be necessary for the absent article; but, if that article be lost, the substitute should be numbered agreeably to the number of the former. Thus regularity will be always kept up, and labourers and taskers will meet with no interruption in the progress of their works.

A steady person, charged with the above kind of arrangement, is one of the most useful men that can be employed in a demesne, or where much works are carrying on.

I believe I need not point out the great advantage there is in keeping all articles clean and dry, when laid up, or not in use. The oftener they are called in, and newly arranged, the better, as thereby there will be fewer mistakes and losses.

The new implements, &c. should always be kept separate from the old ones, in distinct columns.

It is now full time to return, in order to point out the works of the autumn quarter.

The beginning of this quarter is usually taken up in putting out evergreen shrubs, such as laurel, Portugal laurel, laurustinus, &c., and, also, in planting cuttings of the same, and in many other articles, such as cleaning hedges for the last time, when it so happens that two weedings are necessary in one season.

But the greatest point of all to attend to, should be that of securing young trees put out the last spring, particularly of the pine kind. This is the time to give the finishing stroke to every plant encumbered with grass and weeds; because, if such spontaneous growth should remain till too late in the season, the rains and damps, which usually take place at that time, rot the vegetable matter about the tender branches of the young plants, to their great detriment, and very often

to their total destruction. By not paying due attention to this particular, more plants suffer than by all other accidents put together, at least in moist situations. Indeed this precaution is perhaps more necessary in Ireland, than in England or Scotland.

In such cases, the boys are furnished with small hooks or sickles, which are also numbered, and charged to them; and, upon such occasions, a boy is found of more use than a man.

In the latter part of the quarter, boys are employed to great advantage, in trenching ground, and digging nurseries. In these works the weakest of them are placed at the lightest and easiest parts. In the former, marking out the lines for the trenchers, and shovelling up the crumbling mould from the trenches, are works suitable to their strength. In the latter, cleaning the rows of plants, before the diggers, is a kind of business, to which boys are well calculated. Thus, by a judicious distribution of the whole, no part can be uselessly employed.

Collecting various kinds of seeds is peculiarly suited to boys, as their dexterity in climbing gives them the preference to men. Upon those occasions they are generally *tasked*; that is, each of them must produce a certain measure every evening, after the day's gathering, and continue the same allowance so long as the seeds continue plenty. But the usual way is, to pay so much

much a measure, according to the species of seed ; and some articles are paid for by weight, to prevent the imposition of mixing leaves and stalks with the pure seeds. When the seeds are weighed, the boy is always a loser by collecting leaves and stalks, since a measure of pure seeds will always weigh better than when adulterated. The measure of pure seeds, however, with respect to weight, is ascertained at the beginning of the season, which prevents any disputes that may arise. Sixteen gallons is the usual measure. In haws, when gathered clean, such measure is commonly equal to eight stone and a half ; ash and sycamore keys about six stone ; and so on.

I have now accounted for three quarters of the year spent in useful works, to which I might add many more, but shall proceed to the last or winter quarter ; in which, though boys may not be so usefully employed as at other seasons, yet, notwithstanding, many works may be struck out for them to useful purposes. In the beginning of the quarter, haws, holly-berries, spindle-tree, &c. are usually collected. Joined with labourers, boys are usefully employed in turning and forming composts ; they break the clods, &c. and blend the parts together. In sunshine weather they may be employed in collecting stones off of lawns, and newly laid down grounds.

Boys are found extremely useful in collecting leaves in the woods and plantations. Even though the leaves should

should be applied only to assist in making manure for potatoes, they, notwithstanding, pay amply for the trouble attending them. Indeed there are few works boys can be better employed at on a cold winter's day, than collecting of leaves.

Boys are employed to a very good purpose, in bringing the prunings and loppings of trees to convenient places for cars to get at them conveniently.

These are but few among the many works, that this little *army* are usefully employed in; the nature of the place, and other circumstances, always point out the most useful works to engage in.

By good management, there can be no doubt but boys may always be found useful; but, even if this should not be exactly the case in winter, it is good policy to retain them under half-pay, or for some trifle, till the busy season, in order that they may not be altogether a burden to their parents, and that they may be at hand, and in readiness, when there is a pressing call, and not suffered to wander through the country, as, probably, it might not be easy to collect them again when most wanted.

There is scarcely a labourer now (1802) at Rash, in any department, who was not formerly employed when a boy, and from one stage of pay advanced to another, till he arrived to man's wages; no wonder, therefore, that it should have, within the last twenty years (ending 1802), produced a great number of useful hands,

hands, probably more so than any other part of the United kingdom. Indeed many of them are planters, of no small consequence, to noblemen and gentlemen throughout the kingdom.

Some of the labourers, found at Rash at the commencement of the improvements, are at this time old men.

Care has been taken, from time to time, to provide such labourers with employments in the demesne, suitable to their strength and circumstances. The following may serve to shew, how far this salutary object has been carried into execution, and also, what the late Lord Mountjoy's further intentions were, which, there is every reason to hope, will be perfected by his son, the present Lord Mountjoy.

Observations with respect to old Men and their families—the manner of employing them—with remarks on an hospital intended to be erected for their reception.

The present practice is, when a labourer drops off, so as not to be able to support his usual rank or station among his fellow labourers, to place him at some slight work, suitable to his strength and capacity. In general a yearly allowance is fixed, most commonly five or six pounds, with a cabin, and other privileges, such as
potatoes.

potatoe-land and turf, and, if he has a wife, a spot for flax, generally half a rood of land. There are some instances, however, of making it a daily allowance instead of a yearly one, the better to prevent imposition, which, indeed, upon those and many other occasions, cannot be too much guarded against, since there is nothing more common, with those invalids, than to represent their health to be much worse than is really the case. In this case a charge is made of the privileges, and he gets credit for the time he works, either by the day, by the job, or piece-work, as the case may be.

When the invalid dies, if he should leave a widow, which is most commonly the case, she is taken care of also, by allowing her some portion of what her husband enjoyed, indeed frequently the whole of it, and especially if she should be encumbered with any charge, which often happens to be the case.

The following are only a few, among the various jobs invalids are generally employed at throughout Lord Mountjoy's improvements.

Lodge-keepers.

Preparing walks and drives, where slight repairs only are necessary; conducting water from them after sudden rains, &c.

Making up billet-wood, &c. for fuel.

Cutting and preparing scollops for thatching.

Sweeping

Sweeping yards, &c.

Attending cattle, poultry, pigs, &c.

Weeding nurseries, ditches, &c.

Collecting leaves for manure.

Picking and preparing potatoes for seed, and for food for cattle, &c.

Making various kinds of creels and baskets.

Drawing straw for thatching.

Turning and preparing dung and compost heaps.

Spreading dung for potatoes, &c. &c.

Old men are of great use on many occasions ; indeed I have known many of them to be more so than persons in the meridian of life. The only point to attend to is, to set them to works suitable to their strength and constitution, and they will always be found useful to themselves, and to their employers and patrons.

Old men in general are fond of company. If two of them are placed together, they look upon themselves to be well treated. They spend the day in talking over past times, and of their *great feats* when young men ; yet all this will not prevent them from going on with their works in a slow but sure manner.

In setting old men to work, many jobs should not be laid out, or proposed to them at one time, as in general they are forgetful. The best way to make the most of them is, to praise their performances, and find as little fault as possible, since they are in general te-

nacious

nacious of their own ways, and cannot bear the *spur*, which, on account of their age and infirmities, should not be often applied.

The late Lord Mountjoy had no object more at heart, than that of establishing an hospital upon a large scale for the accommodation of invalids, not only those of the demesne, but such as were found proper objects throughout his extensive estates in the counties of Tyrone and Donegal. His intention was to have it amply endowed, and divided into three principal heads or classes, namely ;

1. For invalids, with their wives.
2. For invalids, without wives.
3. For widows of invalids, and other distressed objects.

Gardens to be annexed to the different departments, and to be cultivated, for the use of the whole, by such of the invalids as were found able to work.

Flax and wool to be served out to a certain proportion, to employ the women in spinning and knitting ; with an annual allowance of clothing and fuel for the whole.

In this place I am happy to have it in my power to say, that his present Lordship appears fully determined to put this laudable plan into execution, with many others, which his memorable father had suggested.

