

gantly, efficiently or inefficiently. To put the responsibility of managing the public funds on the Councils would have a most beneficial effect on Irish life, and he believed it would work out for the good of the people.

Rev. T. A. Finlay, S. J., in seconding the vote of thanks, said the president had put forth the view that the wealth of a country was not exactly a thing that can be measured by money, but it was rather the weal and well-being of the people. It was, therefore, by the conditions of the people that they were to judge of the wealth of a country, and not by its exports or imports alone. No matter what may be the wealth of a nation, unless they could show that, as a matter of fact, a decent standard of comfort is attained by the people as a whole, taking a fair average, they were not warranted in calling it wealthy, or in speaking of it as possessing the weal or well-being which should belong to a nation. They had been taught by the Manchester school and others to think a nation as well off when the total wealth of a country, divided by the number of the population, yielded £30 or £40 per head, when perhaps 30 or 40 per cent. of the people may be living below the average of a decent existence. As regards the Repeal of the Corn Laws and its effect on Irish agriculture, he noticed that Judge Shaw contested the views put forward by Mr. Bailey. He himself believed the effects of the Repeal were only felt in all their force when carrying capacity and steam transport were fully developed. In his opinion, all legislation for Ireland must run on special lines of its own. In this respect Ireland was a separate entity, and economic legislation for it must be specific in character, and specially adapted to the peculiar needs of the country.

Mr. Bailey having acknowledged the vote of thanks, the proceedings terminated.

2.—*The Forestry Question Considered Historically.*

By C. LITTON FALKINER, Esq., Barrister-at-Law.

Legal Assistant Land Commissioner.

[Read Friday, January 23rd, 1903.]

SOME twenty years ago, as most of us remember, there was no more popular catch-word among persons interested in Irish economics than what was called the re-afforesting of Ireland. A number of reformers, many of them eminent in the public life of the day, and all of them zealous for the material well-being of the country, had persuaded themselves that in the restoration of the abundant forests and

woods which had once covered our land, lay the true elixir of Irish prosperity. The air was thick with projects ; and the confident predictions of enthusiasts, who saw in planting on a large scale a sovereign cure for the ills of Ireland, were hailed with acclamation, as is usual, by that considerable section of our sanguine community which is always attracted by the latest theory. The advocates of the re-afforesting of Ireland were not, however, successful in impressing statesmen with a persuasion of the soundness of their views, and time has moderated the excesses of an optimism which experience has certainly done little to justify. But though the expectations then formed were extravagant, and based on an over-ready acceptance of the assurances of that class of experts who never fail to demonstrate what they desire to prove, the labours of those who headed the movement have not been wholly in vain. Little, indeed, has been done in the interval to develop the woodlands of Ireland, and, in fact, the acreage now under wood is substantially less than it was twenty years ago. But the stimulus of their efforts has been such that the forestry question has ever since had a strong hold not only on the imagination of the people, but on the minds of all who have given serious attention to the development of our material resources.

It is not, however, with any large measure for the wholesale planting of vast tracts of waste land that we are concerned to-night. Schemes, involving the planting of 2,000,000 acres of waste land, are certainly too vast to be lightly undertaken, and, indeed, their very magnitude has a repellent effect on many minds. Nor are the advantages of an extension of our woods best recommended by exaggerated estimates of the potential values of forest industries. But it is certainly not a moment too soon to consider how the process which has caused, in recent years, a marked decline in our timber, may be prevented from spreading still further ; and what measures can be wisely taken to encourage a sense of their responsibility in this matter in the minds of those who, in becoming invested with the rights, must also be charged in the future with many of the duties of property.

The statistics of forestry both in Ireland herself, and in relation to those foreign countries with which Ireland may most profitably be compared, have been compiled with great fulness. They have been presented almost *ad nauseam* to the consideration of the public. And they are readily accessible. No useful purpose would, therefore, be served by reciting them afresh. What is wanted is experiment and experience in the physical conditions of the country and its actual suitability for planting ; and the required experience will, I hope, be supplied by the experiments of the Department

of Agriculture. The main object of this paper is not to re-state the case for forestry in Ireland, but to recall public attention to the subject; and in doing so to endeavour to throw light on the solution of a preliminary difficulty which is encountered on the threshold of any attempt to extend our woodlands, viz. :—Where should planting begin, and what are the districts in which it may be most hopefully undertaken? It appears to me that the past may have some lessons for us on this point, and that something may be done from the point of view of history to supply an answer to this question. The line of my recent reading chancing to have brought vividly before me the extent and value of our former forests, I have asked myself whether light may not be derived from a consideration of the localities in which those forests flourished, of the circumstances which caused their destruction, and of the attempts which have been made in former generations to repair or mitigate the misfortune of their disappearance? It is to these questions, and to these questions only, that I shall endeavour now to give an answer.

That the climate and soil of Ireland are naturally suited to the growth of timber of nearly every useful kind indigenous to Europe, and that our island was anciently stored with woods and forests of vast extent, is proved not only by the testimony of all who have considered its physical and geological formation, but by the express statement of historians and chroniclers, and the convincing implication of our topographical nomenclature. The woods of Ireland, and especially those formerly adjacent to our capital, were famous even before the coming of the English. It was from the fair green of Oxmantown, once covered with woods that extended westward over the whole of what is now the Phoenix Park, that William Rufus drew the timber for the roof of Westminster Hall, where, as the chronicle of Dr. Hanmer has it, “no English spider webbeth or breedeth to this day.”¹ And it was from Cullenswood that, only a generation after the coming of the Norman, on the Black Easter Monday of 1209, the Byrnes and Tooles made their long-remembered descent upon the Bristolmen who had settled in Dublin.²

Giraldus Cambrensis states in his *Topographia Hibernica* that the woodlands of Ireland exceeded in his day the plains or cleared and open land. And I do not remember that even the zealous patriotism of the author of *Cambrensis Eversus* has seriously endeavoured to refute this assertion of our earliest descriptive chronicler.³ Anyone

¹ “Meredith Hanmer’s Chronicle,” in *Ancient Irish Histories*, ii., 194.

² *ib.* ii., 370.

³ Celtic Society’s Edition, ii., 110.

who looks in Dr. Joyce's suggestive book on Irish names of places will be astonished to note the extent to which the root words expressive of woods, forests, and trees are found in the names of hills and valleys, townlands, and districts which are now bare of every vestige of the abundant timber of which these names have long been the only memory. For example:—The barony of Kilmore, near Charleville, gets its name from the great wood which in the 16th century formed, as the *Pacata Hibernia* tells us, one of the strongest barriers against the soldiers of Elizabeth; and Dr. Joyce has calculated that in at least seven hundred cases the *kils* and *kills* so numerous in our place names really represent the word *coill*, and are witnesses to woods no longer visible; while *coillte*, the plural, and *coillin* the diminutive of *coill*, account for many more. *Fidh*, or *fiath* [fih], another term for wood, also occurs frequently, and the two baronies of Armagh, called the Fewes, are of this origin. *Ros*, too, occasionally stands for wood, as in the Abbey of Rosserk in Mayo, Roscrea, New Ross, and best known of all, Roscommon. *Fasach* (faussagh), a wilderness, *Scairt* (scart), a thicket of scrub, and *Muine* (munny), a shrubbery, are a few among many arboreal terms which abound in our *index locorum*, and contribute to justify the term *Inis-na-veevy*, or woody island, which is among the bardic names of Ireland. Over and above the terms signifying woods, are those which denote particular trees, of which *Daire* (Derry), an oakwood, with its many variations, is the most important.⁴ The *Annals of the Four Masters* abound in references to the ancient woods of Ireland, which prove that in a great part of the country a dominant characteristic of the social system of ancient Ireland was the forest life of the people. And if we may accept as accurate a passage in the *Annals of Ulster* for the year 835 A.D.,⁵ the acorn and nut crop was so large in that year as to close up the streams, so that they ceased to flow in their usual course.

That this state of things survived to an era well within historical memory is abundantly demonstrated by many authorities. Sir John Davies, a writer whose observations and conclusions, even when we disagree with them, are always suggestive, has noted the degree in which the political system adopted by the Norman colonists of Ireland, and pursued, whether by choice or necessity, by the English Government for many centuries, had the effect of preserving this feature. That system was to drive the native population from the plains to the woods; with the result that the Irish territories tended to become ever more and more

⁴ Joyce's *Irish Names of Places*, i., 491-522.

⁵ Vol i., p. 337.

a succession of forest fastnesses. Had a different plan been adopted, the woods, as Davies points out, would have been wasted by English habitations, as happened just before his own time in the territories of Leix and Offaly, round the new-made forts of Maryborough and Philipstown.

No attempt was made, however, for above three centuries after the arrival of the English in Ireland to encroach to any serious extent upon the native reserves of the Irish inhabitants, though a statute of Edward I., passed in 1296, contained a clause which was designed to provide highways through the country. The clause was as follows :—

“The Irish enemy, by the density of the woods, and the depths of the adjacent morasses, assume a confident boldness ; the King’s highways are in places so overgrown with wood, and so thick and difficult, that even a foot passenger can hardly pass. Upon which it is ordained that every lord of a wood, with his tenants, through which the highway was anciently, shall clear a passage where the way ought to be, and remove all standing timber, as well as underwood.”⁶

But the wars of the Bruces which followed within a few years of this enactment, and the subsequent decadence of English power, prevented the taking of any effective steps under this Statute.

Down to the middle of the sixteenth century, it may fairly be said, no substantial alteration took place in the face of Ireland in this regard. In Baron Finglas’s Breviate of “The Getting of Ireland and of the Decay of the Same,” written about 1529, occurs a passage which shows that well on into the reign of Henry VIII., the period, indeed, at which the English Pale had shrunk to its narrowest limits, the districts in which English law remained supreme were everywhere hedged round by impassable forests. Finglas prescribed a remedy very similar to that enforced by Edward I., more than a century earlier :—“Item—That the deputy be eight days in every summer cutting passes of the woods next adjoining to the king’s subjects, which shall be thought most needful,”—and he enumerates above thirty passes, most of them adjacent to the Pale, which required to be made or maintained.⁷ The numerous writers to whom we owe our knowledge of Elizabethan Ireland, and of the age immediately succeeding, concur in representing the great forests as having survived in most places to the middle of the sixteenth and in

⁶ *Betham’s Feudal and Parliamentary Dignities*, p. 269.

⁷ See Harris’s *Hibernica*, p. 51.

many till well into the seventeenth century. Sir Henry Piers, in his "History of Westmeath,"⁸ designed to illustrate the Down Survey, speaks of that county as deficient in nothing, "except only timber of bulk, with which it was anciently well stored." Yet, barely a century before this was written, Westmeath was one of the most secure fortresses of the king's Irish enemies, as the native septs were called, and it was for this reason that the county was severed from Meath, to which it had anciently belonged, by the Statute, 34 Henry VIII., cap. i. During the wars of Elizabeth it was still a proverb that "The Irish will never be tamed while the leaves are on the trees," meaning that the winter was the only time in which the woods could be entered by an army with any hope of success; and the system of "plashing," by which the forest paths were rendered impassable through the interlacing of the boughs of the great trees with the abundant underwood, was the obstacle accounted by most of Elizabeth's soldiers the most dangerous with which they were confronted. Derrick, in his *Image of Ireland*,⁹ written in 1581, gives a description of the woods which, even if we discount the figures on the score of poetic licence, must be held to show that in his day the forests still covered enormous areas. He speaks of them as often twenty miles long.

The adoption of a resolute policy in Ireland by the Tudor sovereigns was the first step towards the reduction of these immense woodland areas. The gradual extension through the country of the measures first applied to Westmeath, led, under the reigns of Mary and Elizabeth, to a rapid clearance of large tracts of the country. Fynes Moryson, in the closing years of Elizabeth, found the central plain of Ireland nearly destitute of trees. "I confess myself," he writes, "to have been deceived in the common fame that all Ireland is woody, having found in my long journey from Armagh to Kinsale few or no woods by the way, excepting the great woods of Ophalia, and some low, shrubby places which they call glens."¹⁰ The Pale had, of course, for centuries been denuded of woods, if it ever possessed them on a large scale, and as early as 1534 an ordinance of Henry VIII. had directed every husbandman to plant 12 ashes within the ditches and closes of his farm. With the disappearance, in the person of Tyrone, of the last Irish chieftain powerful enough to hold independent sway in the island, this clearance was extended towards Ulster. The civil war which followed the Rebellion of 1641 doubtless tended largely in the same

⁸ Printed by Vallancey in 1774.

⁹ Small's Edition, 1883, p. 28.

¹⁰ Edition of 1735, ii., 370.

direction, and, by the time of the Commonwealth, Boate noted in his *Natural History of Ireland* that in some parts you might travel whole days without seeing any trees save a few about gentlemen's houses. This was especially so on the northern road, where, for a distance of sixty miles from the capital, not a wood worth speaking of was to be seen. "For," he adds, "the great woods which the maps do represent to us upon the mountains between Dundalk and the Newry are quite vanished, there being nothing left of them these many years since but only one tree standing close by the highway, at the very top of one of the mountains, so as it may be seen a great way off, and therefore serveth travellers for a mark."¹¹

The destruction of the woods, due in the first place to deliberate policy, and in the next to the accidents of war, was accelerated both during the long peace that preceded the Rebellion, and afterwards in the years following the Restoration, by the progress of the arts of peace. The revival of Irish Industries was nearly as fashionable a shibboleth in the middle of the 16th century as it has been at intervals in later ages. In those days the favourite objects of solicitude were the manufacture of pipe-staves, and the development of the iron-works, which were then supposed to be the true El Dorado of Irish enterprise—most people holding with Bacon that "iron is a brave commodity where wood aboundeth." Both industries depended for their success upon the woods, which were accordingly drawn upon regardless of the consequences. From Munster whole ship-loads of pipe-staves were exported to the great profit of the proprietors and the great destruction of the woods; and Boate says, "it is incredible what quantity of charcoal is consumed by one iron-work in a year."¹² Richard Boyle, the well-known Earl of Cork, was reputed to have made £100,000 by his iron-works, and the sale of timber must have brought him almost as much again. Sir William Petty's was another of the great fortunes in part accumulated by the destruction of the woods of Ireland. But that Petty, undoubtedly one of the most large-minded Englishmen whom the confiscations of the 17th century attracted to Ireland (and who, as the earliest of Irish statisticians, must always command respectful mention in this audience), was not unmindful of the need for maintaining the timber supplies of the country, may be inferred from the fact that in his *Political Anatomy of Ireland*, he recommends the "planting" of "three millions of timber trees upon the bounds and meads of every denomination of

¹¹ Boate, Chapter XV.

¹² Boate, Chapter XVI.

lands" in the country.¹³ So rapid was the consumption, however, that the want of fuel, formerly abundant, began to make itself felt. Thomas Dinely writing in his Journal,¹⁴ about the year 1682, remarks on the consequent substitution for the first time of turf for wood firing. "The wars," he says, "and their rebellions having destroyed almost all their woods both for timber and firing, their want is supplied by the bogs." A century later Arthur Young notes that in the neighbourhood of Mitchelstown there were "a hundred thousand acres in which you might take a breathing gallop to find a stick large enough to beat a dog, yet is there not an enclosure without the remnants of trees, many of them large."¹⁵

The troubles of 1688 and the succeeding changes were also injurious to the woods. The Commissioners of Forfeited Estates comment severely on the general waste committed by the grantees of these properties, instancing in particular the woods round Killarney (where trees to the value of £20,000 were cut down), and the Muskerry district, where the destruction was almost as great.¹⁶ That this reckless dealing with the timber supply of the country was continued for the best part of a generation may be inferred from a passage in the 7th Drapier's letter, in which Swift asserts his belief "that there is not another example in Europe of such a prodigious quantity of excellent timber cut down in so short a time with so little advantage to the country either in shipping or building."¹⁷ This process of rapid consumption of the anciently abundant woods of Ireland continued far into the 18th Century, and, notwithstanding a succession of enactments designed to encourage planting, the woodland areas diminished so rapidly that, to quote Arthur Young once more, "the greatest part of the country continues to exhibit a naked, bleak, dreary view for want of wood, which has been destroyed for a century past with the most thoughtless prodigality, and still continues to be cut and wasted as if it was not worth the cultivation."¹⁸

Although some maps of the time of Henry VIII. are extant which indicate very roughly the wooded districts, nothing approaching to a statistical record of the distribution of the woods of Ireland is available for an earlier date than

¹³ *Petty*, Chapter II.

¹⁴ Published in *Kilkenny Archaeological Society's Journal*, New Series.

¹⁵ *Young's Tour in Ireland*, Part ii., Vol. ii., p. 62. The clearance at Mitchelstown deplored by Young has been largely made good by plantations within the last century.

¹⁶ *Lecky's History of England*, ii., p. 330.

¹⁷ *Swift's Works*, Ed. Sir W. Scott, vii., p. 52.

¹⁸ *Young's Tour*, Part ii., p. 62.

the 16th century. Baron Finglas' rough list of passes has already been referred to, and is the earliest specific notice on the subject. In Dymmok's *Treatise of Ireland*, 1599, is given "A particular of such strengths and fastnesses of wood and bog as are in every province in Ireland,"¹⁹ in which the principal forest districts are set out by name. It is evident, however, that Dymmok derived his information not from any first-hand acquaintance with the whole country, but from the notes of one of the most diligent inquirers into the condition and resources of Ireland who had ever visited this country, the well-known Sir George Carew. In the Lambeth Manuscripts, which bear his name, are to be found Carew's observations on the subject, and as they are fuller than Dymmok's list, and not readily accessible, it seems desirable to print them here :—

WOODS AND FASTNESSES IN ULSTER.

Glenbrasell, by Lough Eaugh (Lough Neagh), a great boggy and woody fastnes.

Glencan, a boggy and woody country environed with two rivers viz. : the Blackwater and the Ban.

Killultagh a safe boggy and woody country, upon Lough Eaugh.

Kilwarlen, the like bounden together.

Kilautry, lying between Kilwarlen and Lecale.

Glenconkeyn, on the river Ban's side, in O'Chane's country, the chief fastnes and refuge of the Scotts.



THE LENGTH AND BREADTH OF THE WOODS AND FASTNESSES IN MUNSTER.

Glengaruf, in O'Sullivan More's country, 4 miles long and 2 broad.

Glanroght, in Desmond, 3 long and 2 broad.

Leanmore, in Desmond, 3 long and 3 broad.

Glenglas and Kilmore in the Co. Limerick, 12 long and 7 broad.

Dromfynine, in the County Cork, on the Blackwater, 6 long and 2 broad.

Arlo and Muskryquirke, in Tipperary, 9 long and 3 broad.

Kilhuggy, in Tipperary, bordering on Limerick, 10 long, and 7 broad.

Glenflesk, 4 long and 2 broad.

¹⁹ Irish Archæological Society's *Tracts Relating to Ireland*, ii., p. 26.

WOODS AND FASTNESSES IN CONNAUGHT.

The woods and bogs of Kilbigher.

Killcallon, in MacWilliam's county.

Killaloe, in county of Leitrim.

The woods and boggs near the Corleus.

WOODS AND FASTNESSES IN LEINSTER.

Glandilour, a fastness in Pheagh M'Hugh's countrie.

Shilelagh, Sir Henry Harrington's, in the county of Dublin.

The Duffrins, in the County of Wexford.

The Drones and Leverocke, in the county of Catherlogh.

The great bog in the Queen's County, which reacheth to Limerick.

The Fuse, in the County of Kildare.

The woodland bogs of Monaster-Evan, Gallin and Slieve-margy in the Queen's County.

The Rowry, near St. Mullins, where the Nur and Barrow unite together, and makes yt halfe an island.

Part of Coulbracke, joyning upon the County of Kilkenny.²⁰

Half a century after Carew's time, the Books of Survey and Distribution, compiled in 1657, and now preserved in the Record Office, show the dimensions of the woodlands throughout the country as ascertained at that date. The maps of the Down survey also indicate in a rough way the distribution of the woods, and a list of the ironworks through the country in the 17th century would indicate as many places in which substantial woods still existed at that period.

It appears from these and other sources that at about the close of the 17th century the woods or forests of importance were distributed roughly, thus:—

1. In Leinster: In the counties of Wicklow, Wexford, Carlow, and Kilkenny, and in the great territories of Leix and Offaly, covering the greater portion of Queen's and part of King's County.

2. In Ulster: In the counties of Tyrone, Londonderry, Antrim and Down, particularly on the east and west shores of Lough Neagh, and the territories adjacent.

3. In Munster: In Cork, Kerry and Limerick, the southern borders of Tipperary, and East Waterford.

4. In Connaught: In the barony of Tyrawley, in Mayo, Roscommon, north Sligo, and along the course of the Shannon.

²⁰ *Lambeth MS.*, 635.

It is obvious, however, that the rapid diminution of the woodland area during the 17th century was not an absolutely uncompensated misfortune. It was the natural consequence of that social transformation which necessarily followed the effective assertion of the authority of the English Crown throughout the island in the reign of James the First. Apart from all questions between the races, it was as desirable as it was natural that large districts formerly usurped by the forest should be restored to agriculture, and had the clearances effected, first by the soldiers of Elizabeth and next by the planters of James, ended with those which followed the Restoration, there would have been no great reason to complain. But an era of confiscation was necessarily unfavourable to the development of the resources of the land; and successive owners, threatened with the early determination of their interest in their estates, utilized the short period of possession to turn their timber into gold. Thus the woods that had survived fell at an alarming rate, and the Government were obliged to intervene. Accordingly, the Irish Statute-book, from the Restoration to the middle of the 18th century, contains many measures which had for their object the encouragement of planting, and the replacing of the timber in districts from which it had disappeared. Some of these are of great interest, and have, moreover, a direct bearing on our present investigation.

The earliest instance of legislation for the protection of trees was the application to Ireland by Strafford of an English Statute of Elizabeth "to avoid and prevent divers misdemeanours of idle and lewd persons in barking of trees." An Act of 10th Charles I. (Chapter 23) gave this measure force in Ireland; but it appears to have been designed mainly for the protection of the orchards and young trees in the Plantation districts, and not to have been directed to the conservation of the larger woods. The 17th century had almost run its course before any further Statute was passed. In 1698, however, the ministers of William III. felt it was time to intervene. "An Act for Planting and Preserving timber trees and woods" (10th, Wm. III., cap. 12) recognises in its preamble the operation of the causes to which I have attributed the too rapid destruction of the old woods. It runs thus:—"Forasmuch as by the late rebellion in the Kingdom, and the several iron-works formerly here, the timber is utterly destroyed, so as that at present there is not sufficient for the repairing the houses destroyed, much less a prospect of building and improving in after times, unless some means be used for the planting and increase of timber trees."

The remedial measures prescribed by this Act were as follows :—

I. All resident freeholders, having estates to the value of £10 yearly and upwards, and all tenants for years at a rent exceeding that sum, having an unexpired term of ten years, were required, under a penalty, from and after March 25, 1703, to plant every year, for 31 years, ten plants of five years' growth of oak, fir, elm, ash, or other timber ; and owners of iron-works were required to plant five hundred such trees annually, so long as the iron-works were going.

II. Every occupier of above 500 Irish acres was required to plant and enclose, within seven years of the passing of the Act, one acre thereof, and preserve the same as a plantation for at least twenty years.

III. All persons and corporations seized of lands of inheritance were charged with the planting of their respective proportions of 260,600 trees yearly of oak, elm, or fir for a period of 31 years. The proportions in which these trees were to be planted in each county is set out in a list in the 4th section of the Act, and the proportion in which each county should be planted was to be apportioned by the Grand Juries by baronies and parishes at each summer assizes. As the list given in Section 4 throws some light on the relative needs of each county in regard to timber at the time, it is printed in an appendix to this paper.

A further provision gave tenants planting pursuant to the statute a right to one-third of the timber so planted. This was increased by a later Act to one-half.

This Act of William III. was followed by several passed in the succeeding reigns with the same object. The 2nd Anne, cap. 2, abolished the duties on unwrought iron, bark, hoops, staves and timber, and forbade exportation of these commodities except to England. And a further Act forbade the use of home-grown gads or withes, or the erection of May-poles of home growth.²¹ These Acts, however, failed to produce the desired effect. Thomas Prior, in the appendix to his List of Absentees, attributed this failure to the insufficient interest given to tenants in the trees planted by them, and suggested that they should be encouraged by obliging owners, on the fall of leases, to pay their tenants the timber value of all trees planted by the latter. The Act 15 and 16 Geo. III., cap. xxvi., expressly recognised in its preamble the failure of the earlier legislation, which it accordingly repealed. It made fresh provision for the preservation of trees, and did something to carry out Prior's views, which were zealously

²¹ Swift, in his 7th Drapier's letter, recommended "that the defects in those Acts for planting forest-trees might be fully supplied, since they have hitherto been wholly ineffectual, except about the demesnes of a few gentlemen."

supported by the Royal Dublin Society, an institution of which Prior was one of the founders, and which has always been honourably distinguished by the interest it has displayed in the preservation of our woods.

The stimulating criticism and suggestions of Arthur Young, who, as already noted, visited Ireland just at this time, undoubtedly had much to do with the more enlightened views on the subject which, towards the close of the 18th century, began to characterise the majority of Irish landowners, and I may be pardoned for quoting one or two of them. "I have made," says Young, "many very minute calculations of the expense, growth and value of trees in Ireland, and am convinced from them that there is no application of the best land of the kingdom will equal the profit of planting the worst of it."²² The remark savours, perhaps, of the accustomed optimism of the reforming stranger who has never submitted his theories to the test of practice, and is ready to sell wisdom before he has bought experience. But no more competent observer than Arthur Young has ever applied a trained and cautious intelligence to the consideration of the economic problems of Ireland, and it is certain that, however wisely we may hesitate to adopt literally this epigrammatic summary of his views on planting, Young's opinions were based on an unusually thorough statistical investigation of the country, coupled with an exceptionally wide knowledge of agricultural conditions in other European countries. Young's observations on the subject are the more worth noting at this moment because he bestowed much attention on the means of enlisting the peasantry in the cause of planting, and displayed a firm confidence that "instead of being the destroyers of trees they might be made preservers of them." With this view he recommends in his "Observations" that premiums should be given to farmers who planted and preserved trees—a method of encouragement which might still be profitably employed—and suggested that the tenantry should be obliged to plant under a special clause in their leases, requiring them to plant a given number of trees per annum in proportion to the size of their holdings.

The facts which have been brought together here suffice to establish not only that the traditions as to the wooded state of Ireland in very early times are well founded; but that this characteristic of our island was maintained in a large measure down to times comparatively modern. In view of the existence far into the 17th century of large forest areas, arguments against the extension of our wood-

²² *Young's Tour*, Part ii., p. 64.

lands, based on alleged climatic changes, cannot be sustained. There is no evidence of any appreciable change in our climate since Petty's time. There is no reason, therefore, why the trees so recklessly cut down three centuries ago should not be replaced so far as may be deemed desirable, if only the trees be planted with some regard to the natural laws of arboriculture, and to the principles so well understood abroad, of scientific forestry. But it is impossible to part with the subject without adverting to the results of more recent experience. It has to be admitted that the latest experiments in forestry upon a large scale have not been such as to encourage further attempts. The Congested Districts Board has effected great and lasting improvements in the condition of the areas confided to its charge; and a body whose business it is to try experiments is not to be too severely criticised if some of its experiments are unsuccessful. But unquestionably its efforts to develop planting in the West of Ireland cannot be reckoned among the triumphs of the Board. The so-called forest of Knockboy has not only been a complete and costly failure, but it has deterred the Board from undertaking more hopeful experiments elsewhere. Its history is shortly this:—In 1890 an area of 960 acres near Carna in Connemara was acquired by the Irish Government with a view partly to an experiment in planting and partly to the resulting provision of employment for the people. The property was placed under the Irish Land Commission, which spent a sum of nearly £2,000 in draining, fencing and planting. On the formation of the Congested Districts Board, Knockboy was transferred to that body, which at once entered zealously on forestry operations on a large scale. In the first report of the Board it is observed that "if the trees grow in this exposed situation close to the shores of the Atlantic it will demonstrate that much of the waste lands of Ireland could be turned to profitable account." This observation is most just, for a rockier or more wind-swept spot than Knockboy may not be found in all Ireland, and had the trees found root in its sterile sheets of rock, or sustained the unchecked onslaught of Atlantic storms, the difficulties of forestry elsewhere in Ireland must have been small indeed. But no miracle intervened to save the Board from the inevitable failure of an enterprise it had not itself initiated, though obliged to carry it out, and for which it is therefore only partially responsible. Planting was carried on on a large scale in 1893 and 1894. But in 1895 the Report stated that the trees were not thriving, and in the year following it was prudently deemed "not desirable" to plant any

more "pending further experience." By 1898 it had been decided not to incur any further avoidable expense, and no mention is made of Knockboy in the subsequent reports of the Board; save that down to 1901 the melancholy figures of the expenditure on this experiment are regularly recorded in the Appendix. It appears by the Appendix to the 10th Report that the total outlay of the Board on Knockboy to the year 1900 amounted to £8,703 18s. 2d., while the countervailing receipts reached the paltry figure of £24 4s. od. Thus, inclusive of the original outlay, the total expenditure on this wholly abortive scheme reached a sum of upwards of £10,500. It is not surprising, in view of this unfortunate attempt, that the Congested Districts Board has not been eager to try further experiments; or that its forestry operations have been limited of late to supplying small quantities of trees gratis to small occupiers for purposes of shelter.

I have thought it well to state thus frankly the details of this enterprise. But it would be a great misfortune if the unhappy experience of Knockboy, where the failure was directly due to mistakes which need not be repeated, were to prevent either the Congested Districts Board or the Department of Agriculture from making some well-considered efforts to arrest the still progressive decay of our Irish woods. For it is to be feared that without some such encouragement a further reduction in the already attenuated area of land under woods is certain to take place. The President, in a valuable paper on this subject read before this Society nearly thirteen years since, pointed out that the Land Purchase Acts were "already exhibiting disastrous tendencies as regards the growth of woods and forests in Ireland,"²³ and these tendencies have not so far been effectively checked. Woods sold with farms have been almost invariably destroyed by the new proprietors; and in the absence of some effective antidote it is impossible to expect that this process will not continue. Nor is it reasonable to blame the peasantry for their carelessness in this matter. The motives which induce large owners to plant do not operate with small proprietors. The latter cannot be expected to grow trees either for the adornment of their properties or as cover for game; nor is it surprising that they should desire to make their usually small farms as remunerative as possible by bringing all their land under cultivation or pasture. And it is but just to add that even if the destruction of the trees by the new owners be ascribed solely

²³ "Forestry in Ireland," 1889, and "The Woods, Forests, Turf Bogs and Fore-Shores of Ireland," 1890. By W. F. Bailey.

to improvident carelessness, that carelessness can hardly be greater than was shown in the eighteenth century, as described above, by the old proprietors.

But while the tendencies of a peasant proprietary in this regard may be readily apologised for, they ought not to be overlooked. And if, as seems likely, the greater part of the land of Ireland is to be placed under this form of ownership, it behoves those responsible for the change to make provision against the consequences of their unfettered operation. If one of the first results of the new order of things should be to denude the country of even its present exiguous store of timber, to leave homesteads unsheltered, and the landscape unadorned, a serious disadvantage will have to be set against the promised boon of peasant ownership. We have seen that in a rather remote past the Legislature was not wholly unmindful of its duty in this matter, though it did not take the right means to perform it. Is it too much to expect that the coming legislation will provide more effectively against the threatened danger? Either through the agency of the Department of Agriculture, or by whatever machinery may be set up for the purpose of the new Purchase Act, means must surely be found not alone to set bounds to the continued destruction of the woods of Ireland, but to encourage the plantation of that considerable part of our immense waste lands which is suited to the growing of timber. The advantages of a large addition to the woods of the country have been often pointed out, and it has not been the object of this paper to cite statistics. But I may conclude by recalling the fact that of all European States the United Kingdom is the poorest in the amount of timber grown in it, and, what is much more astonishing, that of the Three Kingdoms, Ireland has by far the smallest proportion. The woods of England are 5·1 per cent. of her total area; those of Scotland are 4·5, and of Wales 3·8 of their respective totals. In Ireland the percentage under wood is no more than 1·5, and this in an island in which well nigh one-fourth of the land is waste and uncultivated. This fact is alone enough to make the most thoughtless pause. When it is remembered, in addition, that the United Kingdom imports annually close on twenty millions' worth of timber, of which above 80 per cent. is coniferous, and capable of being produced in large quantities at home, it will be seen at once how large would be the field of opportunity could the timber supplies of this country be revived on any considerable scale.

[The authorities for the statements in this paper appear for the most part from the text. Those who desire to pursue further the historical aspect of the question may be referred to two very valuable papers by Mr. Herbert

F. Hore, "Woods and Fastnesses in Ancient Ireland" and "Woods and Fastnesses in Ancient Leinster," published respectively in the *Ulster Journal of Archaeology*, Vol. VI., p. 145, and in the *Kilkenny Archaeological Society's Journal* for 1857-8, p. 229. Much information on the industrial aspects of forestry will be found in the Report of the Eardley-Wilmot Select Committee on Irish Industries, 1884; in the Report of the Recess Committee, 1896; and in a pamphlet on "Young Forests and their Industries," by Dermot O'C. Donelan, 1888, which displays a minute acquaintance with the conditions of forestry in Germany and elsewhere on the Continent. The information given in Mr. G. H. Kinahan's *Geology of Ireland* as to the soil of Ireland in relation to forestry has been recently largely supplemented in a series of papers on "Irish Soils, including the Peat," contributed by Mr. Kinahan to *The Farmer's Gazette* for 1902.]

APPENDIX.

Statute 18th, William III., Cap. i., Section 4.

And be it further enacted, That the proportion of each county, county of a city, and county of a town of the said two hundred and sixty thousand six hundred trees aforesaid, is and shall be as hereinafter is declared.

1. Antrim county and Carrickfergus, nine thousand seven hundred and fifty.
2. Ardmagh county, four thousand seven hundred and fifty.
3. Catherlagh county, three thousand two hundred and fifty.
4. Cavan county, four thousand six hundred.
5. Clare county, seven thousand eight hundred.
6. Cork county and city, twenty-six thousand six hundred.
7. Donegal county, eight thousand three hundred and fifty.
8. Down county, eight thousand four hundred.
9. Dublin county (whereof the city and its liberties, twenty-one thousand five hundred), thirty-one thousand nine hundred.
10. Fermanagh county, four thousand five hundred and fifty.
11. Gallway county (whereof on Gallway town and liberties, one thousand three hundred), eleven thousand eight hundred.
12. Kerry county, four thousand six hundred.

13. Kildare county, seven thousand one hundred and fifty.
14. Kilkenny county (whereof on Kilkenny city and liberties, seven hundred), nine thousand.
15. King's county, three thousand nine hundred.
16. Leitrim county, three thousand two hundred and fifty.
17. Limerick county (whereof on Limerick city and liberties, one thousand three hundred), nine thousand six hundred.
18. Londonderry county, city and barony of Colerain, six thousand five hundred.
19. Longford county, two thousand six hundred.
20. Louth county (whereof Drogheda and liberties, six hundred and fifty), five thousand two hundred.
21. Mayo county, six thousand five hundred.
22. Meath county, twelve thousand three hundred and fifty.
23. Monaghan county, four thousand five hundred.
24. Queen's county, three thousand nine hundred and fifty.
25. Roscommon county, six thousand five hundred.
26. Sligo county, five thousand two hundred.
27. Tipperary and Holy-Cross, eighteen thousand two hundred.
28. Tyrone county, six thousand five hundred.
29. Waterford county (whereof on Waterford city and liberties, one thousand and fifty), six thousand five hundred and fifty.
30. West-meath county, six thousand six hundred.
31. Wexford county, six thousand five hundred.
32. Wicklow county, three thousand two hundred and fifty.