

FORESTRY IN SCOTLAND.

REPORT

OF

DEPUTATION RECEIVED AT THE SCOTTISH
OFFICE, EDINBURGH,

BY THE

RIGHT HON. W. H. LONG, M.P.,
PRESIDENT OF THE BOARD OF AGRICULTURE, ETC., ETC.

FROM THE

ROYAL SCOTTISH ARBORICULTURAL SOCIETY.

23rd October 1895.



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OCTOBER 23, 1895.

Forestry in Scotland.

A DEPUTATION from the Royal Scottish Arboricultural Society was received by the Right Hon. W. H. LONG, M.P., President of the Board of Agriculture, in the new Justiciary Court Room, Parliament Square, Edinburgh, on Wednesday, 23rd October, 1895, and submitted to him the views of the Society on the following points, namely:—First, the advantages of a separate office in Edinburgh, under the Agricultural Department, to which an official having a particular knowledge of forestry should be attached; second, the present condition of forestry in Scotland; third, the great and increasing importance of forestry in Scotland; fourth, the afforestation of waste land in Scotland; fifth, the acquisition of a forest area for experimental and educational purposes; and sixth, the limited facilities for obtaining forestry education in Scotland, as compared with Germany and other countries.

Mr. Long was accompanied by Sir Jacob Wilson, Director of the Land Division, and Agricultural Adviser to the Board, and Mr. A. W. Anstruther, private secretary.

The deputation consisted of—Mr. MUNRO FERGUSON, M.P., Sir MARK J. STEWART, M.P., Professor BAYLEY BALFOUR, Edinburgh; Professor SOMERVILLE, Durham College of Science; Mr. A. SLATER, Haytoun, Peebles; Mr. KAY, forester, Bute; Mr. D. F. MACKENZIE, Morton Hall; Mr. JOHN METHVEN, nurseryman, Edinburgh; Mr. MALCOLM DUNN, the Palace Gardens, Dalkeith; Mr. D. P. LAIRD, nurseryman, Edinburgh; Mr. ALEXANDER MILNE, nurseryman, Edinburgh; Mr. JAMES ROBERTSON, wood manager, Panmure; Mr. CHARLES BUCHANAN, estate overseer, Penicuik; Mr. JOHN CLARK, forester, Haddow House, Aberdeen; Mr. DAVID KEIR, forester, Ladywell, Dunkeld; Mr. W. M. WELSH, nurseryman, Edinburgh; Mr. ROBERT GALLOWAY, Secretary and Treasurer of the Society; Sir ALEXANDER MUIR MACKENZIE, Bart., of Delvine; Mr. JOHN MACLACHLAN, of Maclachlan; Mr. G. A. O'CONNOR, Craighielaw, Longniddry; Mr. STAIR MCHARVIE CRANSTOUN-RIDDELL, Dalkeith; Mr. J. F. McLAREN, Kennet, Alloa; Mr. W. S. CURR, Minewar, Longniddry; Mr. R. D. KER, W.S., Edinburgh; Dr. CHRISTISON, Edinburgh; Mr. WILLIAM ERSKINE, Oaklands, Trinity; Mr. W. M. GILBERT, "The Scotsman" Office; Mr. PETER LONEY, Edinburgh; Mr. JOHN T. WATSON; Mr. GEORGE EYRE-TODD, Alexandria; Mr. JOHN ALLAN, Dalmeny Park; Mr. WILLIAM PROUDFOOT, Raith; Mr. W. A. RAE, Kingswood, Murthly; LORD LAMINGTON; Mr. JAMES MACDONALD, Secretary, Highland and Agricultural Society;

Mr. ANDREW TAYLOR, Edinburgh; Mr. ROBERT DOUGLAS, Edinburgh; Mr. JAMES WATT, J.P., Carlisle; Dr. A. P. AITKEN, chemist to the Highland and Agricultural Society; and Mr. TERRIS, Blairadam.

The following sent letters expressing their sympathy with the objects of the deputation—Sir JOHN STIRLING-MAXWELL, Bart., of Pollok; Mr. WELLWOOD H. MAXWELL, of Munches; Mr. JAMES CAMPBELL, of Tullicheewan Castle; Captain GORDON GILMOUR, of Graigmillar; Mr. EDWARD P. TENNANT, younger, of The Glen; Mr. GEORGE CADELL, Langley House, Surbiton, Surrey; Mr. J. GRANT THOMSON, Grantown, Strathspey; Mr. C. MICHIE, Cullen, Banffshire; Mr. JAMES CRABBE, Glamis, Forfarshire.

Mr. MUNRO FERGUSON, M.P., in introducing the deputation said: Mr. Long, We had hoped that this deputation would have been introduced to you, either by the Duke of Atholl, or the Duke of Buccleuch, or Lord Lothian, as being interested in large woodlands in Scotland, but as they are unable to be present, I have been asked, as President of the Royal Scottish Arboricultural Society, to introduce the deputation, and to state in general those objects which they wish to urge upon your attention. I may say, in passing, that the Royal Scottish Arboricultural Society may be taken as one representative of all classes connected with forestry, and it is one also, which, from its annual tours, both at home and abroad, is capable of dealing in a practical way with those questions which are connected with its special subject. It, moreover, treats forestry as a practical and paying industry, or as an industry which ought to be made to pay; and we, therefore, bring that subject before you in much the same light that any matter connected with agriculture would be brought before you. There was, as you are aware, sir, a report made by a Select Committee on Forestry some years ago, and that no doubt has had your attention. We thought of asking you to be good enough to receive us upon this occasion when we observed that the Scottish Chamber of Agriculture had arranged a meeting with you, and that one of the points which they proposed to raise was the establishment of a sub-office in Edinburgh, where a correspondent would be established who would give information to your head office in London. We believe that if that office is established, some one within it should act as a correspondent for forestry. And we do not think either of these correspondents need be mere machines for re-directing letters. We think that they ought to be able to collect information—the best information—about their respective interests in Scotland, and that they should sift the mass of communications which doubtless go up to the Board of Agriculture in London. We think they should not only sift the communications which they receive, but that the representative of forestry ought

to know where to go in order to get information which may be valuable to the interests of forestry, and also that in matters connected with forestry education he should be able to afford material to you which would be of advantage when you come to determine as to the grants and the amount of them which may be made by your Department for the encouragement of forestry in Scotland. And besides the advantage which we conceive such a correspondent would be to you, sir, we think that he would be most valuable to us as a centre where forestry opinion would be focussed. If we had a man in the office in Edinburgh to whom we could go, we should be able to bring up a far greater number of points affecting the future of forestry than we are able to do at the present time. Then I would remind you in one word of the relative importance of forestry to agriculture in Scotland. As compared with England the relative importance of forestry to agriculture is greater in Scotland; and not only is it greater at the present time, but owing to the amount of waste land there is in Scotland, we believe that it might be made still greater in the future; that a large amount of land which can never be used for agriculture, and which does not afford very rich pasture for stock, might afford very large returns were it placed under a timber crop. And we believe that more might be done by any Government Department to stimulate forestry than to stimulate agriculture, because of the very fact of these greater opportunities which we believe to exist for the extension of forest area as compared with the development of agriculture. We believe that owing to free trade, owing to the rates of haulage, to competition from abroad, and to the exhaustion of a good many forests abroad, the timber paying crop of this country is likely to be a better paying crop than agriculture, and that a great deal of land which is now employed in farms will pay better when it is placed under timber. The rental of a great proportion of the land in Scotland represents nothing more than the bare rate of interest upon drainage and fences and fixtures generally. It therefore leaves no profit from the soil; whilst where there is profit from the timber it is clear profit. A good deal of evidence of that kind may be found in the report of the Forestry Committee. Some information will be laid before you in regard to the standard of forestry education in Germany, as compared with that which is reached in this country. In Bavaria, much the same size as Scotland, and, I believe, with not much better opportunities for growing timber, there are seven forestry chairs in the University of Munich. We do not ask for seven forestry chairs, or, as far as I know, for even one forestry chair; but we do think that the grants made by the Board of Agriculture might with advantage be increased, and that there might be a greater number of centres, possibly, where forestry education could be given. Many of us are disposed to advocate the creation of State forests. As you may be aware,

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sir, a considerable area of Crown lands has been sold in Scotland of late years, amounting in value, I think, to something like a quarter of a million, the proceeds having been invested in London ground rents. Some of us think that if invested in State forests in Scotland, it would have been an investment of greater utility to this country. But there are divergent notions as to whether the State should acquire forests for economic purposes, or for educational and experimental purposes, and I do not think we should be disposed to advocate any wide creation of State forests for economic purposes at the present moment, though I believe they will come, and should come; but a strong case, no doubt, will be presented to you for the acquisition of an area, or more than one area, for the purposes of experiment and for the purposes of education. I should be sorry if the end of State forests for economic purposes were put entirely out of view, because owing to the time for which capital must be locked up, and owing to the expense of plantations, it is difficult for private enterprise to overtake the afforestation of waste lands; and judging by experience abroad, we think we might have a considerable portion, especially of the Highland area, planted. Meanwhile, it might, perhaps, be considered whether loans could not be advanced to landowners at the Government rate of interest, which would enable them, under proper supervision and restrictions, to develop the system of private plantation, as in analogous cases in Prussia, and that might help very much in the development of the forestry area. No doubt, the question of railway rates may be brought to your notice in connection with the carriage of timber. Those are, I think, the main points which interest us, and our leading object in coming to you to-day is to support the proposition that there should be a sub-department of the Board of Agriculture in Edinburgh, with a representative for forestry having an office in that establishment. The forestry side of the Board of Agriculture has not hitherto been able to do very much for us. I must confess myself that I never thought it would, at any rate in the earlier stages, and when the Bill for the creation of the Board of Agriculture was before the House of Commons I moved an amendment that forestry should be excluded, because I saw such great difficulties in the way of the Board of Agriculture taking it up. The interest which you have shown and your kindness in seeing us to-day leads us to hope that you may give your favourable consideration to the case as we shall state it before you, and we believe that by appointing a representative of Scottish forestry in Edinburgh something really may be done, in spite of all the disadvantages which have to be faced, to encourage the development of forestry in Scotland. Those points which I have alluded to will be amplified by some of the speakers who are to follow me, and I would ask Mr. Slater, as a practical forester, to speak upon the present condition of forestry in Scotland.

Mr. ANDREW SLATER, Haytoun, Peebles, said: I have been asked to speak on the present condition of forestry in Scotland and the training of young foresters. In order to lay before you in a brief way the present unsatisfactory condition of forestry in Scotland it may be as well to advert to one or two causes that have led up to it. As you are aware, the woodlands of this country are wholly owned by private individuals, and a considerable bulk of them have been created and maintained for ornament, shelter, and coverts for game, and are managed with the view of meeting those requirements, no great financial returns being expected from them. The idea in tending such woods was, and still is, to thin early and freely, so that light and air may be admitted around each individual stem of which the woods might be composed, the ultimate results of that procedure being the production of trees of certainly an ornamental appearance, but otherwise of small commercial value. On land unsuitable for agriculture considerable areas have been laid down under woodland crops, with the view of ultimate profit. While in some cases these have by chance realised the expectations for which they were formed, with others the results have not been so satisfactory. That may be attributed to a want of a knowledge on the part of the planter of the soil and other requirements of the various species of plants that may have been used, as also of the character of the soils that had to be dealt with. Where, however, these considerations may have been understood, owing to the imperfect ideas regarding the necessities of silviculture, or in other words, of economic forestry, the system of management adopted has been very much on the same lines as that applied to arboricultural crops, that is, of those maintained for ornament and so forth. Under that system the productive capacity of the soil is neither fully utilised nor safeguarded, and it also tends to the development of timber of a coarse-grained, knotty, and tapering character, which is mainly devoted to mining, fencing, and other similar purposes, while for structural and higher-class work, foreign importations have to be depended upon. The market for our timber is therefore confined within narrow limits, and when a windfall occurs, such as happened a couple of years ago in several districts, a glut is created, and remunerative prices cannot be obtained. Whereas, if our timber was equal in quality to that imported, such windfalls would scarcely affect the market, owing to the wider uses to which it could be applied. To put it shortly, our whole system of forest management is, of a rule-of-thumb nature, but it is no fault of our wood managers that that is so, because they practise what they have learned, and have had no opportunity of studying, by observation or otherwise, forestry conducted on purely economic principles, such, for instance, as that obtaining in Germany. There the forests are managed by a highly trained class of men, on a systematic and scientific basis, so that the timber raised is of the highest

quality, and while a regular annual yield is obtained, the value of the growing stock is conserved, and owing to the creation of forest working plans, a continuity of management is insured, although the managers may be changed. If British forestry were conducted in a similar way to that of Germany, the outcome would be the production of timber of as high, if not higher, quality than that now imported. It is not to be expected that we can at a bound reach to such perfection in forest management as the Germans; the process must be gradual, and with your assistance, we hope a favourable beginning will be made, which may prove a stepping-stone to higher things.

Young men who intend coming out as foresters usually find employment as ordinary labourers under head foresters on well-wooded estates. There they may remain for three years or so, and if they show aptitude at their work, may obtain the position of foremen under foresters on other properties, or, with the mind to gain further experience, in the absence of such openings, may find similar employment elsewhere. After being employed in that way for five, six, or more years, they are drafted into head positions. Such is something like the training they receive, and although it is in many cases a rough one, it is thorough so far as the practical part is concerned, but unless advantage is taken, during the leisure hours, of studying such text books as are obtainable bearing on the sciences underlying forestry, their training is incomplete. Men such as those cannot afford to attend a University course, indeed the emoluments appertaining to a forester's position would not warrant them in doing so, therefore other opportunities ought to be placed in their way of gaining that knowledge which they lack. Owing to the facilities now afforded of obtaining a secondary education throughout the country, young men desirous of becoming foresters, after having secured leaving certificates in certain subjects taught in secondary schools, might, on their production, become eligible for receiving a course of instruction in conjunction with their practical training in scientific forestry, say, in evening classes in centres where a sufficient number of pupils could be enrolled. For the purpose of defraying the cost connected with these classes, a sufficient sum from the residue grant could be set aside before it was allocated to the Town and County Councils.

What has been said may be briefly summarised as follows, viz. :—

- 1st. That the production of ornamental woods, &c. is pretty well understood, but might be made more profitable.
- 2nd. That the management of our commercial woods, being based more on arboricultural than on sylvicultural principles, is radically wrong.
- 3rd. That in order to successfully compete with foreign imports our timber must be grown and managed under rational conditions.

- 4th. That these conditions should be based on the systems prevailing on the Continent, notably, that in Germany.
- 5th. That while the practical training of young foresters cannot at the present moment be much improved upon, their scientific training may be said to be totally neglected; and
- 6th. That the Government should afford facilities for such a training being conveniently obtained.

Mr. KAY, forester, Bute, next spoke on the great and increasing importance of forestry in Scotland: What I have to say on this point will be more or less embodied in what will be afterwards said, so that I need not dwell long upon it. The increasing importance of forestry is a thing that is becoming more apparent every day. We cannot take up an agricultural journal, or, indeed, almost any other newspaper, without finding a heading, "Depression of Agriculture" in all its aspects. It is now a well-known fact that it is almost a hopeless task to cultivate land except it be of the very best quality. It shows very conclusively that there is a great quantity of land which cannot profitably be turned to account at the present time, and which is lying comparatively waste. It is lying idle, with the exception that it may feed a few sheep, or a few deer may rove over it. That land could be turned to profitable account if it was afforested and turned into plantations. Besides it would afford to large numbers in rural districts opportunities of labour which at the present moment awaiting. I would just like to press on your notice that there is a great deal of land, varying in altitude from 200 to 500 feet, which was cultivated 40 years ago now lying comparatively idle, which might be turned to profitable account if used for producing timber, and would give labour where such at present cannot be had.

Mr. D. F. MACKENZIE, Mortonhall, said: Mr. Long, it is my duty in addressing you to make a few remarks upon the utilisation of our waste lands by afforestation. It is computed that the land area of Scotland extends to nearly 19½ million acres. After deducting all the land already profitably and usefully occupied in various ways, there remain about 10½ million acres not producing 1s. per acre a year. At that low valuation this large area may practically be considered waste. Of these 10½ million acres about 2½ millions are, from their altitude, exposure, or barrenness, quite unsuited for the profitable growth of any kind of crop, except perhaps game. There remain, however, eight million acres highly suitable, under proper treatment, for the profitable production of various kinds of timber. If this great waste area were gradually clothed with timber trees the material benefit to the country would be immense. The great importance to the country of a large area

of woodland must be admitted by the most casual observer, because, besides the intrinsic value of the timber produced, a powerful influence for good is exerted upon the climate generally, and upon agriculture, by giving shelter to stock and crops. But of even more importance would be the support of a large number of people in the immediate vicinity of the forests. This latter in itself should be a sufficient inducement to the rulers of our country to bestir themselves to make a beginning. It is said that private enterprise is rapidly adding to the area of timber forests. In a sense that is true; but this enterprise falls far short of the requirements. Let us see how this matter stands: We find by the Board of Trade returns that in 1812 the area under timber in Scotland was 907,695 acres; in 1872, 734,488 acres; in 1880, 811,703 acres; and in 1894, 946,453 acres. Of this latter over 10,000 acres were planted since 1890, so that in 22 years, from 1872 to 1894, we have an addition of 211,965 acres, or, in round numbers, an increase of about 10,000 acres annually, a mere bagatelle when dealing with 8,000,000 acres; and it only shows a net gain of 38,758 acres over the woodland area in the year 1812. That is so far encouraging, but going to the same source of information we find that the imports of timber have increased enormously. In 1879 the estimated value of the wood imported in Britain was over 10½ millions sterling, while in 1892 the estimated value was over 17 millions sterling, an increase of nearly 6½ millions in 13 years; or, in other words, an increase of 57½ per cent. Add to this the value of home-grown timber, which is computed at three millions sterling per annum on the average, and we find that we are consumers of timber to the tune of over 20 millions sterling a year, with a steady increase. The total area under timber in the United Kingdom is given at a little over 3,000,000 acres. Roughly speaking, this area produces a sum equal to 20s. per acre annually, so that if you afforest the 8,000,000 acres lying handy in Scotland, not only would we be able by-and-by to supply most of our own wants, but we would also be in a position to export timber. I may be asked how I would proceed to have this afforestation carried out. It may be done in several ways: (First) Freeing lands under plantations from all taxes whatsoever until the timber has reached the stage for being realised; (Second) By loans at a low rate of interest to landowners who will plant extensively; and (Third) By Parliament taking over the lands for the purpose of such afforesting, leaving it in the option of the landlord or his heirs to redeem the lands so taken over and planted on paying the initial costs and interest thereon, as may be mutually arranged to meet the circumstances in an equitable manner in all cases. It may be supposed that such extensive planting would amount to the total extermination of deer; but I can state from experience that such would not be the case. I need not, however, go into that phase of the question here.

Col. BAILEY said: What I desire, sir, to urge is the necessity for acquiring in this country a certain limited area of land to be constituted a State forest, and to be available as a field of practical instruction. For any forest area to be suitable to this purpose, it is absolutely necessary that it should have been continuously under scientific and systematic management for a long period—throughout the life of the generation of trees upon the ground. Private estates will hardly ever fulfil this condition, as nearly all of them are subject to vicissitudes. There are, first, periodical changes of ownership, due to the succession of the heir or the sale of the property. Then the owners have various objects in view in their management, and varying interest in the matter, and varying knowledge of what should be done. Then, again, the proverbial hard times affect this question, and many proprietors may be compelled to do with their woods that which they know will not be in their best interests. For these reasons, it is necessary that we should have a State area available for the purpose, as in every other European country. The next point I would suggest, is the establishing of certain stations of observation for research and experiment. In all European countries you have such stations, managed and controlled by officials who have a high degree of general scientific training and professional skill. These officials work under standing orders always for definite results, which are made available for their own and other countries, all the data of this kind available to us being obtained from abroad. We have nothing of great importance derived from figures in our own country. I would also urge that private forests cannot be expected to yield such results, as the men in charge of them have other things to do, and have not the time to devote to such a subject, while, in many instances, they have not the necessary scientific training and scientific knowledge. Lastly, I would urge that we should have a State area that may serve as a model forest, not only for classes specially under instruction, but for the benefit of working foresters throughout the country, and for proprietors who might wish to go there and see what was being done. If such an area were established and properly managed, we should have the results made available to the public, who would thus have reliable data and information regarding the cost of production and so forth, and that could not fail to have the best possible results on forestry in this country. As to the area which we require, I do not think that we need ask for a very large area, but we would require a sufficient extent to enable us to obtain reliable results. Probably an area might be obtained in the low country, in the south of Scotland, say in the Pentlands. It would need to be in such a place that we could have different slopes, different exposures of ground, different kinds of soil, and different temperatures. We would probably require another area in the Central Highlands, and perhaps a third in the West Highlands. As to the cost, I think it would be moderate in the

beginning, considering the advantages to be derived, and, in the end, I think the revenue from such State forests would give a fair return on the capital expenditure.

Professor SOMERVILLE, Durham College, said: I should like, sir, to say a few words with regard to the great question of education in forestry. In Scotland we have three classes of men to educate—the proprietor, his agent, and his forester. Of these three classes two obtain for the most part their education at the universities and at collegiate centres. The proprietors and agents are capable of paying fees which preclude the attendance of working foresters. In Edinburgh we have the embryonic condition of a fairly perfect system of education in forestry. We have the University, with its lectureship in forestry, capable of giving instruction to agents and proprietors. We have the Botanic Gardens, which offer instruction, at practically no fee at all, to working foresters; and what we would like would be to see the establishment of an increased number of such centres in Glasgow and Aberdeen at least. We think the present is an extremely favourable opportunity for the Board of Agriculture taking action with regard to shaping the instruction in rural economy that shall be given in the University of Aberdeen. At present Aberdeen is inviting applications for a lectureship in rural economy, which it is establishing with the assistance of the Board of Agriculture, and we regret to see that amongst the qualifications specified for the occupant of this chair no mention at all is made of forestry. We think that Aberdeen presents a specially favourable opportunity for starting education in this important subject, because it lies far north, and also because it is in the neighbourhood of the most important forest district in Scotland. I should like to say one word in support of the establishment of one or more model forests on the lines advocated by Col. Bailey. In Germany and France, where forestry has attained such a very high degree of perfection, its present position is very largely due to the good influence exerted upon private owners by the skilful management of the State forests. The forests in Germany are owned partly by the State and partly by private individuals, the latter owning considerably more than 50 per cent. of the whole. It is unlikely that the private forests in Germany would be better managed than private forests in England. When the State forests are in the neighbourhood of private forests the private owners are stimulated to follow the example set before them, with most satisfactory results. The results obtained in private forests in England are eminently unsatisfactory, and I think the difference is due entirely to the fact that German forests are managed on entirely different lines, and English proprietors will never be induced to put their woods into proper condition until the State starts a few model forests throughout the country, to demonstrate the scientific principles which ought to guide their sylviculture practice.

Professor BAYLEY BALFOUR said: I rise, sir, to supplement what has fallen from the last speaker. We have come here with a number of projects to lay before you, but we should not like you to go away with the feeling that we are not grateful for what the Board of Agriculture has done, little though it is. The system of teaching foresters, which through the grant from the Board of Agriculture has been established in Edinburgh, has, as I dare say you are aware, proved a very great success. But its success demonstrates the need for extension on the lines which Professor Somerville has indicated. We have not been able to accept as students under the scheme all the foresters who have made application from all parts of the country, seeing that we have also to take in gardeners. I think that is a strong argument in favour of the extension of the system to other towns in suitable localities. And then, with regard to sylvicultural areas for instruction, the result of the experience that we have gained from this course shows us most emphatically the urgent need for these. Men who have been already trained in the scientific principles, having such practical training as they could previously obtain, have afterwards expressed a desire to see these principles carried out upon a large scale and in the best manner, and have expressed a wish to go to German and continental forests in order to do so. Unfortunately, for various reasons, it has been impossible to have this wish gratified, and the result is that now these men, having as much knowledge as we can give them, are unable to see it put into thorough practice. Such a scheme of sylvicultural areas for instruction as was sketched by Colonel Bailey would just furnish us with the means whereby such men would have the practical as well as the scientific training which we have been able to give them. Then there is one practical point which I think the Board of Agriculture might take into consideration, that is, that in the reports which the Board of Agriculture brings out, either in its *Journal* or by means of leaflets, it might devote some attention to forestry questions. Every year one receives from foresters in the country tree specimens which have been damaged by insects, or by some pest, which is apparently causing great devastation, but which the foresters are unable to cope with simply from want of information. That information can, no doubt, be obtained in certain places at the present time; but if the Board of Agriculture would, in its reports or by means of leaflets, refer to these matters and give information as to cases where such damage has been done, or where any pest has been dealt with, and if these were circulated so that they might reach the hands of foresters generally, I am sure the effect would be very good. Of course, one would have to regard that as a temporary measure, because if other schemes were carried out, such information would be ready to hand to practical foresters.

Sir MARK J. STEWART, M.P., said: I should like, Mr. Long, to call your attention to what is being done abroad in regard to

this question. There are great efforts being made at present in France, and very many hundred thousand acres have been reclaimed—that is to say, brought from a state of moorland and heathland into a state of forestry. I have not got statistics at hand at the moment for the last thirteen years; but prior to 1882 no less than about 1,750,000 acres were reclaimed in that way. And now the laws against this afforestation have been repealed, though applied mainly to the private proprietors. There is now no necessity for those laws remaining on the statute book; the nation appears to feel the necessity of encouraging forestry and also planting out these waste lands. Now with regard to the financial aspect of the question, in Prussia and in Germany it has signally succeeded. But that is a question which need not be dealt with here. But I am quite of opinion that unless the Government could see their way to establish several centres in different parts of these Islands, in order that you might have the benefit of the experience of different climates and also different soils, it would be extremely difficult to encourage this planting in the way we should desire. There are a number of persons who, if they saw forestry succeeding, would only be too happy and glad to plant; but now they are in such a state of uncertainty as to what are the best modes of cultivation and other matters in connection with planting that they stand idly by and do not do anything at all. There are large tracts of country in Scotland which would be admirably adapted for afforestation; and no doubt there are many other places in different parts of England which would be equally well adapted; and if we once saw a system thoroughly gone about having the Board of Agriculture for its superintendent, and provided, of course, that the results were on the whole satisfactory, you would, in my opinion, give a greater impetus to this movement, than by tinkering with it, or dealing with it piecemeal or in a small way. I am sure there must be a great future for wood production in this country. We know there is an enormous increase in the imports of wood, which has been purchased and brought from a great distance, and which has entirely supplanted the supply of this country. But we are told by experts that cannot last. It might go on for a certain number of years, and then we are in this dangerous position, of finding that we have no means at hand, no home market from which to draw supplies; and of course, drawing supplies from greater distances will be attended with enormous expense. Now is the time to move, and I do trust that you may see fit to give some prominence, some greater prominence, to the recommendation of that Select Committee which sat for a considerable time, and which gave a somewhat exhaustive report on the subject.

REPLY.

The PRESIDENT: Gentlemen of the Royal Scottish Arboricultural Society, I hope you will allow me in the first place to express my own gratification at having had an opportunity of meeting you here, and of enjoying the advantages of listening to the expression of your own views, and also to the experiences which some of those most acquainted with this most interesting question have gained in connection with forestry.

Mr. Munro Ferguson apologised at the commencement of his opening remarks for the absence of some whom he hoped would have been present here to-day. I am sure there was no necessity for him to apologise for introducing a deputation of this Society of which he is President, and in connection with which he has given a strong practical proof, not only of the interest he takes in forestry, but also in the practical part that he has borne in trying to make it a successful and prosperous industry.

Representing as I do the Board of Agriculture and the Government, I cannot but regard this question from the general point of view. I am bound, in considering any proposals which I may make to my colleagues with a view to the extension of the work done in my Department, to consider what are the means at our disposal, what are the demands upon those resources, and what is the prospect of improvement if I recommend any extension of the demand we now make on the public purse. You will, I am sure, recognise that that responsibility is no small one; and I imagine that, speaking as I have the honour to do in the Scottish capital to Scotsmen, the fact will be appreciated when I state it, that it is desirable a careful watch should be kept on the expenditure of public funds, and that I am compelled in consequence to be very careful in any suggestions that I may make to the Treasury with the view to increased expenditure.

Owing to the courtesy of your President, and also of some other gentlemen, I have had a great deal of very interesting literature placed at my disposal during the last few weeks, the greater part of which—indeed, I may say, all of which—I have read during that time. I have had an opportunity of reading an interesting account of a debate in the Institution of Civil Engineers, in London, which certainly puts forestry in a very important, and also in a very practical position. I have also had an opportunity of reading papers which are contained in the transactions of your own Society; and if I were to single out one of these as being particularly interesting and important in connection with the practical development of forestry, it would be a paper read by Mr. D. F. Mackenzie, upon the increased opportunities for preserving timber for estate purposes. There can be no doubt that, if your Society can show those who are connected with the management of large estates that they can economise

the cost of maintaining those estates by ways of using the timber at their own disposal, you will give an additional importance to the industry with which you are connected.

Well, now, gentlemen, I come to the proposals, the practical proposals, which have been made. The first of them I understand to be that there shall be a sub-office of the Board of Agriculture created, or established, in Edinburgh, to which there shall be attached an arboricultural correspondent. With regard to that proposal, I do not think it is one with which I have much sympathy, and I will tell you why. If the establishment of a sub-office is to be a reality, it would of necessity mean that whoever is to be representative of the Department there would be called upon to spend the greater part of his time in Edinburgh. Now, if you intend to make the Board of Agriculture more useful to your industry than you believe it has hitherto been, you will, I am confident, not be taking the best way to do so by breaking it up into sections, and separating its trained officials from its permanent chief. Questions constantly arise which require to be dealt with; the President has to make up his mind upon his policy and to determine what he will do—what it is wise that he shall do, and for this he requires to have his officers at hand so that he may constantly confer with them and by their assistance arrive at a conclusion. It does not follow from what I have said that I have any objection, quite the contrary, to the establishment of a correspondent in Edinburgh; I do admit that the Board of Agriculture is not as well provided with advisers upon arboriculture and forestry as they ought to be, and I should like to see some improvement in this respect. At the same time when I notice that these complaints are made about the Board of Agriculture, and it is said that it is hopeless to expect anything from the Board of Agriculture, I am bound as the representative for the time being of that Department to ask you, and other critics of the Board, to be good enough to place the saddle on the right horse. The fault does not rest with the Board of Agriculture, and I should like to remind my friend Mr. Ferguson that it rests with the Department with which he was connected, at the time he criticised my Department for their want of patriotism. The Board of Agriculture, like every public Department, is always ready, when it sees good opportunity, to extend its work and its powers of usefulness. But the Board of Agriculture, like every Department in the State, has to go to "My Lords" of the Treasury, and I have not the smallest doubt that many a humble request formulated by my Department for some small increase of income for the development of some particular class of work was received at the Treasury and given a stern refusal under the sign and seal of my honourable friend himself. Therefore I hope, when these criticisms are passed upon the Department with which I am connected,

it will be remembered that it is not always the fault or indeed often the fault of the Department itself, but that it is due to the very careful watch which "My Lords" of the Treasury keep over the spending of any Department of the State, and I am very glad indeed to know that if I were to make any application to the Treasury for assistance, and for increased powers, that I should have behind me the weight of the consent and approval of one who filled the distinguished position which was occupied by my honourable friend a short time ago in the late Administration. Now, gentlemen, the establishment of a correspondent for forestry does not entail the necessity for a large expenditure. As you are probably aware, the Board of Agriculture has at present gentlemen connected with its administration who are scattered over the country, and who advise the Board upon technical and general agricultural questions. Their assistance is most valuable to the Board of Agriculture, and certainly the value of the work they do is in no way to be measured by the cost which the State pays for that work; and I think it is quite possible that without the establishment of a branch office, or going in that direction at all, it will be quite possible for the Board, if they receive the assent of the Treasury, to establish a correspondent upon forestry in Edinburgh, who might be able to collect information and also to communicate to them at different times the requirements of those who are engaged in forestry in the country.

I do not desire to dispute for a moment, nor do I intend to stop to discuss, the importance of forestry. I entirely admit all that has been said here to-day of the importance of cultivating the waste lands—lands which, as Mr. Mackenzie has said, represent no less an amount than 8,000,000 of acres, now lying waste, and which might be utilised by being afforested, but when you ask the State to step in, it is very important that you should be perfectly clear in your own mind what it is that you are asking the State to do. If you are asking the State to step in itself and act in afforesting, then, of course, you will be taking an entirely new departure so far as this country is concerned, and you will run the risk of provoking competition between the State and private individuals. That is a result which I am sure you do not desire, and which I imagine you do not contemplate. Well, then, the proposal narrows itself down rather unto the State adopting the suggestions made by Colonel Bailey and by Professor Bayley Balfour, to select certain areas and with a view to carrying out practical forestry upon these areas, making general experiments and offering in these areas opportunities for education to those who are interested and engaged in forestry. That is a proposal for which, no doubt, a great deal may be said; and it is one which I will carefully consider; but it is, as you well know, rather a large proposal. It would involve a new departure on the part of a State Department, and it would involve considerable

expenditure, and before I could be in a position to make any suggestions of that character to my colleagues in the Cabinet, I must be absolutely satisfied in my own mind that such a departure would be justified both by the present condition of things and by the prospect of results.

I cannot help thinking that something may be done with regard to this question of the education of the subordinate ranks of those engaged in forestry through the medium of the County Councils. As you are aware, the County Councils received from Parliament in the year 1890 a very large sum of money. I do not want to criticise the County Councils, because possibly they may think I am rather an interested critic, but I cannot help thinking that if some of that money had been placed at the disposal of the large Departments of the State a good deal of it would have been spent with greater profit to the public than has been the case under the present system. I certainly feel very strongly that the County Councils might with advantage apply some portion of the very large revenue which they receive from the State to develop schools of forestry in their various county districts. I would suggest for the consideration of Professor Bayley Balfour, Colonel Bailey, and Professor Somerville, whether, if their suggestions be adopted—that is to say, the extension of the present system and the creation of a lectureship of forestry at Aberdeen and other places, that would meet the actual want they have described. They have told us that at the present time there are opportunities under which owners and agents can get at colleges and other places of education the training they require, but that there is not an opportunity for the subordinate ranks of those engaged in forestry. Well, now, this will not be acquired by creating similar chairs to that which you now have in Edinburgh. You will require to have your centres for education spread all over the country, and I am afraid you must take it as a fact, that you must bring that education to the people. You cannot bring the people to the education. Unless you spread your centres of education wide enough, and have a sufficient number of them, I am afraid that the very class you seek to benefit by the establishment of further forestry education would not be able to avail themselves of it, because the same difficulties would present themselves, only in a somewhat modified way. I believe, however, that County Councils in the counties affected might, with advantage, offer facilities for forestry classes in the same way that they have, in the part of England in which I reside, offered, with considerable benefit to the localities, facilities for dairy education, and other education applicable to the particular class of industries in the neighbourhood. A good deal of this money is, I cannot help thinking, if not wasted, at least, not as profitably spent as it might be. This money given in aid of local rates and for technical education, as it is called, might, with great advantage, be utilised for meeting in some degree the wants described by the speakers to whom I have referred.

I quite admit that the argument that has been addressed to me by Colonel Bailey, and by Professor Somerville, that something more is wanted than mere schools for education, is a strong argument. It undoubtedly is perfectly true that you cannot expect private owners to embark upon experiments which may or may not be successful, and which would be conducted largely for the benefit of the public. And if it is necessary that experiments of this character should be conducted, and that there shall be opportunities for education of this sort, undoubtedly you are not likely to get them from private individuals. I believe from what I have heard and read, that an immense amount of patriotism has been shown in Scotland by some of the great Scottish proprietors, whose forests, judging from the accounts of the tours of your own Society, and from other information open to us, are well worth seeing—showing as they do, not only skill, but the affectionate care and the large expenditure which has been employed upon them for many generations. That would not seem to be, however, sufficient for the purpose you have in view, and I can only say, with regard to this question of education, that I will consider, in the first place, whether it may not be possible to crystallise in some way those suggestions, and bring them before County Councils for their consideration, who may be able to help us immediately, and that further, I will consider—I am bound to consider—proposals which have been made with so much authority and so much ability as those made to-day with regard to some guidance being given by the State. I think the establishment of a correspondent is an easier matter, one which I hope I may be able myself to give effect to. With regard to State forests I think I have already said as much as it is possible for me to say on this occasion.

I will, of course remind you, I do not know whether it is necessary for me to do so or not, that in anything I may say I must ask you to understand that I am speaking solely on the information you have laid before me. I have had no opportunity of consulting my colleagues, as since I received your invitation, we have had no meeting, and necessarily, before I can make anything in the form of a promise, I must lay before them any suggestions which I may have to make, after having given full consideration to the views you have laid before me.

I have tried, as frankly and as briefly as I am able, to put before you my own views on your suggestions, and on some of the possible difficulties which arise in connection with them. I have tried to speak, as I say, perfectly frankly; because I entirely reciprocate what Mr. Ferguson was good enough to say at the end of his remarks as to the pleasure which he said you all felt at having had an opportunity for a practical conference of this kind. The minister who is responsible for agriculture in this country occupies a position very different to that occupied by the head of other public Departments. Agriculture, and the branches which are akin to agriculture, such, for instance, as forestry, are

industries which it is very difficult for a minister to aid by any policy of his own. It is very easy for him and his colleagues to injure it, if the policy is one which is in any degree hostile to the industry. But on the other hand it is very difficult to do anything of a practical character which will help for the time being people engaged in pursuits like your own. Undoubtedly, the depression which has fallen upon agriculture is so great as to necessitate our doing anything we can either to assist agriculture, or to develop by the side of agriculture any other industry which may supply to some extent the want created by the trouble which has fallen upon that industry; and you have shown in your papers, which I have had the pleasure of reading, that the development of forestry would not only mean the supply of the want which Sir Mark Stewart referred to—the want of timber which might possibly come upon the country, but would also stimulate the cultivation of the land which Mr. Mackenzie has shown is now making no return whatever, and also that it would provide labour for men who are, I am afraid, at present very often in a difficulty to find employment. All these considerations make your industry an important one, and justify, I think, the course you have taken to-day.

I may only say this further in conclusion, that it would be very helpful to me, if in connection with suggestions you have made, any of the gentlemen who have spoken—Colonel Bailey, Professor Balfour, or Professor Somerville—could, subsequently to this meeting, put before me any definite views as to what they consider would be the necessary expenditure on the part of the State in connection with the establishment of those forest areas to which you have referred. It would help me very much in my consideration of the question, and would enable me to put it before my colleagues in a more concrete form than I can do at present. If they can see their way to give information of that kind, or if any other gentleman after this meeting, or anyone connected with forestry, desires to give any further facts or figures, I shall be grateful to receive them and consider them. And you may depend upon it, whether my power to help you be great or small, so long as I have the honour to fill the position I now occupy, it will be my duty, as it will be my pleasure, to do everything I legitimately can to help not only the industry with which I am primarily connected, but any of those industries akin to agriculture, which, if they are successful, will cover the land with a fertile product, and will tend to help the producer and the labourer to make a fair living for themselves.

Mr. MUNRO FERGUSON, M.P.: It is now my duty, on behalf of the Arboricultural Society, to express their warm thanks to you, sir, for having met us this morning, and more especially for having given us so important and interesting a speech as that to which we have all listened with so much attention. I may add, on behalf of the Society, that we feel that we have

listened to a speech from one who knows the practical aspects of the question ; whether it be in reference to Mr. Mackenzie's paper on the creosoting and preserving wood for estate purposes, or in taking up the points in connection with education, it shows us that we have one at the Agricultural Office who, if he cannot get money, at any rate knows what money ought to be got for. I trust your influence may be as great upon the Treasury as I am sure it is upon us in hoping that under your rule a great departure may be made, even if it be with a small beginning, in the future of forestry in Scotland.

The PRESIDENT: I thank you, gentlemen.

The proceedings then terminated.
