

Society's Activities

Nineteenth Annual General Meeting

The Annual General Meeting of the Society was held on Saturday, 11th March, 1961 in the Shelbourne Hotel, Dublin at 7 p.m. The outgoing President, Mr. M. Swan, was in the chair. He opened the private meeting.

Minutes.

The Minutes of the Eighteenth Annual General Meeting which had been published in the Journal were taken as read and were approved and signed.

Council's Report.

The Council's Report was read by the Secretary.

Meetings.

The first meeting of the New Council was held on the 11th January, 1960, at Jury's Hotel. Eight members attended.

The meeting made arrangements for speakers for the Annual General Meeting and also selected the venue for the Annual Study Tour. Sub-committees were appointed to deal with Editorial, Financial and Excursion affairs.

The second meeting of the Council was held at 23, St. Stephen's Green on Monday, 8th February. Twelve members attended. A full discussion on matters affecting the production of the Journal took place. The meeting made final arrangements for the Annual General Meeting and discussed the programme for the Annual Study Tour. A programme of day excursions was arranged.

The Council met again on the 25th April. Nine members attended. Matters discussed included the Treasurer's report, the Editor's report, the Society's badge and the Powerscourt estate. A sub-committee to deal with the matter of a Forestry Diploma was appointed.

Eleven members attended the next meeting of the Council held on 26th September. The question of a Continental Study Tour in 1961 was discussed and it was decided to recommend a home venue for 1961. Other business dealt with included arrangements for the election of the new Council for 1961, the Annual General Meeting 1961 and a programme of meetings for the winter period.

The last meeting of the Council was held on Monday, 21st November. Ten members were present. Reports from the various sub-committees were considered and the meeting made further arrangements for a programme of lectures for the following months. Arrangements

for the Ballot for new Council were completed. The proposals for the Annual Study Tour were discussed and also the subject and speakers for the Annual General Meeting were approved. Other matters dealt with were election of honorary members, changes in the Constitution and the diploma.

Record of Attendances at Council Meetings.

Swan, M.	5	Furlong, Miss E.	5
McNamara, M.	5	Hanan, A. M. S.	4
Fitzpatrick, H. M.	4	Gallagher, L.	4
Cosgrave, M.	5	Sharkey, M.	1
Mangan, D.	4	O'Carroll, R. N.	4
Harding, F.	5	O'Sullivan, D. M.	0
Clear, T.	5		

The Council is able to report a very successful year. A very full programme of activities was carried through. The excursions were well attended in spite of the rather uncertain weather and the Study Tour was one of the most outstanding tours to date. A full report of these activities has appeared in the Journal of the Society.

In spite of a very good recruitment of new members throughout the year, the position revealed by the Auditor's Report and Statement of Accounts is not at all a happy one. The total receipts from subscriptions shows a substantial drop on 1959, so that the paid up membership has fallen appreciably during the year. This decline is a matter of some concern.

The subscription rate is the same as when the Society started in 1942 while costs of all other services and commodities and the subscription rates to most other societies have risen twice or three times over. The fact that the finances of the Society are in such good shape is due in no small measure to the good work of members of the Council and in particular to the Business Editor.

The Society has done a tremendous amount for the advancement of Forestry in Ireland and every forester worthy of the name should deem it a pleasant duty to support the efforts of the Council to make our Society grow and prosper with the years.

Abstract of Accounts for 1961.

The abstract of Accounts had been circulated with the notice of the Meeting to all Members.

The adoption of both the Council's report and the abstract of Accounts was proposed, seconded and passed.

Valedictory Address.

The outgoing President delivered his valedictory address as follows :
Ladies and Gentlemen,

It is believed that in prehistoric times, or perhaps it would be better

to say, before the influence of man, about half the land area of the world or some 25 million square miles, was covered with forest or woods of one type or another. But whereas in those times the forest boundaries fluctuated only with the glacial periods, contracting as the ice advanced and expanding again to follow the melting ice, under man's influence the forest area has almost continuously diminished. As would be expected the areas deforested correspond closely to the areas of greatest population concentration, for paradoxically, while dense virgin forest is essential to primitive human life it is hostile to civilization. As civilization developed agriculture became more settled and more productive, supporting a larger population with increasing demands on the neighbouring forest. The invention of iron smelting and steel, and the development of tools which made the extinction of the forest still easier, all played their parts. The main use of the forest was to provide fuel and indeed until the 18th Century, wood and charcoal were, for all practical purposes, the only energy giving combustibles with which to supplement wind, water and muscle-power.

The result of this development has been that Europe to-day can claim only 3% of the world's total forest area. This is in contrast to the U.S.S.R. which can claim 26%, South America 22%, while the U.S.A. and Canada between them can claim 16%. Since increase in population has been mainly responsible for the decrease in forest area we must combine these figures with those for population to appreciate them fully. For Europe it means that there is only .74 (or three-quarters) of an acre of forest per head of the population as against 13.6 acres for the U.S.S.R. while South America can claim 18 acres per head. The average for the world is almost 4 acres per head.

The most recent estimate is that just on $\frac{1}{3}$ of the world's land area, or 17 million square miles is now under forest. Of this area some 10½ million square miles, or 62%, are judged as accessible, which is defined as being within reach of exploitation by existing transportation systems: but for one reason or another only some 5½ million square miles are in use.

Of the world's forests in use there is an approximately equal division as to area between conifers and non-conifers. On the question of volume however, the growing stock for conifers is estimated at 1,600 cubic feet (Hoppus) per acre as against 900 cu.ft./acre for the hardwoods. The gross increment for conifers is estimated at 22.7 cu.ft./acre per annum with the hardwoods only slightly behind at 22 cu.ft./acre. If we look a little further into this question of growing stock and increment we find some interesting figures. While the methods used and the limits imposed in the assessments peculiar to individual countries make direct comparisons invalid nevertheless we do get some useful pointers. The growing stock for Europe is around 1,010 cu.ft./acre as compared with 1,890 cu.ft./acre for Russia and 1,520 cu.ft./acre for North America. These figures are for conifers only and for forests in use. The fact that the growing stock for Europe is so low will, I am

sure, come as a surprise to many of you, but a still greater surprise is that the world average is given as 1,630 cu.ft./acre, 61% higher than the figure for Europe. However we can take heart from the fact that the gross increment for Europe is calculated at 30 cu. ft. per acre to the U.S.S.R.'s 21 cu. ft. per acre and North America's 27 cu. ft. per acre and a world average of 24 cu. ft. per acre. Again these figures are for conifers in forests-in-use only. In Ireland we can claim a gross increment of around 36 cu.ft. per acre at present, but with a potential about double this figure.

What do all these figures show. In brief and in round figures, of the world's 17 million square miles of forest a third only is in use, a further third is deemed to be within physical reach of exploitation but for one reason or another is not in use and the remaining third is deemed inaccessible. Of the last third much will remain unexploited for the foreseeable future, either because of location, or because of species or quality. However we still have a third of the world's forest area within reach but as yet unexploited, on which to draw as a reserve, so that there is no cause for worry that the world's timber is running short. But this is talking in global terms and there is little consolation in the fact that there is plenty of timber in the world if we have not the wherewithal to buy it or to transport it over large distances, and we are at considerable distances from these reserves. Consequently it behoves us to supply, so far as is practicable, our essential needs at home. How do we stand in this respect. I would estimate that we now have around 408,000 acres under trees, but as there is no reliable figure available for private woodland this is somewhat of a guess. Our forest area represents 0.14 acres or one-eighth acre per head of the population : the average for Europe you may remember was just three-quarters of an acre. By references to the European average, the Irish figure appears low but it must be emphasised that in the statistics supplied for many European countries, lands classed as forest lands include appreciable areas of derelict woodland completely unproductive. All this means is that at present our forest estate could only allow us 5 cubic feet per person per annum without cutting into our forest capital. I would emphasise "at present" because almost half our forest estate has not yet come into the production of useable material.

And what is our consumption per head : it is calculated at 9.5 cu. ft. of lumber and 80 lbs. of newsprint pulp, paper and such like per annum. This leaves a very considerable gap and to close it we show an import figure for timber and timber products of around £10 million, or £3 10s. 0d. per head per annum.

We are short of timber and because trees are slow to grow and take a lifetime to mature we will be short for many years to come. Consequently we must husband our supplies and do our best to avoid waste in any form. One common form of waste arises from the use of improperly or insufficiently seasoned timber, with consequent warping and distortion of the structure and the possibility of dry rot or other

fungus attack. Such defects can result in costly repairs and possible replacement of the timber in a relatively short time. We now have a Standard for moisture content for timber in buildings, which, if properly availed of, gives the assurance that our timber will be properly seasoned for the purpose for which it will be used.

Another way we can conserve our timber is to prolong its effective life by the use of preservatives and this applies in particular to timber used in damp situations, in contact with the ground, or in the open subject to the weather. This is an aspect also being tackled by the Institute for Research and Standards so that the layman can order his timber for a particular situation with complete confidence that it has been properly treated and preserved for his requirements.

A third way of conserving our timber is to grade it according to the stresses it will bear so that only the necessary amount of timber is used in any given structure. This is stress-grading, which is the grading in standard sizes by defects into categories capable of bearing the stress appropriate to the grade, and I emphasise this to distinguish it from the testing of small clear specimens which is probably better known.

So much for timber; we might now turn for a few moments to the plantations we are laying down. This year of 1961 has been designated "World Seed Year" by the F.A.O. of the U.N. in order to focus attention on the importance of the seed in the propagation of any crop. It is now generally accepted that the factors which we look for in our trees—rate of growth, straightness of stem, branchiness, quality of timber and so forth—are hereditary and therefore by careful selection and breeding we can improve the quality of our forests. Within a particular species and in its simplest form this selection can take place at various levels. First is the selection of provenance, then the selection of seed-stands within the provenance and finally the selection of individuals within the seed stand and the removal of the undesirables. This is a simple selection only; it does not involve the intricacies of controlled breeding and so is relatively simple in operation. I would consider it essential to any home collection of seed.

We do make considerable home seed collections and although they may vary from year to year depending on the quality of the seed harvest, I do not think it would be an exaggeration to say that around $\frac{1}{3}$ of our plantations spring from home seed collections, but collections which have had very little in the way of selection of the parent crops. A start has been made by the Forestry Division in conjunction with the British Forestry Commission to undertake a joint survey of *Pinus contorta* stands both here and in Britain with the expressed object of selecting high quality stands suitable for seed collection, to the mutual benefit of both services.

Looking to the future the selection of high quality strains coupled with our favourable climatic circumstances should yield excellent results.

I have now come to the end of my term as President, but before I

ask the incoming President to take the chair I would like to say a few well deserved words of thanks to my Committee: in particular to the Convenor, Tony Hanan and his committee Miss Furlong, on whom the brunt of the work and organising of the year's activities fell: also to Mr. McNamara, the Vice-President, for his help and advice. Our healthy financial position is due in no small measure to the energy and hard work of Malachy Sharkey and Niall O'Carroll who again managed to produce a Journal which was almost self supporting. How they did it I do not pretend to know—we can only thank them for doing it! To the other members of the Council I would say a sincere thank you for your help, advice and encouragement during the year.

My last duty is to announce your new President—Professor Clear. Professor Clear is very well known to all of you. He is a founder member of our Society and since its inception 19 years ago he has held the position of Secretary and except for a few years the position of Treasurer also. In these positions he has guided us over our early teething troubles to the sound and healthy position we are in to-day. We can, I know, look forward to a full and rewarding period under his guiding hand.

Confirmation of Election of Council for 1961.

The election of the incoming President—Professor Clear was confirmed and he took the chair. The names of the Council are given at the beginning of this issue.

Motions.

1. That the present use of the Society's funds is not in accordance with Article III of the Constitution.
2. That the Council should appoint a sub-committee to consider the possibility of the Society's surplus funds being used to publish, separate from the Journal, original works or translations concerned with forestry and should report the result to the next Annual General Meeting.

were formerly proposed by Mr. N. O'Carroll and seconded by Mr. L. O'Flanagan and opened for discussion.

Mr. O'Carroll said that he wished to emphasise that in putting the first motion to the meeting he did not intend any criticism of or reflection on the Council. He simply wished to draw attention to what appeared a rather large surplus of money lying idle and he thought it should be used to further the object of the Society as suggested by the second motion.

A full discussion ensued. Most speakers could see no point in, or necessity for, the first motion in view of the proposer's explanatory statement, while others pointed out that in its wording it clearly was an indictment and no explanation could make it otherwise. On the second motion the view was that something should be done. The

operative part, however, was that publications were to be separate from the Journal and many felt that this was undesirable and that at least some of the moneys might be spent in improving the Journal. All speakers favoured setting up a sub-committee as required by the motion but some felt that their terms of reference as expressed were too restricted. It was also pointed out that the surplus was accumulated over 19 years and so did not represent a large annual saving.

The Chairman ruled that as there were two motions they must be taken separately and not combined as suggested by the proposer. Mr. O'Carroll then withdrew the first motion.

Mr. McEvoy proposed as an amendment to the second resolution that the words "or to undertake other activities consistent with the objects of the Society" be added and also that the words "should report to the next Annual General Meeting" should read "and should report to the Council". This amendment was seconded by Mr. Johnston.

Mr. O'Carroll objected to this amendment on the grounds that it introduced an element of vagueness which he had wished to avoid by being specific as in the motion proposed by him.

The Amendment was then put to the Meeting and was declared carried.

The Chairman then put the amended resolution to the Meeting and it also was carried.

Public Business.

After a short interval the Meeting began its public business with a paper by Mr. E. R. Huggard, M.A., B.A.I., A.M.I.C.E., Lecturer in Surveying and Forest Engineering, University College of North Wales, Bangor. The text of the paper appears elsewhere in the issue.

Vote of Thanks.

In proposing the vote of thanks, Mr. O'Sullivan said: "It gives me great pleasure to propose this Vote of Thanks to the Speaker of this authoritative paper—I say authoritative because Mr. Huggard is well astride the subjects he dealt with, as he is a lecturer in Forest Engineering at Bangor University, and has contributed to the literature of the subject in his book 'Forest Engineering Handbook', and in collaboration with Mr. Owen, two books dealing with Forest Machinery and Forest Tools and Instruments.

These deal with the details, whereas his lecture here to-night shows in what way forest engineering and extraction integrate into the forest management plan to produce a unified whole.

In doing this, he has shown that the forester is no longer just a planter of trees, but rather a hard working, no nonsense scientist, bedevilled like all technologists to-day by that modern development of specialization.

However, Mr. Huggard has demonstrated, in my opinion, quite rightly, that undue specialization can be avoided provided the sylviculturalist gets a grounding in basic engineering. Of necessity, I think the future managers of plantations must have a basic knowledge of engineering and extraction systems, and this should be at least sufficient for the manager, to know when to ask for specialist advice.

Even more important is Mr. Huggard's insistence on extraction being part of the management plan—the old theory of let's plant them now and let someone else worry over extraction is gone, now we have an enlightened approach that calls for an extraction plan practically before the plantation is started. It is now, more than anywhere else that the intermingling of forester and specialist functions is obvious, and nowhere is it more important.

This is particularly true of Ireland—last year we sold produce of approximately half a million pounds—and who knows what is beyond.

These figures show the size of the problem which is made all the more diverse in that it is handled for the most part by private enterprise, each using his own devices. Surely Mr. Huggard's lecture here to-night shows that management and extraction cannot be so divorced. What benefits would accrue from an integration of management and extraction enterprise? The choice of the right machines, the right felling techniques and extraction methods is the obvious answer and this must be of benefit to all, not only in production costs, but also in less damage to the standing stock.

Here, then, seems to me to be a field wide open to collective research which if left to the individual's effort, with no common meeting ground, can only result in a loss to the community at large, of the value of individual activity.

Indeed, this is an aspect that this Society might consider. What of the future :—Extraction as we know it, varies from extracting a pole of say 1 cu.ft. in a stand of 1,000 stems/acre to pulling out a 30/40 cu.ft. 70 ft. long transmission pole in a stand of some 100 stems/acre.

I must confess that when I heard of this latter problem, I thought that perhaps the Indian Elephant might be the answer—so I went along to the expert in the Zoo to find out about elephants. Well! While I did this visit on official time, I really had not the courage to follow through and ask my Department to buy some elephants. However, maybe some of you enterprising gentlemen will land an elephant, plus 'mahout', on the doorstep of 22, Upper Merrion Street, and ask—'where's the timber?'

However, Mr. Huggard has come forward with more realistic suggestions—several of these are in fact under test in the U.S. and Canada. I have no knowledge of conditions in the U.S.S.R.

I can foresee the day when timber combine harvesting will be as common as cereal combining, and when this comes about, the training of the forester will be taxed to the limit because, lover of trees that he

is, he may well have to give way to the economic arguments that will be advanced for adopting such techniques—which may well call for a clear felling long before the silviculturist thinks this is due.

On the question of transport, I was quite pleased to hear Mr. Huggard mention the hovercraft. This machine, which is most likely familiar to all of you, floats on an air cushion of a few inches depth. The machine has now gone beyond the prototype stage, and I have heard of it being applied in a banana plantation. Apart from this, I have no further information on it, but I think it has prospects of being the solution to economic transport within the forest—offering as it does, the possibility of avoiding metalling of roadways.

Once again, I wish to express my thanks to Mr. Huggard for his excellent lecture—which has been successful in making us think of the interaction of the various aspects of forest activity one on the other—he has done well."

Seconding the vote of thanks to Mr. Huggard, Mr. Durand alluded to his experience in British Columbia where roads were constructed by one holding the specific title of Forest Engineer. These men were specially trained in the art of compromise between the needs of engineering and biology. They were neither Foresters nor Engineers, but what may be described as hybrids and were far advanced from the days of the Logging Engineer whose one aim was exploitation of the present crop without thought of the future.

Mr. Durand also described a particular road survey on which he had worked as a student in Germany, where the surveyor had a Senior Forester as a special adviser and gave instances of how the two combined to produce a road layout to the best advantage regarding the sometimes conflicting demands of silviculture and road construction.

Mr. Sharkey also spoke and the Chairman concluded the public business.
