The value of an anniversary such as this lies in the opportunity it provides for appraising the achievements of an impersonal and changing body of people, and the cogency of the policy that has united them and fostered their initiatives. It is just such a united purpose that is perhaps the outstanding achievement marked by this anniversary: the transformation of an assortment of untrained, but not inexperienced men (initially comprising just 8 senior staff, 36 rangers and 53 others), into a body with the drive and sense of direction that won such a clear endorsement by the recent Forestry Development Conference.

From 38 thousand acres in 1921, the area under State forest plantations had increased to 652 thousand in 1968, out of a national total of 966 thousand acres of exotic species. Plans are now approved to increase this total to over 2 million acres by 1990. Following the growth in our exotic resources, the country’s annual cut of exotic timber has increased from just over 1 million to 500 million bd. ft in the same span of 50 years; while the production of all pulp products, from nil, now approaches a million tons per annum. The obverse of this is that indigenous production has declined from 99.3% of the total cut in 1919 to only 17% of the overall production of roundwood in the latest year. (As a corollary to such depletion of the indigenous resources, the area of cut-over bush, in all tenures, is estimated to be now in the vicinity of a million acres.)

The trend of Forest Service management has also reflected these countervailing tendencies — thus, while almost all exotic State forests are under working plans based on the principle of sustained yield, very few indigenous forests are being managed on this basis. Moreover, while exotic silviculture has undergone a profound change from the simple ad hoc application of arboricultural principles to a general subordination to economic criteria determined by end-use, the outlook for indigenous silviculture is more pessimistic today than it was 50 years ago. Optimism was then at least sustained by a body of silvicultural principles inherited from overseas; but it is now overburdened by half a century of failures to attain economic credibility. Just how far the Forest Service attitude has changed, in this and other respects, may be illustrated by a quotation from the first Annual Report of the new department, in 1919: “Many persons have quoted the increments made by certain exotics grown as single trees or in rows of wind-breaks on good land as conclusive proof that such trees should be grown for timber in plantations or open lands in preference to any attempt to regenerate indigenous forests. Such a conclusion is, however, not warranted from such evidence, as the growth of single trees of a particular species is no criterion of the average growth of that species when it is growing in a dense stand on poor land — which, it may be
said, is the only land on which forestry should as a rule be practised on a commercial scale."

Foresters are probably foremost in regretting the intractability of our indigenous trees for management, just as they are the first to be confronted by the economic problems of any glib solution. Nevertheless, it is no mean feat to have reversed, within half a century, the plight of an indigenous resource in the later stages of dissolution, by achieving a new basis of sustained yield for the whole country. Not only this: thanks to the initiatives that impelled the F.D.C., New Zealand's sights are now firmly aimed at becoming a major exporter of forest products, based on her new “yield in perpetuity”.

Many other changes of management during this era are contained in a general adoption of the principle of multiple use of forests. The change is manifest, for example, in the assumption of responsibility for noxious animal control from Internal Affairs Dept in 1956, in the establishment of State Forest Parks, in the belated attempts to repair damaged watersheds on protection forests, and in relaxation of control over public access to State forests for recreational purposes. It is always difficult to assess how far such developments are due to initiatives arising within a service or to the pressure of public demand. The lack of recreational facilities in State forests has been publicly criticized in recent years, and we therefore consider it salutary to quote from the first Annual Report of the first Director of Forests (1921): “The value of the State forests as production centres for the natural propagation of fur-bearing animals, game, and as recreational playgrounds is just beginning to be appreciated. Plans are being made so that in all timber-sales the natural beauty of the forest scenery is preserved where these timber-sales are situated along highways, bordering rivers, streams and lakes. Every means will be given to prospective campers, tourists and travellers to enjoy the recreational resources afforded by the State forests.”

Material evidence of progress with forest research, and of the support it is now gaining, is provided by the fine new building opened at the Forest Research Institute during the Jubilee Celebrations in Rotorua, and in the plans for two extensions in the near future. Similar laboratories are in train for the Forest and Range Experiment Station on the Ilam campus of Canterbury University.

Finally, we should mention three independent entities whose development, if not their origin, owes much to support and encouragement from the Forest Service. We refer to the revival of the Farm Forestry Association in 1951; to the School of Forestry that is to begin training a new generation of foresters at Canterbury University next year; and, lastly, to this Institute itself. Over many years the Forest Service had sustained the Institute of Foresters, but latterly we have been concerned to secure our independence of both it and the strictures that necessarily confine the Public Service generally. In tendering to the Forest Service our congratulations on the achievements and constructive changes of its first half-
century, we take this opportunity of stating that in any issues involving a balance of expediency or political compromise we shall continue to maintain our independence of government direction or party pressure, but that in any matters requiring the firm application of professional standards the Forest Service may continue to rely on our fullest support.

Stumpages and Stumpage Agreements

Of the 59 recommendations* put forward by the Forestry Sector to the National Development Conference, 52 where accepted without amendment by the second plenary session in May 1969. Many of those dealing with targets for development have received full coverage by the national press, but there are others, more esoteric perhaps, which also deserve comment.

Of these, a key recommendation (No. 4, p. 22) was that originally put forward by the Finance Working Party to the Forestry Development Conference, namely, “that as a continuing incentive to private planting the New Zealand Forest Service endeavour to obtain stumpages which, while still ensuring the maintenance of a healthy industry, are high enough to recover costs involved in commercial forestry and give a reasonable return on capital.” We need not belabour the importance of this resolution to readers of this Journal. Some may feel sceptical about its effectiveness, but it is worth pointing out that it is supported by further recommendations that should give teeth to the main objective. Foresters are well aware of the Forest Service’s reluctance to release adequate data on stumpages, and the virtual impossibility of obtaining them from private companies; but a big step away from this secretiveness should follow from Recommendation 28, which requests (p. 32) “That the New Zealand Society of Accountants and forestry companies examine the possibility of adopting accounting and reporting procedures that will more truly show the value of forests. As a first step it is suggested that forestry companies show separately in the annual accounts the amounts expended on afforestation and the year in which the expenditure occurred. In addition, at not less than 3-yearly intervals, a report by a qualified forester on the condition of the forests be attached to the report of shareholders.” A parallel recommendation adopted by the Forestry Development Conference asked that “the Forest Service should take steps to assess and regularly publish the average cost of growing wood, using a range of interest rates, in order to set one basis for stumpage determination or log sale negotiations.” (cf. “Recommendations of the Steering Committee and Working Parties as amended or endorsed, and finally accepted by the Forestry Development Conference, 18-20 February 1969”, p. 7, no. 2(c)). These recommendations pose a parallel challenge to both the Forest Service and the forestry companies, and many forestry people throughout New Zealand will be

*Recommendations as contained in N.D.C. 5 Forestry: report to the second plenary session of N.D.C., May 1969.
quick to observe how wholeheartedly these agencies adhere to the spirit and intent of the Forestry Development Conference.

The importance of following up these recommendations can hardly be overstressed, if we are to accumulate the necessary facts on which evaluations of actual returns to the grower of wood can be based.

So much for facts. There is also an issue of principle that we wish to bring to the closer attention of foresters. It is touched on in Recommendation 14: “That in determining the scale of national afforestation and what charges the Forest Service should make for wood, the Government should take account of long-run and indirect benefits as well as short-run commercial considerations” (p. 25) and again in Recommendation 3: “That there be early consultation between representatives of the Government and all interests involved in the private sector to reach as much agreement as possible on the criteria that should be used in fixing stumpages and terms of sale for Government-owned wood. In the examination particular attention to be paid to:

- What objectives a public agency selling wood to industry and for export should pursue.
- How capital should be provided for afforestation and on what terms, with particular reference to the interest rate that is appropriate.
- The problem of assessing what costs of afforestation should properly be charged to commercial users and what should be charged to the public for other benefits provided . . .”

There are two quite distinct sets of factors involved here, but they are not infrequently combined with each other, and confused, for various reasons. In order to see the issues clearly it is essential that they be considered separately.

Firstly, there are the national and general socio-economic benefits of establishing capital industries, of whatever nature — whether they be to produce steel, aluminium, petroleum or wood products; and

Secondly, there are the particular imponderable benefits that derive from what is known as protection forestry — i.e., soil, water and wildlife conservation, etc.

Dealing with the latter factors first, it is generally appreciated that such benefits and services, quite distinct from the function of growing wood, are a legitimate function of Forest Service, and that the cost of such services are included as a part of the overall Forest Service account. However, no forester would consider incorporating charges for these benefits as part of the cost of growing wood, and it is wholly misleading to imply, as representatives of the forest industries have done, that upset stumpages should be discounted because of such imponderable benefits from forestry generally. Any case for seeking reduced stumpages on these grounds should be substantiated. We know of no instance where a timber grower is seeking any more than growing costs and a reasonable return on capital invested.

The other aspect of this issue is, however, at least debatable — and it is a matter to which this Institute could well
devote attention. The point is put very clearly in the "N.Z. Forest Service Statement on Stumpage Values (January 1969)", which was called for by the Forest Industries Working Party and published as an Appendix (pp. 34-6) to the report of the Production Forestry Working Party. It states, *inter alia*, "On the other hand, government recognizes the occasional need to give low or concessional stumpages in the initial stages of new industries, in order to give the necessary incentives for industry to start and to give reasonable guarantee of profitability in the developing years".

Few would contest the need for incentives in such circumstances, and during an era when New Zealand "forestry" was still an untried, speculative venture, synonymous in many people's minds with promotional failures and financial ruin, it may well have been necessary to bait the hook with cheap raw material, in order to establish viable forest industries in the teeth of public opinion. That era is over; the very success of the Forestry Development Conference, itself based on the profitability of our forest industries and their much-publicized export potential, removes the last need for those hidden subsidies of which only the cognoscenti would be aware. Government has at its command the appropriate financial tools with which to pursue or encourage particular lines of national investment. Low-interest loans, suspensory loans, interest-free loans, and tax concessions are all more suitable than a policy of wood-at-less-than-cost, because they can be tailored to fit the specific needs of a case, and are then formally placed on record so that the community can see what price it is paying for the investment in question. Such a concession is formally identified and quantified, and the anticipated benefits can be weighed against those of alternatives. Not only is an evaluation of such alternatives impossible if the raw material of an industry is depressed below the cost of its production, but the industry itself, once established, comes to regard this as a "service" to which it is entitled: a "service" which is paid for out of the pockets of taxpayers, and the profits from which end up in the pockets of a few self-interested shareholders.

In short, we contend that any method of fostering capital investment and national development must permit scrutiny by the community; must be subject to periodic review, in the same light; and must not tend to destroy or vitiate the resource on which that development is to be based. Concessional stumpage agreements meet none of these criteria.

**Progress with the School of Forestry**

In June 1967 and from September 1967 to May 1968, Professor McKelvey undertook an extensive overseas study tour during which he examined forestry education, research, management and industry in Australia, U.S.A., Great Britain, Switzerland, West Germany, Sweden and Japan. One of the major benefits resulting from the tour was the establishment of contact with the senior academic staffs of the 20 principal Schools of Forestry in these countries. These contacts are being maintained.
Study of the curricula taught at the overseas schools assisted substantially with the formulation of a forestry curriculum that both includes modern approaches to forestry education and is designed for New Zealand conditions. The course leading to the degree of Bachelor of Forestry Science provides, *inter alia*, for a good foundation of mathematics, pure science, economics and biology; links basic wood properties with processing, and includes the application of modern business sciences to forest management. At the postgraduate level, the intention is to promote the degree Master of Forestry Science as the advanced professional qualification. Studies leading to the degree Doctor of Philosophy will be more appropriate where there is emphasis on aspects of pure science related to forestry.

It was deemed important to obtain the views of the profession, industry, and the New Zealand Forest Service on the curriculum before regulations and prescriptions were finally approved. The New Zealand Forest Service and the large forest product companies accepted the principle of employers systematically providing supplementary technical on-job training to young foresters for two years after graduation. This means that during the academic course emphasis can be given to science and fundamental aspects; in the postgraduate supplementary training the emphasis will be on practical and technical aspects.

Regulations and prescriptions have now been finalized for the degrees Bachelor of Forestry Science (Pass and Honours), and Master of Forestry Science. There is also provision for B.For.Sc. graduates with Honours to undertake Ph.D. programmes.

Students will enter the final two years of the B.For.Sc. course, when subjects specific to forestry will be taught, either after completing a two year intermediate course or after completing a suitable B.Sc. degree.

The initial intake will comprise 15 students who began their second intermediate year in 1969, and 11 who completed their B.Sc. degree in this year. Sixteen of these students are sponsored by employing organizations.

Approval had been obtained for an academic staff of six (including the Professor) and in the latter part of 1968 the remaining five positions were advertised. All positions have now been filled and the following appointees will take up their positions at different times throughout 1969:

- J. D. Allen, M.Sc.(Edin.), as microbiologist.
- J. A. Barker, B.S.(U.B.C.), M.S.(Berkeley), as forester/physiologist.
- J. S. Reid, M.Sc.(N.Z.), as wood technologist.

Modern forestry is a technology of wide spectrum and it is proving difficult to provide complete teaching cover within the fields of specialization of six teachers. Inevitably there will be
tuitional gaps where help will need to be sought from outside the School of Forestry and even outside the University. Forest Law is one subject where substantial assistance will be required. There is also need of outside assistance in certain aspects of forest survey, forest mechanization, forest access, harvesting and conservation engineering. The School of Engineering will provide a short course in photogrammetry.

The first year of teaching is going to be a strenuous one, with new staff settling in to teach a new curriculum. Accordingly, an offer from Dr Fred B. Knight, Chairman of the Department of Forestry, School of Natural Resources, University of Michigan, to come out to New Zealand for the 1970 academic year to teach forest entomology and to assist in other ways was accepted with gratitude. The enlightened generosity of the New Zealand Forest Owners' Association in providing funds for the fares of Dr Knight and his family will make this visit possible.

Construction of the School of Forestry building was begun in July 1968, six weeks after the working drawings had been completed and only eleven months after the brief had been handed to the architect. Such expedient is substantially due to the adoption of the "cash constraint" system which places the onus on the University for building, furnishing and equipping the School of Forestry from a total comprehensive grant. The construction programme provides for the Administrative Block to be ready for occupation in October, 1969, and for the whole building to be completed in good time for the commencement of teaching in March 1970.

A field station will be built at Hari-Hari in Westland for one of the three practical courses. A site for the field station has been offered by the New Zealand Forest Service, adjacent to their District Headquarters, and accepted. Other practical courses will be held at Kaingaroa and Kinleith, and in the Upper Waimakariri Catchment.

While it would be unwise to purchase all equipment before academic staff take up their positions, certain basic items requiring long delivery periods have been ordered. Similarly the nucleus of a library has been ordered. The School has received as a gift the extensive library of the New Zealand Institute of Foresters, and substantial gifts of books from N.Z. Forest Products Ltd., the Forest Service and the Forest Research Institute. There have been many smaller gifts from individual libraries.