

CORRESPONDENCE

Forestry Policy

SIR,—I would like to correct and put into proper perspective some of your statements about the Forestry Commission and its work (*Nature*, 241, 77; 1973). You assert, on the basis of the case presented in the consultative document *Forestry Policy*, that forestry is an "industry whose commercial value is zero or even less" and that "the scale of the Forestry Commission's research programme is an affront". Two main issues are raised—the commercial profitability of forestry in Britain and the nature and scale of research to be carried out by the commission.

First, with regard to what you describe as the commission's "pigheadedly bullish view of the scale of operations" it must be emphasized that the commission is not an independent body but simply an instrument of government policy, dependent on the three forestry ministers for instructions as to major objectives and the size of its planting programmes. Historical events have quite properly led the government to give the Forestry Commission different objectives at different times since it was established in 1919.

Forestry Policy does not make sufficiently clear the distinction between returns from investment in new planting compared with returns to be expected from exploitation of existing forest resources, including all the capital investment in the form of land, roads, drainage, fencing, and so on, which will persist for many years. As most of the Forestry Commission's new planting has taken place since 1948, the forests are still very young and as yet only a quarter of them are in production. Consequently, in order to estimate the rate of return on investment it is necessary to make assumptions about future levels of production, costs, and prices and to assign values to the social and environmental objectives which are difficult to express in money terms. We can forecast future production with some confidence, but clearly future costs and prices are less predictable. The cost/benefit study assumed constant 1972 costs and prices, although some authorities believe that the real price of wood will continue to rise following the historical trend. No attempt was made to quantify the human, the social and the environmental benefits from forestry apart from the provision of employment and benefits to recreation.

On the assumptions mentioned above, new planting in Britain can

earn up to 3 per cent, a rate which is generally higher than that obtained in other countries in temperate regions of the Northern Hemisphere. When one considers the continuing management of the existing forest estate, the financial returns are estimated to be much higher, probably of the order of 9 per cent. It is estimated that at current prices the revenue from the timber which will eventually be harvested from forests, which as you state have cost £405 million, will be about £1,000 million. (The eventual value of the timber should not be confused with its discounted value.) Although the discounted value of the harvested timber will be less than the cost of £405 million, this is a reflexion of the fact that forest investment from the time of inception in 1919 has been charged a rate of interest on the capital advanced which is greater than the actual rate of return to be expected from new forests in the northern temperate zone, although this return will eventually be positive.

The editorial argues that because of the commercial unprofitability of forestry in Britain, the scale of the commission's research programme is unjustified. However, regardless of the profitability or otherwise of forestry, so long as it continues on an extensive scale there will be a need for research and development to achieve increased efficiency. I should point out that only some 75 per cent of the research division's expenditure relates directly to research and development—the balance being devoted to service-type work including publications, statistical and photographic services, seed supply and advisory and consultative work for management.

There are great opportunities for improvement of timber production and cost-effectiveness by planned research, and it is noteworthy that much of the present effort is directed to existing forests and their management. Also, much of the research is now proving to be of great value in relation to planning and conservation interests, landscaping and recreation management, and to planting and management of trees in the countryside as a whole.

The editorial article asserts that the research programme of the Forestry Commission remains "scandalously immune" from the application of the Rothschild principles. In fact, for many years a major feature of the commission's research and development programme has been the close liaison between research personnel and forest managers in both the national

and private sectors—a relationship that is envied by the forest departments of many other countries. In very few countries of the world is current practice so closely related to research findings as is the case in Britain. With few exceptions, the research is directed to practical ends and often consists of technical development aimed at solving immediate problems. Thus, I believe that the relevance of the commission's research and development, and its impact on practice, are attributable to a linkage with management which accords well with the Rothschild principles.

Your comment that the work on genetics, physiology and pathology has little relevance to the immediate future is ill-informed. It should be apparent from the annual report on research that the pathology programme is concerned with immediate and pressing problems including, for example, Dutch elm disease and butt rot; the physiology programme is much concerned with speedy propagation of improved clones and problems of root growth relating to the vigour and wind stability of trees; and its genetics programme is largely a practical process of selection and breeding for better form and vigour. The statement that much of the Forestry Commission's research programme is concerned with the collection and testing of seed and the improvement of germination is incorrect since in fact it accounts for less than 1 per cent of its research expenditure.

Looked at in retrospect, the commission's research work has an outstandingly good record in terms of its relevance to practice, and a considerable part of the credit for the achievements of British foresters in enabling degraded soils to support a production crop, in the successful choice of species, and in improved protection and production techniques must go to the research on which they are based.

Possibly it is the immediate practical relevance of the commission's research which led you to refer to parts of the programme as "hum-drum". If so, the commission need make no apology. Ironically, the commission's research programme has, in fact, sometimes been criticized for giving too much weight to the solution of immediate practical problems and paying insufficient attention to long term basic research, which led the Trend Committee to recommend that more basic forestry research should be carried out by a research council. This recommendation has been put into effect with the establish-

ment of the Natural Environment Research Council's Institute of Tree Biology. It would seem singularly inappropriate, therefore, to suggest now that the "more interesting" parts of the Commission's own research programme might be transferred to the research councils. Moreover, such transfer could hardly be justified on the grounds that the research councils are commercially profitable.

Yours faithfully,

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These arguments are not compelling.

(1) Professor Wareing's suggestion that existing forests would be commercially profitable if the capital cost of their formation had been saddled with an interest rate equal to the expected rate of return from new planting does not invalidate the assertion that this rate of return is much less than that expected from other forms of public investment, by which test the Forestry Commission's operations are unequivocally unprofitable.

(2) On the scale of the Forestry Commission's research programme, the question raised in *Nature* was whether a research programme costing 8 per cent of the commission's annual operating budget is justifiable when there is no prospect that research and development will make the publicly owned forests commercially viable in the ordinary sense.

(3) It is true and was acknowledged that much of the research is relevant to other aspects of British life, but the question is whether, in those circumstances, the appropriate customer (in Rothschild's sense) should be some

other organization than the Forestry Commission.

(4) Humdrum was not intended to apply to the practical work of the research division of the Forestry Commission but to such projects as the attempt to quantify the recreational benefits of British forests, referred to in the leading article of which Professor Wareing complains.

Editor, *Nature*

Addendum

A NOTE in proof should have been added to the article "Action of Black Widow Spider Venom on an Aminergic Synapse" by S. G. Cull-Candy, H. Neal and P. N. R. Usherwood (*Nature*, 241, 353; 1973) as follows: "N. Kawai, A. Mauro and H. Grundfest (*J. Gen. Physiol.*, 6, 650; 1972) have recently shown that BWSV also acts on lobster nerve-muscle synapses, thus confirming our report of the action of this toxin on non-cholinergic systems".

Erratum

In the article, "Further Investigations of the Transfer of Bomb ^{14}C to Man", by D. D. Harkness and A. Walton (*Nature*, 240, 302; 1972), the following corrections should have been made. Paragraph 1, line 7, should read "... differed significantly from ..."; paragraph 5, the equation should read "... $D_i = 0.95 A_i + 0.05 O_i$ "; paragraph 5, lines 8-10, should read "It seems that the finite turnover time for carbon in the human body can be measured via the temporal changes in environmental ^{14}C concentrations"; paragraph 7, penultimate sentence, should read "Smaller variations in the ^{14}C concentrations in individual soft tissues, although statistically not significant, do appear to be real".

Reports and Publications

not included in the Monthly Books Supplement

Great Britain and Ireland

Local Government Boundary Commission for England—Report No. 1. (Cmnd. 5148.) Pp. vii+217+10 maps. (London: HMSO, 1972.) £1.30 net. [2211]

Report of the Agricultural Research Council for the year 1971-72. Pp. vi+68. (London: HMSO, 1972.) 47p net. [2411]

Medical Care in Developing Countries. Pp. 40. (London: Office of Health Economics, 1972.) 25p. [2411]

London and Home Counties Regional Advisory Council for Technological Education. Science Education in the Region, 1972/73. Pp. 52. (London: London and Home Counties Regional Advisory Council for Technological Education, 1972.) 50p. [2411]

Government Statistical Service. Statistical News No. 19. Developments in British Official Statistics. Pp. iv+48. (London: HMSO, 1972.) 30p net. [2411]

National Children's Bureau. Ninth Annual Report, 1971/1972. Pp. 43. (London: National Children's Bureau, 1972.) [2411]

The International Commission on Radiological Protection. ICRP Publication No. 18: The RBE for High-LET Radiations with respect to Mutagenesis. (A Report prepared by a task group of Committee 1 of the ICRP.) Pp. iv+45. (Oxford and New York: Pergamon Press, 1972. Published for ICRP.) £1.50. [2411]

Royal Observatory Bulletins. No. 171: Computer Programmes for Differential Curve-of-Growth Analysis. By A. L. T. Powell. Pp. 1-24. 35p net. No. 172: The Allocation of Objective Gratings to Faint Star Photometry. By G. A. Harding, R. S. Harbour and K. P. Tritton. Pp. 25-60+3 plates. 65p net. No. 173: An Abundance Analysis of Alpha Centauri. By Valerie A. French and A. L. T. Powell. Pp. 61-104. 60p net. (Herstmonceux: Royal Greenwich Observatory, 1972.) [2411]

Reading University Geological Reports. No. 5: A Collection of Computer Programs in Basic for Geology and Geophysics. By Roger Till, David T. Hopkins and Clive McCann. (Reading: Geology Department, The University, 1972.) 50p. [2711]

The Geological Record. 1968, Vol. 105, Section 14: Protochordata together with Pogonophora, Enteropneusta, Graptolithina, Pterobranchia and Phoronidea. Compiled by D. B. Carlisle and R. O. Connick. Pp. 45. 1969, Vol. 106, Section 2: Protozoa, Part 1 (Recent) and Part 2 (Fossil). Compiled by the Staff of the Zoological Society of London. Pp. 214. £8; \$19.30. 1969, Vol. 106, Section 3: Porifera. Compiled by S. Ware. Pp. 19. £3.50; \$8.50. (London: Zoological Society of London, 1972.) [2711]

Koch-Light Laboratories, Ltd. 1973 Catalogue. Pp. 583. (Colnbrook, Bucks: Koch-Light Laboratories, Ltd., 1972.) *Gratis*. [2711]

At the Farmers' Service: A Handy Reference to Various Services Available to Farmers in England and Wales. Pp. 79. (Pinner, Middlesex: Ministry of Agriculture, Fisheries and Food, Tolcarne Drive, 1972.) *Gratis*. [2811]

Concorde: Ten Years and a Billion Pounds Later. By Chris and Liz Edwards. Pp. 46. (London: Pluto Press for the Anti-Concorde Project, 7 Chalcot Road, NW1 8LH, 1972.) 30p. [3011]

University of Nottingham, School of Agriculture Report 1971-1972. Pp. 132. (Sutton Bonington, Leicestershire: University of Nottingham, School of Agriculture, 1972.) 60p. [3011]

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