SATURDAY, FEBRUARY 20, 1932

CONTENTS

Editorial and Publishing Offices:
MACMILLAN & CO., LTD.
ST. MARTIN'S STREET, LONDON, W.C.2

Editorial communications should be addressed to the Editor
Advertisements and business letters to the Publishers

Telephone Number: GERRARD 8830
Telegraphic Address: PHUSIS, WESTRAND, LONDON

No. 3251, Vol. 129]

The Supply of Biologists *

THE Committee of the Economic Advisory Council appointed in 1930 to "consider the obstacles which stand in the way of the education and supply of biologists for work in this country and overseas, and to submit recommendations for the removal of such obstacles", has recently issued its Report. This is based on evidence obtained from an exhaustively diverse body of witnesses, and deals with every aspect of the problem, including even a brief appreciation of the value of natural history.

The general public undoubtedly as yet fails to realise that, other than in the medical profession, there exist in Government services, in industry, and in teaching a number of posts which are open only to biological workers. This failure is due to lack of information. There is no machinery for placing before potential candidates, their parents, and schoolmasters any comprehensive statement of the various classes of biological Government posts that are likely to be vacant at any given date, together with information as to salaries and prospects of promotion; nor is there co-ordination among the departments employing biologists in Great Britain.

A similar uncertainty with regard to biological posts in the Colonial Empire—the largest employer of biologists under the Crown—is a grave deterrent to men contemplating biological careers, there being no assurance as to the number of vacancies in any given year, nor uniformity of conditions in the terms of service offered by the several Colonial Governments. It is suggested that if there were introduced for Colonial biological appointments the same degree of certainty as already exists for candidates seeking employment in the Home and Indian Civil Services, parents, schoolmasters, and university tutors would then be in a position confidently to advise young capable biologists to compete for one of the guaranteed posts, and the supply of competent workers in biological fields would greatly increase.

Uncertainty, then, is the first obstacle. The second is the financially unattractive character of the careers offered to biologists in the Colonial Service, and the poor prospect of promotion. This deterrent would be greatly reduced if there were uniformity of conditions of service and scales of pay throughout the Colonial Dependencies, and if high administrative positions were attainable by

* Economic Advisory Council. Committee on Education and Supply of Biologists: Report. Pp. 68. (London: H.M. Stationery Office, 1932.) 1s. net.

biologists possessing the necessary administrative capacity.

The demolition of these two main obstacles will itself effect the reduction of the remainder. "Once it becomes generally recognised that there are careers in biology, the public will turn their attention to the opportunities offered for their boys, and parents will see to it that the schools provide the instruction; once the schools give the proper position to biology in the curriculum, boys will begin to become interested, and the attractions of careers offered by biology will be weighed against those offered by classics" and other subjects. The process must, however, be gradual; over-production of suitable candidates as a consequence of excessive stimulation would result in disappointment, and would discourage further supply. *Festina lente.*

Partly as a result of the foregoing obstacles, biology arrived in the curricula of schools long after chemistry and physics had become firmly established. Indeed, though its position has of late years much improved, it has not yet received universal recognition: biology should, as an indispensable cultural element, be brought to the notice of every boy, and none should leave school without some knowledge of it. The result of this late arrival is that relatively few boys, and especially too few of the most able, have proceeded to the universities with their minds still open to biology; and at the universities they have continued on the lines of their previous studies in chemistry and physics, particularly if they held scholarships awarded for those subjects. It can scarcely be doubted that among these were some who would have found in biology their *métier*, had the subject but been included in the course of their training.

The consolidated positions occupied by chemistry and physics have enhanced the difficulty of finding a place for biology in school curricula. It has inevitably followed that the number of candidates for scholarships at the universities in these older subjects has become very great; competition has thus become severe; the standard of the examinations has risen; the schools have been driven to excessive concentration on chemistry and physics; and biology has often gone to the wall. Moreover, the biology candidate must perforce have a good elementary knowledge of both chemistry and physics, and thus, from sheer lack of time, cannot attain in his own subject to a standard commensurate with that reached in their subjects by those offering chemistry and (or) physics.

It is recommended as a remedy for this over-specialisation (1) that in the scholarship examinations at the older universities the standard in all branches of science should be definitely lower than the present in chemistry and physics; (2) that in the award, proficiency in one modern language (preferably German) should carry due weight; and (3) that the faculties of science at these universities should discourage excessive specialisation in the schools by insisting that some knowledge of biology and some proficiency in a modern language be shown by all candidates offering science for their honours degree. The adoption of these recommendations will necessitate increase in the number of teachers of biology in schools; for, unless these are forthcoming, it is impossible to create the 'pool' from which the biological services are to be maintained. At the present time, after governments, research institutions, museums, the universities, and industry have extracted their toll, there is left, as is shown by the statistical appendix to the Report, only a small remainder to teach in the schools.

The type of teacher needed in the schools is not only the specialist in biology, but also those who have taken biology as a subsidiary subject in their examination for an honours degree in science, and who are therefore competent to teach biology as a cultural subject in the ordinary curriculum. The supply of such teachers would soon be assured if the regulations governing honours science degrees were modified in the manner suggested in the Report and already quoted.

To give effect to the conclusions at which this Committee has arrived, negotiations are required between a large number of authorities, often independent of one another and regarding the problems from different points of view. The Report therefore urges that, to bring these negotiations to a successful issue, the Economic Advisory Council should recommend His Majesty's Government to invite the President of the Board of Education, in consultation with those of his ministerial colleagues who are immediately concerned, to prepare for their consideration concrete plans for the initiation and conduct of the negotiations.

The Committee has succeeded in indicating clearly where the obstacles lie, and in formulating constructive suggestions for measures by which the flow of biologists may be augmented and cleared of existing impediments. It is to be hoped that the Government will not delay to act upon its final recommendation.