

## Biology at the Imperial Social Hygiene Congress

AT the recent Congress held under the auspices of the British Social Hygiene Council at the London School of Hygiene and Tropical Medicine, the teaching of biology formed the main topic of the papers read during the educational sessions. It is satisfactory to hear from Dr. E. W. Shann that it is now realised that there are two categories of pupils to be considered in the drafting of syllabuses, namely, those for whom biology is a necessary part of their general education, and those who require it for vocational reasons. Up to an early stage, the needs of these two may be regarded as identical; and they will probably be met by a well-balanced course of general elementary science in which hygiene and the functions of the chief organs of the human body should certainly be included. The scheme advocated by Mrs. E. J. Hatfield, which is already in use in many girls' schools, and deserves the attention of others where the ages of pupils permit is: Age 11-12 years, general elementary science; age 12-14 years, chemistry, or chemistry and physics; age 14-16 years, general biology, and in addition, chemistry or physics for future science specialists.

For purposes of general education, biology is unquestionably preferable to either zoology or botany; and that this is becoming more widely recognised by teachers is shown by the steady increase in the number of candidates offering biology at certificate examinations, and the corresponding diminution in that of those offering either of the other subjects. A knowledge of the structure and life-histories of a few typical animals and plants does not bestow on its possessor a biological outlook on the world around him and on the problems of mankind: the type system is dead so far as general education is concerned. It is biological topics rather than types that will eventually produce a biologically minded public, and, it is to be hoped, lead to social legislative measures based on the conviction that man is subject to the same laws of Nature as are all other animals.

The topics that are essential in such a course are (1) food elaboration by green plants, the source of all vital energy and conversions of energy; here is abundant opportunity for personal experimental work, even on the large scale, in rural schools possessing gardens; (2) the structure of a mammal, and the functions of the chief organs; (3) reproduction, asexual and sexual, in plants and animals; parental care, and its importance in evolution; (4) the web of life, and mutual interdependence;

heredity; evolution; biology in the service of man; (5) bacteria and fungi, and their rôle in the nitrogen- and carbon-cycles.

It is obvious that mammalian physiology will be human; nor is any apology for this necessary. A child is naturally and properly curious about the workings of its own body, and most children are keenly interested in living animals, and perhaps also in growing plants. Thus it becomes easy and not inappropriate to digress from the processes going on in the body of the living child to the methods by which the same processes are effected in other animals and in plants. For example, human respiration may well be followed by the methods of respiration found in, say, fish, snails and insects, and by demonstration of the fact that in plants respiration is essentially the same as in animals. Similar digressions can be made in connexion with all the other metabolic processes, which need not here be specified. In such a course, instruction on the details of structure would be reduced to the barest minimum; morphology is for the specialist, not for the general public; and the topics would be purely biological, and freed from the type incubus.

It is generally conceded that biological teaching is the best method of instructing in the laws of health and in the meaning of sex. Indeed, in some quarters sex-instruction has been the chief reason for advocating the inclusion of biology in all school curricula. Certainly knowledge of the sexual processes in plants and in the lower animals affords an avenue by which approach may be made to the relation of male and female in the human species; but to stress this aspect in a course of general biology is a mistake; the functions of the reproductive system should have neither more nor less attention devoted to them than is given to those of the digestive, respiratory, excretory and the rest.

What matters most is that for all the processes of life there should be instilled a respect, a reverence for the mystery of life, an appreciation of the beauty of the form of living things and of their marvellous adaptations to their environment. Knowledge without the spirit of reverence will not have much influence on the moral conduct of man or of woman.

It is, then, very desirable that training colleges should emphasise this aspect of biology, and should insist on this subject being included in the science course; for the lack of qualified teachers has not yet been made good.

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## The Museums Association

ANNUAL CONFERENCE AT BRUSSELS

THE Museums Association, which has its headquarters in London, and holds its annual conference at different provincial centres in turn, this year departed from its usual custom, and, at the invitation of the Belgian Government, held its Con-

ference in Brussels, where more than two hundred members assembled.

After the Sunday had been spent in visiting the city and its museums, formal proceedings began on Monday, July 1, when members were officially