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## Social Science

THE question of the utilisation of science, raised in a discussion at the recent conference on academic freedom at Oxford, acquires the greater interest through both the recent meeting at Norwich of the British Association and also the way in which political affairs have directed attention to the necessity for considering how science can be used for human welfare. From whatever point of view we regard the dispute between Italy and Abyssinia, or the measures for defence against air raids now being initiated by the British Government, the question as to the misdirection of scientific knowledge cannot be evaded. Similarly, this year's programme for the meeting of the British Association has shown that in many ways the isolation of the scientific worker is breaking down and to an increasing extent he is considering the relation between his work and the society in which he finds himself.

As examples, one need only refer to the symposium on the State control of agriculture arranged by Section M (Agriculture), the discussions on the universities and business and on the future trend of scientific management in Great Britain before the Department of Industrial Co-operation (Section F—Economics), the presidential address to Section L (Educational Science) on education and freedom, part of which appears in this issue of *NATURE* (p. 416), the symposium on the herring problem arranged by Section D (Zoology). Discussions on the chemotherapy of malaria before Section B (Chemistry), on sugar beet problems before Section M (Agriculture), the place of psychology in the training and work of teachers before Sections J and L (Psychology and Education), the application of science to the control of road traffic before Sections G and J (Engineering and Psychology) or on the economic aspects of diet before

Sections F and I (Economics and Physiology) further demonstrate over how wide a front this gathering of scientific workers considered the way in which the application of scientific knowledge can assist in the solution of social and industrial and economic problems.

Discussions of this type have for several years past been a regular feature of the meetings of the British Association, particularly discussions in which two or more sections have been associated in the joint consideration of a particular problem. The growing consciousness on the part of the scientific worker that the extent and direction of scientific work itself is influenced by the social and economic conditions under which he works, no less than the examples afforded of the disappearance of academic freedom in Europe, have quickened the interest of scientific workers in such discussions generally. Even those engaged in the most academic or theoretical investigations to-day cannot be indifferent to conditions around them, on which they depend both for the continuance of support and for freedom of investigation.

The very frailty of civilisation may demand certain limitations on the freedom of investigation possessed by the man of science, however different the purpose and form of such limitations may be as compared with the restrictions imposed in such countries as Germany and Italy. With the very continuance of civilisation itself in doubt, something in the nature of a mobilisation of scientific effort in its support becomes an urgent need. In a state of emergency the limited resources of scientific effort must be utilised where they can supply the greatest safeguard to humanity, whether in respect of supplying the knowledge and technique for the control of the forces already released by applied science, or for the development of a whole



new field of economy and technique for the distribution and enjoyment of the wider resources these forces when wisely used have made possible.

From this point of view, the right of society in a time of emergency to prescribe the directions in which scientific effort shall first be made can scarcely be challenged. Nor is there involved thereby the threat to creative thought which is involved in the prescriptions which we have witnessed of late on the Continent. We are, however, immediately confronted with a problem of co-ordination which is already suggested by such a programme as that of the British Association.

Discussions such as those we have indicated are commonly regarded as contributions to the development of social science. Granted that they represent contributions to our body of organised knowledge bearing on the problems which confront an organised society, how far do they contribute to the solution of problems as visualised by those who are seeking to attack such problems systematically by scientific methods? Can such haphazard discussions lead to the evolution of either policy or technique permitting of the solution of social problems in anything like the way in which problems of physical science are solved?

These questions and the underlying one of the evolution of sociology into a true science have recently been raised by Prof. Julian Huxley in a thoughtful article in the *Fortnightly Review*. The practice of using the term science both in the sense of an organised body of knowledge, as well as in the sense of knowledge and ideas amassed by true scientific methods, tends to much confused thought on sociology and on other subjects described by Prof. W. McDougall as social sciences. Admittedly sociology at the present time is merely a body of more or less organised knowledge, only a fraction of which has been amassed by methods which can be called scientific.

Its position in fact is very similar to that of history, and while on broad grounds Prof. Huxley may be right in objecting that history cannot be classed as a science, to push that objection too far is to be unjust to many investigators whose scientific study of historical method is yielding results of real value for the interpretation of social, political and economic situations, and may provide the basis upon which a true science may yet be built. In just the same way the transformation of sociology into a true science of society may ultimately be effected. Indeed, the scientific study

of history may prove a fruitful source of accurate social knowledge.

Prof. Huxley, however, is not content merely to direct attention to the existing confusion of thought on social problems. He indicates the main requirements if social knowledge is to develop into a true science in the way that natural science began to emerge from a mere body of organised knowledge at the beginning of the seventeenth century. In the first place, he reiterates Prof. McDougall's plea for an adequate supply of workers of high standard. This is a first essential for the scientific study of social problems and at once presupposes first the provision of adequate facilities for the training of such workers and the existence of employment for such social workers when trained.

Given a supply of investigators of the requisite quality, the question of social experiments and their control at once looms large. Without experiment, social science can scarcely develop. At present the failure to isolate experiments and difficulties in securing such isolation are almost as great an obstacle to the accumulation of scientific knowledge as the prejudices which often influence the interpretation of their results. Despite the many new departures in economic and social practice which we have witnessed even in the last five years, it is almost impossible to draw sound and valid conclusions owing to the absence of control or the existence of vitiating factors.

The gradual evolution of an appropriate technique and the steady accumulation of social knowledge by scientific methods will go far to establish a definite science of society. Even then, however, such a science must differ somewhat from the physical sciences. In the main the physical sciences represent an approach to truth. In any social science it is the other aspect of science, which the physical researcher is prone to neglect, that is most significant—science as a means of control. Scientific workers must at least give a lead to the administrator and politician in such matters as a first step towards social control, and the recognition of this responsibility has already inspired a movement for integrating different branches of scientific research. One of the most valuable services rendered by the meetings of the British Association is its educational work in assisting that integration, and thus promoting a broad point of view in which the wiser direction of available scientific effort upon national and social problems becomes possible.