Meetings

Biophysics

At the general assembly of the International Union of Pure and Applied Physics, which took place in Rome in September 1957, some discussion arose on the desirability of setting up a commission on biophysics within that union. An *ad hoc* committee consisting of R. H. Bolt (United States), A. Joffe (U.S.S.R.), and G. B. B. M. Sutherland (Great Britain) was appointed to look into the matter. This committee recommended (among other things) that an international conference on biophysics be held, which would bring together a representative selection of physicists and biologists and so allow wider discussion of the need for an international organization in biophysics and of the form it might take if its establishment were deemed desirable. The executive committee of the IUPAP endorsed this recommendation in 1958 and asked that the conference be held in 1959. This conference was held in Cambridge, England, from 6 to 9 July, and was attended by over 150 physicists, biophysicists, and biologists from 16 different countries.

In order to have as representative a gathering as possible, the organizers of the conference decided it would be best to have a series of authoritative lectures on a wide variety of topics, illustrating the contribution which physics is making to certain important problems in biology. The proceedings of this conference will not be published, since there was relatively little new material presented, one of the main purposes of the conference being that of enabling biophysicists engaged on very different problems to know more about what their colleagues are doing and to exchange ideas.

The conference was opened by A. V. Hill, who emphasized that biophysics is much more than the mere use of physical instruments and techniques in biological problems. In so far as it can be defined (and this is a very controversial matter), it is rather a method of thinking or a method of attack in which physical and biological concepts are blended in the investigation of vital processes. Linus Pauling (Pasadena) then spoke on the contribution of physics to our knowledge of protein structure; he was followed by M. Delbruck (Pasadena), who spoke on the structural aspects of molecular genetics.

The second day was devoted to papers on the contribution of physics to the study of muscle (D. R. Wilkie of University College, London); on the mechanism of nervous conduction (A. L. Hodgkin of Cambridge); and on virus structure and replication (Robley Williams of the University of California at Berkeley and E. Kellenberger of Geneva). Interesting papers were also presented on anomalous magnetic properties of nucleic acid (by Blumenfeld of Moscow) and on the relation between fibrous protein configurations and their chemical structure (by K. Andreeva of Moscow).

On the morning of the third day a general discussion was held on whether there is a need for an international organization in biophysics and on what form such an organization should take. A brief account of this discussion is given below. The other two papers presented that day were on physical methods of investigating cell structure (A. Engstrom of Stockholm) and on the physical analysis of visual mechanisms (W. A. H. Rushton of Cambridge and K. O. Donner of Helsinki).

On the morning of the last day, papers were given on the storage and transmission of information in the mammalian brain (Delisle Burns of Montreal) and on the effects of ionizing radiation on living cells (L. H. Gray of London). The afternoon session was devoted to a general discussion on the organization of teaching and research in biophysics. This discussion was opened by J. T. Randall (of London), who strongly emphasized the need for greater recognition of biophysics in universities. This provoked a very lively discussion in which several physiologists expressed their concern lest formalizing the study of biophysics in universities might have harmful effects on departments of physiology.

All of the main lectures were followed by interesting discussions—possibly all the more interesting because it had been agreed beforehand that no record would be made of the discussion. Indeed, the rather informal nature of the whole meeting seemed to meet with general approval.

The discussion on the international organization of biophysics lasted 2 hours. Although widely divergent views on the need and the best form for such an organization were forcibly expressed, a surprising degree of unanimity was revealed when the voting took place. Most of the first hour was devoted to arguments for and against setting up any form of international organization. The majority in favor of establishing some form of organization was approximately ten to one. As a result of the subsequent discussion, three possible forms of organization were proposed: (i) that special commissions in biophysics be established independently inside two or more of the present international unions (for example, Physics, Physiology, or Biology); (ii) that steps be taken to establish an affiliated commission (similar to that in optics) in association with the International Union of Pure and Applied Physics; (iii) that an independent international organization in biophysics be created which might eventually apply for admission to the International Council of Scientific Unions.

Neither of the first two proposals received more than three votes. The third proposal was carried by an overwhelming majority. It was agreed that it was neither practicable nor desirable for the new organization to be created at the 1959 meeting. National biophysical societies already exist in various countries, and these will presumably act as nuclei from which an international society will emerge. However, in order to provide a focus for communication, the meeting designated a provisional secretary (Professor R. H. Bolt, National Science Foundation, Washington 25, D.C.), to whom inquiries and suggestions may be sent.

R. H. BOLT*
National Science Foundation, Washington, D.C.
G. B. B. M. SUTHERLAND
National Physical Laboratory, Teddington, Middlesex, England

Note

* On leave from Massachusetts Institute of Technology.

Forthcoming Events

April

4–8. American Meteorological Soc., 3rd applied meteorology conf., Santa Barbara, Calif. (H. G. Houghton, AMS, Dept. of Meteorology, Massachusetts Inst. of Technology, Cambridge 39.)

4–8. American Soc. of Mechanical Engineers, New York, N.Y. (D. B. MacDougall, ASME, 29 W. 39 St., New York.)