

so on. The thermodynamics of living matter constitute another fundamental field of research, rich in exciting biophysical problems. Spectrophotometric analysis of biological materials may constitute a real contribution to our knowledge of the molecular patterns in the protoplasm and to an understanding of the real nature of life. The measurement of bioelectric phenomena may lead to a proper understanding of neural and mental processes.

Man now travels faster and farther, higher in the air and deeper in the ocean, than ever before. He is exposed to new physical influences by virtue of the invention of new weapons and machines. We must learn the effects of these physical agents on living matter and the biophysicist has a large part to play in such studies. The rapid advances in nuclear physics have led to new and important aspects of biophysical research, such as the tracer isotope techniques and the effects of nuclear radiations on living matter. Again, physical instrumentation forms a major portion of the projected activity of the biophysicist.

Perhaps the reason why many of these subjects have not been investigated in detail in the past is that one needs a background both of biology and physics for a proper appreciation of the problems. Whether we like it or not, there is a difference in the approaches of physicists and biologists in tackling their problems, and it is difficult for one trained in

one only of these disciplines to acquire the way of thinking of the other. There is obviously therefore, a need for the development of a special curriculum for training students who wish to take up biophysical research.

Researches in biophysics have been going on in other countries mostly through collaboration between workers in the two fields to which it is related. In some, as in France, regular courses of study are available in the subject. It is time that we in India too considered the possibility of affording courses, at the post-graduate level, to those who wish to take up research in this fascinating field. As a first step, summer courses may be given in the premier laboratories, to acquaint the biologists with the physical techniques that could be profitably used in their studies as also to familiarise the physicists with the basic concepts and ideas behind biological research. Workers in our country could expect to make significant contributions to this field, for it is still in the exploratory stage and not much spadework needs to be done in catching up with workers elsewhere as far as technique is concerned.

Let us therefore earnestly hope that active collaboration between workers in physics, chemistry and biology will soon be forthcoming from our universities and research institutions, to enable us to contribute our share to the field of biophysical research.

INTERNATIONAL CRYSTALLOGRAPHIC CONGRESS, 1951

THE SECOND INTERNATIONAL CONGRESS OF CRYSTALLOGRAPHY was held in Stockholm, from 27th June to 5th July 1951. More than 350 delegates from many countries attended the session. The three Indian delegates were Sir K. S. Krishnan, Prof. R. S. Krishnan and Mr. A. Verma.

Prof. A. Westgren, President of the Local Reception Committee, inaugurated the first plenary session with an address of welcome to the delegates. The Presidential Address was delivered by Sir Lawrence Bragg, the President of the Crystallographic Union. He gave a brief resumé of the history of the growth of X-ray crystal analysis starting from the pioneer work of von Laue and the two Braggs. He referred to the ever-increasing application of the techniques of X-ray crystallography in diverse branches of physics, chemistry, mineralogy, soil science, agriculture, biology and medicine.

The scientific meetings were divided into two sections, reading of papers and symposia. The contributed papers were broadly classified under the following heads:—order-disorder phenomena, various X-ray techniques, organic

structures, electron diffraction, crystal growth, martensite, instruments, neutron diffraction, ferro-electrics, inorganic structures, metal structures, symmetry computing aids, minerals, protein and related structures, cold-worked metals, random and deformed structures, diffuse scattering and others.

On the 4th and 5th July, symposia were held on the following subjects: (1) advanced techniques in structure determination and (2) electron diffraction in gases. During the final plenary session it was decided to hold the third General Assembly in the summer of 1954 either in Paris or in Holland, and the following were elected to the Executive Committee for the period 1951-54:

President: Prof. J. M. Bijvoet (Holland), *Vice-Presidents:* Prof. G. Hagg (Sweden), Prof. J. Wyart (France), *Secretary:* Dr. R. C. Evans (United Kingdom), *Editor:* Prof. P. P. Ewald (U.S.A.), *Ordinary Members:* Prof. J. D. Bernal (United Kingdom), Sir K. S. Krishnan (India), Prof. E. Onorato (Italy), and Prof. A. L. Patterson (U.S.A.).