

It can be seen in the Table that fibrins contain considerably less hexose than do the corresponding fibrinogens, whereas the glucosamine contents are nearly identical.

Evidence obtained in the experiments shows clearly that the demonstrated sugars cannot be contaminations, since they are uniformly found in highly purified materials of different origin. It can be demonstrated in corresponding fibrinogens too and, finally, there is a significant difference between the hexose contents of fibrinogen and fibrin.

The latter result directs attention to the possible role played by the polysaccharide in the conversion of fibrinogen into fibrin. Experiments along this line are in progress.

Details will be published in *Acta Physiol. Acad. Sci. Hung.*

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BOOK REVIEW

Computing methods and the phase problem in X-ray crystal analysis. Report of a Conference held at The Pennsylvania State College, April 6-8, 1950. Edited by RAY PEPINSKY and published by The X-ray Crystal Analysis Laboratory, The Pennsylvania State College, Pa., 1952. Pp. xvii + 390. Price \$ 7.50.

A play upon words is justified and irresistible: one must say at once of such an excellent publication that it is on the very wave-front of X-ray structure analysis. Dealing as it does with specialised mathematical, crystallographic, and electronic matters, it hardly calls for detailed notice on the part of this Journal, but that is by no means to suggest that it falls outside its purview. On the contrary, since the book is aimed at overcoming the difficulties inherent in the diffraction analysis of the more complex crystal structures such as those of biological molecules, above all of the proteins, its significance for biophysics and biochemistry is obvious.

Something like half the book comprises papers on the central problem of discovering the *phases* of the waves diffracted by a crystal lattice. The density function describing the periodic atomic distribution can be represented by a three-dimensional Fourier transform whose coefficients are the amplitudes of the X-ray reflections, but unfortunately these are observed primarily as *intensities*; hence, without additional limitations, assumptions and physico-chemical information, the theoretical number of possibilities is infinite. There is no general solution, but considerable progress is being made with more and more complex special cases, and this is pre-eminently the book to tell us how it is being done.

The quest demands all the time better and better methods and devices to minimise the enormous amount of computation involved, and it is to this practical aspect of the problem that the remaining papers are devoted. In particular, there is a long description and discussion of the famous Pepinsky machine, an electronic analogue computer, which is the joy and admiration of visitors to State College. It was, of course, the centre-piece of the 1950 Conference, which must have been not only invaluable but an exceedingly pleasant affair besides, to judge by various photographs and other personal touches with which the report is enlivened. Our thanks and congratulations are due to everyone concerned.

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