Physical Chemistry of Macromolecules

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INTRODUCTION

The session on the "Physical Chemistry of Macromolecules" was arranged by Dr. Theodore Shedlovsky, who was to have introduced the subject. However, a macromolecule in the form of a "flu" virus intervened.

Of course, macromolecules have been around for a great many eons, but it is only recently that we have come to recognize that they have properties rather different from other kinds of molecules. I can remember the very first book on chemistry that I came across, which gave the composition of glucose as $C_6H_{12}O_6$, and then, in the next paragraph, gave the composition of cellulose as $C_6H_{10}O_5$. But those numbers do not tell anything about the difference in the properties of glucose and cellulose.

You can use a stick of wood for planting corn, as the Aztecs did, or you can use a stick of wood for beating somebody over the head, but you cannot use a stick of glucose for those purposes, and this difference in properties is not explained by the formulas that were in that early book on chemistry.

As a matter of fact, it is only recently that the beginnings of macromolecular chemistry, as a separate branch of chemistry, came into being. Its ideas are being used in a great many aspects of science, and that is why it was felt that it is time for a symposium of this sort to bring it to your attention.

The first session of this symposium, then, is going to deal with the general background of macromolecules, how their properties are related to their structures, and how they differ from the small molecules, which I suppose might be called "micromolecules" by contrast.

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