

In Memory of Paul J. Flory*

The chemist, Paul J. Flory, who recently died in California, was largely responsible for the rapid progress in our scientific knowledge of macromolecules, the impact of which extends into countless practical areas of everyday life. His works on the form and properties of macromolecules, some of which were published way back in the 1930s, are of such fundamental importance that he was awarded the Nobel Prize for Chemistry in 1974. Macromolecules include not only synthetic materials but also biological structures, such as proteins and genes. It is extremely difficult to investigate the structure and physical properties of chain molecules made up of innumerable monomeric units.

In view of the gaps in our knowledge concerning the forces and factors that influence molecular shape, Flory attempted to solve comparatively "simple" questions. Thus in 1937, he found a mechanism of chain transfer that influences the size of a growing macromolecule without influencing the overall speed of reaction. Later he turned successfully to the thermodynamics of macromolecules in solution. In the process, he hit upon an "ideal temperature" in which the otherwise coiled or twisted molecules are in a relatively unstrained form. The results obtained by Flory have greatly extended our knowledge regarding macromolecules and have therefore made it possible to understand better and predict more accurately many biological and technical processes.

Born on 19 June 1910 in Sterling, Illinois, he received his doctorate in physical chemistry at Ohio State University at the age of 24 years. After changing positions and moving back and forth between industry and universities several times, in 1961 he was appointed Professor of Chemistry at Stanford University, a position which he held until his retirement in 1976. Flory was not only an outstanding scientist, but was also a tireless campaigner for human rights.

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* Frankfurter Allgemeine Zeitung, September 12, 1985