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WOLFGANG OSTWALD.

Dr. Wolfgang Ostwald, who was elected an honorary member of the AMERICAN PHARMACEUTICAL ASSOCIATION at the meeting in Rapid City, is professor of Colloid Chemistry in the Physico-Chemical Institute of the University of Leipzig. He was born, the son of Wilhelm Ostwald, the internationally famous chemist and Nobel laureate, in Riga, Old Russia, May 28, 1883. The assumption of the chair of Physical Chemistry in the University of Leipzig by the father brought young Ostwald into Germany, and here, in the crowded and growing quarters of what was destined to become the Institute for Physical Chemistry, young Ostwald learned the elements of science, being able to count as playmates and "uncles" such men as Arrhenius and van't Hoff, and as friendly visitors the whole international group that made the heyday in chemistry of the twenty-five years about the turn of this century.

Wolfgang Ostwald did not, however, develop into a physical chemist or any other kind of chemist of that day. His first interest was in biology. When but fourteen years old he began to write—on Darwinism. Upon entering the University of Leipzig, he majored in biology under Karl Chun then its professor of Zoölogy and Zoötomy. Following some first contributions of lesser significance, Ostwald published (at the age of twenty) a series of papers on the depth migration of the plankton which, because they explained, and for the first time, correctly, the movement of living organisms in the surface waters of the sea, assured him a permanent name in the history of physiological biology. Briefly formulated, he showed how these organisms rose and sank in the sea depending upon the internal viscosity of the water as influenced by heat, light, chemical constitution and the properties of the organism.

Following some studies on the poisonous effects of salts and distilled water upon the living organism, he became interested in how the colloids of the organism are affected by such changes. The raising of this question in his mind changed completely his point of view in science and we find him next studying the behavior

of colloids directly. In 1904 and 1905 he worked on the swelling of gelatin and thus threw his interests with Hofmeister, Hardy, Pauli and Spiro, who had been the first to try to discover the explanation of life phenomena through the behavior of the colloids. But the general problem of the nature of the colloids themselves was at that time in a state of flux and young Ostwald was shortly in the realms of pure colloid chemistry itself, as then espoused by Picton and Linder, Zsigmondy, A. A. Noyes, Paal, Lottermoser, von Weimarn and Goppelsroeder. In 1907 in the first volume of the *Kolloid-Zeitschrift* (then edited by Rudolf Ditmar) he published a lengthy article on the classification of the colloids which he expanded in 1909 (in Oppenheimer's "Handbuch der Biochemie") and later in the same year brought out as the original "Grundriss der Kolloidchemie." This volume represented not only the first adequate text covering this field historically, critically and scientifically, but it marked the birth of colloid chemistry as an "independent" division in chemistry. This work was more, however, than a summary of the labors of other men, for in it Ostwald developed the definition and the classification of colloid systems as they have been accepted ever since. Beginning with the second volume of the *Kolloid-Zeitschrift* (in 1907) young Ostwald became its editor and he has continued as such to the present day when the volume number has reached fifty. The *Kolloid-Zeitschrift* early proving inadequate for the publication of all the international communications offered it, Ostwald started the *Kolloidchemische Beihefte* which beginning in 1910, is now in its thirtieth volume.

Since the initial issue of his Grundriss this text, in revised form (the first half only) has gone through seven editions. In English translation, it has gone through two editions. In 1914, Ostwald was the invited lecturer to several universities and scientific bodies in the United States. He published these lectures in book form as "Die Welt der vernachlässigten Dimensionen" in 1915, since which time the volume has gone into its tenth edition. As "An Introduction to Theoretical and Applied Colloid Chemistry," it appeared in English and has gone through two editions. He is the author also of a laboratory manual of colloid chemistry, now in its fifth edition and a monumental monograph, "Licht und Farbe in Kolloiden" which appeared in 1924.

To the list of these volumes (which have been the source for the most part of all the general texts of colloid chemistry in all the different languages of our times and good in proportion to the accuracy with which they have held to Ostwald's teachings) must be added a sheaf of lesser communications and on all manner of subjects. There are studies on the effects of light on oxidative ferments, growth as an autocatalytic process, biographical notes on living and dead workers in colloid chemistry, historical presentations of the development of colloid chemistry, new methods and new apparatus, scientific discussions of physico-chemical principles as applied to colloid chemistry, and the employment of colloid notions in baking, metallurgy, rubber chemistry, plastic masses, pharmaceutical chemistry and a dozen other practical fields.

A versatile mind, a hard worker and as good an example as our time yields of the still catholic spirit of science!

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Martin H. Fischer.
