whaling, problems of international regulation, the newly built German fleet, catching and reducing methods and equipment, the biology of whales and the nature and chemistry of both raw materials and derivatives. The book is fully illustrated and closes with a well selected bibliography of 182 titles and an index. Particularly informing are the tables listing, as of 1938, the mother-ships, oil and guano reduction plants and 432 whale-catching vessels of 61 commercial companies representing ten nations, the British Empire being treated as a unit.

In 1938–39, twenty-eight floating factories, with individual registered tonnages up to 21,846, and 281 whale-catchers were at work in Antarctic waters. In 1939–40, the average number of catchers per mother-ship is stated to have been still higher, though precise figures are not yet available. The Japanese ships carried larger crews than similar vessels under other flags, but Japanese oil recovery per whale was the lowest in the field. Somewhat more than 11,000 men are now engaged in Antarctic whaling; the oil from Antarctic waters totaled during the latest season of record (1937–38) more than half a million tons, which fetched an average price of $65.00 a ton, or only 50 per cent. of the *lowest* mean annual value for an earlier thirty-year term (1900–1929). The number of whales being slain is at least fourfold what the oceans can endure on a long-term basis, yet the goal of reasonable, and hence perpetual, utilization seems farther off than ever.

# OBITUARY

## FRIEDRICH EMICH

### 1860–1940

FRIEDRICH EMICH, professor emeritus of chemistry at the Polytechnic Institute of Graz, Austria, the originator of modern microchemistry, died at his home in Graz on January 22, 1940. He was born there on September 5, 1860, and received his primary and preparatory schooling in Laibach (at present Yugoslavia). He then attended the Polytechnic Institute in Graz from 1879 to 1884, majoring in chemistry. Four years later he was admitted to the faculty of the same institute as "privatdozent," becoming associate professor of chemistry the following year. In 1894 he was appointed to full professorship, a position which he held until his retirement in 1931. He was repeatedly elected dean and chancellor of the institute.

In recognition of his scientific achievements he was awarded several honorary doctor's degrees and was decorated by both the Imperial and the Republican Governments of Austria. In 1918 he was appointed corresponding member of the Austrian Academy of Science and became full member of that organization in 1928.

From 1882 to 1890 his scientific papers were chiefly in the field of organic chemistry, while from about 1890 to 1905 a series of papers in organic and general chemistry were published. The first microchemical paper appeared in 1893, dealing with a qualitative test for sulfur. His systematic investigations in microchemistry began not until seven years later and culminated in 1911 in the publication of the still standard microchemical text, "Lehrbuch der Mikrochemie." His most important contributions in the field of microchemistry included a comprehensive treatise on microbalances (1915), the development of methods of capillary technique (1915–1920), quantitative inorganic analysis (1920–1926), application of Schlieren phenomena to chemical reaction studies (1926–1931) leading to his final contribution in 1936, "Observation of Changes at the Critical Temperature of Certain Gases by Means of the 'Schlieren-Microscope.'"

In the field of organic microchemistry, that branch of microchemistry which overshadows in importance all others and which was universally recognized with the reward of the Nobel prize in chemistry to the late Professor F. Pregl, also of Graz, Professor F. Emich made the first and pioneering contributions, such as the micro Carius and Kjehldahl determinations. These initial successes of F. Emich formed the foundation upon which later the entire field of quantitative organic microanalysis was built by his colleague, F. Pregl. Thus the work of these two eminent Austrian scientists, the cautious and eminently refined technique of F. Emich and the sure and successful practical application of F. Pregl, eventually blended into one of the outstanding scientific monuments of former Austria.

Their contributions revolutionized organic chemical research, inasmuch as modern investigations in the field of hormones and vitamins could not possibly have been brought to the present heights without the combined work of these two investigators, whose lives were in many respects so similar. Their work was also not without due influence in the United States. Pregl's methods were introduced here in 1925 and Emich's in 1929. The American Chemical Society soon recognized the importance of this new branch of chemistry by establishing the Division of Microchemistry.

Professor F. Emich, who is survived by his wife and two daughters, was the ideal of a pure scientist. Possessed of an extremely pleasing but nevertheless commanding personality, he combined thorough scientific knowledge with supreme refinement of experimental technique and infinite patience. Being a superb

lecturer, he would go to extreme pains in experimental preparation for his famous microchemical demonstrations, which never failed and of which the writer was repeatedly a fortunate witness. Thus the remarks made in the lecture in which Professor Emich demonstrated "the breathing of a rose petal" by means of the Schlierenprojectoscope, ". . . and now just imagine if we would wear glasses of similar optical design, a new world would open to us, a world unexcelled in phantastic aspects . . . ," revealed the qualities of an eminent scientist who also possessed the rare gift of being able to blend esthetics with science to a harmonious symphony.

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## RECENT DEATHS AND MEMORIALS

Dr. David M. Mottier, emeritus professor of botany at Indiana University, died on March 24 at the age of seventy-five years.

Dr. Charles L. Reese, formerly head of the department of chemistry and a member of the board of directors of E. I. du Pont de Nemours and Company, died on April 12 at the age of seventy-seven years.

Dr. Glenn E. Cullen, professor of pediatrics at the College of Medicine of the University of Cincinnati and director of the laboratories of the Children's Hospital Research Foundation, died on April 10 at the age of fifty years.

The *Journal* of the American Medical Association reports the formation of an organization to raise an endowment fund of $150,000 to establish fellowships in neurology as a memorial to the late Dr. Frederick Tilney, formerly professor of neurology and neuroanatomy at Columbia University. According to the plans, the principal of the memorial fund will be in the custody of the trustees of Columbia University.

A Grinnell Naturalists Society of the University of California at Berkeley has been organized to commemorate the work of the late Professor Joseph Grinnell, who was for thirty-one years the director of the museum of vertebrate zoology of the university.

# SCIENTIFIC EVENTS

## PUBLICATION OF A NEW PHYSIOLOGICAL JOURNAL IN SCANDINAVIA

The following announcement dated March, 1940, has been received from Professor August Krogh, of Copenhagen, by Dr. A. J. Carlson, of the University of Chicago.

Last year we had some talk about the future of *Skand. Arch.* We have now tried to obtain an arrangement to take over the Journal (from the publishers), but failed, and it has been decided to discontinue the "Archiv" and start a new journal on a strictly Scandinavian basis with Liljestrand as editor-in-chief and with assistant editors in the single countries to secure a high standard for the papers accepted. The journal is to be called *Acta Physiologica Scandinavica*, and we expect to send out the first number before long to a large number of physiologists, pharmacologists, biochemists and libraries. The *Acta* will be open to papers from Scandinavian authors and people working in Scandinavian laboratories, and I trust that the number of papers in English will show a marked increase, the more so as we must face the probability that it will be officially or inofficially excluded from Germany. We shall be very grateful if you will draw the attention of our colleagues in the United States and Canada to our new venture and help us secure a sufficient number of subscribers.

We are well aware of the difficulties. Our countries are being impoverished by the war at an appalling rate and are under a constant menace, but we are determined (even our colleagues in Finland) to carry on the scientific work and to do our best to make this new venture a success.

## AWARD OF GUGGENHEIM FELLOWSHIPS

Seventy-three fellowships with stipends amounting to $165,000 to assist research and creative work have been announced by the John Simon Guggenheim Memorial Foundation. The foundation, established in 1925 by former United States Senator and Mrs. Simon Guggenheim as a memorial to a son to assist original work by scholars and artists, in the past fifteen years has granted 913 fellowships and $2,082,000 to assist its fellows to carry on their work.

This year, on account of the wars in Europe and the Far East all fellows, except one whose plans will take him to the Near East, will work in the Western Hemisphere. Twelve will go to Latin America, and the rest will work in the United States and in Canada. Among those who will work in the United States are six Canadians appointed under a recent extension of the fellowships to Canada. The annual Guggenheim fellowships for Latin American scholars and artists, another part of the foundation's plans for granting fellowships in this hemisphere, will be awarded in June.

The Guggenheim fellowships are granted to scholars and artists who by their previous work have shown themselves to be persons of unusual ability. Men and women, married and unmarried, of all races and creeds, who are citizens or permanent residents of the United States, citizens of Canada and of certain Latin American countries, are eligible on equal terms. The fellows