

because of the enthusiasm of its first secretary, F. S. Spiers, whose name is perpetuated by the Spiers Memorial Lectures (the seventh of which will be delivered this year by Prof. J. H. Hildebrand), and of his successor, G. S. W. Marlow, the Society has never lost its initial impetus.

Its purpose remains to serve the changing needs of those interested in the sciences lying between chemistry, physics and biology, and to foster the international co-operation of scientists. Inspired by this purpose, a General Discussion on "The Reactivity of Free Radicals" was held last year in Canada at the University of Toronto. It proved a stimulating innovation; forty-five members travelled from Great Britain to meet in conference some eighty Canadians and sixty Americans. Those members will long remember their enthusiastic welcome in that great Dominion; they returned richer in knowledge and experience, with an increased appreciation of the high quality of the scientific contribution which Canada is making. The future may see this as the first of many Faraday Discussions to be held in other parts of the Commonwealth, the United States and Western Europe. The Society may hope thereby to contribute still further to "the glory of holding aloft among the nations the scientific name of England", to quote the words of Tyndall in appraising the genius of the man whose name the Society has been proud to assume.

## OBITUARIES

### Prof. J. W. McBain, F.R.S.

ON March 12, one of the great pioneers in the field of what is now termed 'colloid science' passed away. The era of regarding colloids as an interesting field for those who desired to prepare chemical substances in curious and unexpected states was just beginning to pass when, as Leverhulme professor at the University of Bristol, James W. McBain commenced what proved to be his main interest in subsequent years at Leland Stanford University, California, namely, a systematic investigation of the properties of soaps and their solutions. We are indebted to McBain not only for the elucidation of the complex series of phases which these systems can exhibit but also for the concept of the 'micelle', both neutral and ionic, which had the most profound influence on subsequent developments in the fields of colloidal electrolytes. While the actual shape of the micelle in any particular system is still a matter of controversy, we may note that McBain recognized two distinct forms, the spherical and the lamellar. Indeed, he postulated the existence of the latter form, re-discovered in 1947, as early as 1925.

The contributions of the McBain school to the thermodynamic properties and physico-chemical behaviour of these molecularly associated colloidal electrolytes would alone justify the inclusion of his name among the fathers of the science.

McBain's researches in molecular association were not confined to aqueous systems. Apart from detailed studies on gels and jellies in non-aqueous systems, a great deal of pioneer work on what is now termed 'solubilization', for example, of water-insoluble dyes and hydrocarbons by means of soaps, has come from his laboratory; and we are indebted to him for an understanding of the factors operative in what he termed 'co-solvency', which is of great importance in blending.

McBain was one of the first to recognize that the uptake of a gas by a porous solid might involve quite a number of distinct and separate processes taking place simultaneously, and, to cover them all, introduced the term 'sorption'.

On the technical side we are indebted to McBain for many interesting and valuable research methods, such as the McBain sorption spring balance, the McBain air-driven centrifuge, as well as his ingenious methods of skimming off the Gibbs layer in a Langmuir trough, and evaluation of the osmotic coefficient by observations on the depression of the dew point.

McBain's contributions to colloid science consist not only in numerous papers to scientific journals; a number of valuable text-books have also emanated from his pen. These books are distinguished for their clarity of exposition, their style and their broadness in outlook on the topics under discussion. His last book, published in 1950, is designed to give the author's concept of the domain of colloid science. It is interesting to note that he does not limit the field to the properties of interfaces, but considers organization and form as equally important.

On retirement from Leland Stanford, McBain spent five years as director of the National Chemical Laboratory in India, a period which he completed only last year.

McBain had many friends, and he kept them. His character is most clearly revealed by his answer to the query put to him by the writer as to what impelled him to accept Pandit Nehru's offer of the Indian appointment. He replied that he was so impressed by the signs of starvation and low economy of many of the Indians that he thought it necessary for him to try to do something about it, and he believed that the infiltration of science and scientific methods was the only way by which anything radical could be accomplished.

ERIC K. RIDEAL

### Father A. Gatterer, S.J.

FATHER ALOIS GATTERER, S.J., who died on February 17, was a natural scientist of the best nineteenth-century tradition, student and teacher by turns throughout his career. Born of Austrian stock in 1886, he was educated in Carinthia and there entered the Society of Jesus at the age of nineteen to continue his studies in rhetoric, philosophy and theology. He was ordained as priest in 1915 and joined the staff of the faculty of theology in the University of Innsbruck; there he also studied chemistry and physics, graduated and was appointed to the staff. He was released from lecturing in philosophy in order to pursue his scientific studies. At the age of about forty he studied physics for a year at Oxford and developed an interest in spectroscopy, which he pursued on his return to Innsbruck.

In 1930, when he was forty-four, he was invited to join the staff of the Observatory at the Vatican, where he established and developed a spectroscopic laboratory, largely with the aim of analysing a valuable collection of meteorites bequeathed to the Observatory by a French mineralogist. This laboratory has gradually become excellently equipped, with the aid of grants from Pius XI and his successor.

One of Father Gatterer's first tasks was to purify carbon rods for electrodes: a new method of doing this was developed, and then early tests on meteorites showed up the weakness of the atlases of spectra then available. During 1937-49 one of the main tasks of his laboratory was the preparation of