

These include the *Science Record* of Academia Sinica, which has a section on biology. In addition, there are the *Proceedings* of the Chengtu Branch of the Chinese Physiological Society and the *Biochemical Bulletin* of the Tsing Hua University Physiological Laboratory.

The impression created by this article will perhaps be that practical aspects of biological research predominate in present-day China. This is true to a large extent; but there are still a number of centres where a major part of the work is on academic aspects of biology. This is especially true of the Institute of Psychology of Academia Sinica, and to a certain extent of the Tsing Hua University Physiological Laboratory. The trend towards research of practical value is in fact unavoidable. In the first place the need of the country at the present is certainly on the practical side, and in the second place it is extremely difficult to carry out academic research of real importance under present conditions. Added to these reasons is the desire of every biologist to make himself useful to the country in its war effort. It is therefore not surprising to find biochemists, for example, putting their energy into such problems as army nutrition, the industrial possibilities of certain rubber-producing plants, vegetable oils and fermentation; while most of the systematic biologists have either turned their attention to agricultural problems or undertaken biological surveys of hitherto unexplored country.

## OBITUARIES

### Mr. Emil Hatschek

EMIL HATSCHKEK, who died in London on June 4, at the age of seventy-five, carried out pioneer work in many branches of colloid science and did much to direct attention in England to this subject. In spite of the stimulus supplied by the classical researches of Thomas Graham, little was being done in this country on colloids when, in 1911, Hatschek started a systematic course of lectures on colloidal chemistry at the Sir John Cass Institute. This was, I believe, the first regular course on the subject to be given in England, and it continued until 1935, when Hatschek reached the age limit for retirement. From about 1910 until 1932 Hatschek was producing original papers, all marked by elegance and strong individuality, which appeared in various periodicals, including the *Proceedings of the Royal Society*, the *Transactions of the Faraday Society*, *Chemistry and Industry*, the *Biochemical Journal* and the *Transactions of the Institute of Mining and Metallurgy*, apart from the twenty-six or so that appeared in the *Kolloid-Zeitschrift*. These names do something to indicate the width of interest of his work. His services to colloid science were acknowledged when he was made the guest of honour at the Colloid Symposium at Ottawa in 1932, a distinction much appreciated by him. His contribution at Ottawa was a paper on "The Study of Gels by Physical Methods", a subject to which he had devoted much attention.

Hatschek was a Hungarian by birth, but his family migrated to Vienna when he was a child, and it was in that city that he studied at the famous Polytechnicum. Engineering, however, was his subject in those days, and it was as an engineer that he came to England in 1888, at the age of twenty. He became a naturalized British subject in 1900. He concerned

himself professionally with matters of chemical engineering, especially filtration, in both England and America: problems that he met in this work first directed his attention to colloid science. About 1910 he retired from active professional work, although he still acted as consultant to certain undertakings, and, possessing private means, devoted most of his time to original experiment.

Hatschek's fancy took him into unusual fields, and in each he found matters of interest and importance. Two curious contributions of his were, one, on the changes in form of spherical segments of elastic gelatine, which on drying formed a gastrula reminiscent of the behaviour of living embryos, and, the other, on the growth of crystals in gels, which had a marked bearing on the growth of minerals. In particular, he showed that with gold the various forms that can be observed when crystals are formed in silica gel closely resemble the natural appearance of gold in quartz. His work on periodic precipitation bore on the banding observed in some natural minerals. He carried out many other elegant and unusual researches, but his greatest body of connected work was on various aspects of viscosity, especially on the anomalous viscosity of many classes of colloids. For this work his wide chemical knowledge, his clear-cut physical conceptions and his good general mathematical powers fitted him admirably. His co-axial cylinder viscometer for investigating the properties of colloidal solutions has been widely used.

In 1913 Hatschek published his "Introduction to the Physics and Chemistry of Colloids", which went into five editions. His "Laboratory Manual of Colloid Chemistry" also achieved wide popularity. In 1928 he produced his "Viscosity of Liquids", a standard work which was at once translated into German. He edited the "Foundations of Colloid Chemistry", a collection of classical papers, and wrote the articles on "Colloids" and "Viscosity" in the last edition of the "Encyclopaedia Britannica".

Hatschek was a man of very wide learning, with a fund of precise information on most matters. He had an excellent knowledge of botany, especially of field botany; he was well versed in the history and theory of music, and was a good pianist; in philology and general history he could hold his own in most companies; and he had a wide knowledge of the literature of England, France and Germany. He was a familiar figure at the Royal Institution and at the Faraday Society, in the government of which he played a prominent part for many years. In 1930 he became a member of the Savage Club, and was there almost daily to his death, acting in an oracular capacity. He never married and, in fact, all his attachments were intellectual rather than emotional. A powerful and original personality, his passing leaves a gap in British science.

E. N. DA C. ANDRADE.

### Dr. Burgess Barnett, M.B.E.

DR. BURGESS BARNETT, superintendent of the Rangoon Zoological Gardens since 1938, died on April 9 at Dooars, Bengal, at the age of fifty-six. He is perhaps best known for his work on the use of snake venom in the treatment of hæmorrhage and epilepsy, mainly carried out while holding the appointment of curator of reptiles of the Zoological Society of London during 1932-37.

He was the son of the late H. F. Barnett of Bescot