

Obituary.

PROF. ALBRECHT KOSSEL.

PHYSIOLOGICAL chemistry has suffered a severe loss at the death of Albrecht Kossel, emeritus professor of physiology in the University of Heidelberg and director of the Institute for Protein Investigation in that city. He was in his seventy-fourth year, and died after a very brief illness on July 5.

Kossel was (with Baumann and Thierfelder) one of the most distinguished pupils of Hoppe-Seyler. After being assistant to the latter at Strasbourg, he spent some years at Berlin, occupied the chair of physiology at Marburg from 1895 until 1901, and then migrated to Heidelberg. A physiologist by training and a medical graduate, he devoted his researches almost entirely to chemical subjects; both as an investigator and as editor of the *Zeitschrift für physiologische Chemie* for more than thirty years, he was one of the leaders in the new science of biochemistry. His earlier investigations were concerned with the nucleic acids; he recognised xanthine and hypoxanthine as among their constituents, and discovered adenine. The sugar group was detected in yeast nucleic acid (1893) and in thymus nucleic acid (1894); the pyrimidine derivative thymine was discovered in the same year.

Turning his attention to the simplest proteins of fish-roe, the protamines (first investigated by Miescher), Kossel recognised their high content in arginine and the other amino-acids termed by him "hexone" bases. Thus salmine was investigated in 1896, and in the same year the important amino-acid histidine was discovered by the hydrolysis of histone. Next he worked out the classical method for the quantitative separation of the hexone bases by means of phosphotungstates and silver compounds. Thus at the beginning of the century Kossel had reached a position of pre-eminence by his utilisation of the exact methods of organic chemistry, in contrast to the less precise processes of older physiologists.

Arginase, the ferment which hydrolyses arginine to urea and ornithine, provided perhaps the most physiological of Kossel's investigations, carried out in conjunction with H. D. Dakin, his distinguished English pupil. Later he discovered decarboxylated arginine (agmatine) in herring-roe, and based a most convenient method for preparing that amino acid on the use of naphthol yellow (flavianic acid).

Kossel naturally received many distinctions; in 1907 he presided over the International Congress of Physiology at Heidelberg; in 1910 he was awarded the Nobel prize for medicine. He received honorary degrees from several universities, including Edinburgh, where in 1923 he was recognised as the leading representative from Germany at the Physiological Congress of that year. He visited London so recently as April last as a delegate to the Lister Centenary Celebrations. Many British friends will mourn his loss. Kossel leaves one son, Walther, the well-known professor of theoretical physics at Kiel, and one daughter.

The words which Kossel wrote of Hoppe-Seyler are peculiarly applicable to himself: "Always ready to acknowledge the merits of others, he could not understand attempts to import personal motives into science. . . . For years he strove to secure the foundation of separate chairs of physiological or medical chemistry in German universities, in order to ensure the independent development of these subjects." Such was his character; such was his life's work.

G. B.

SIR WILLIAM ASHLEY.

SIR WILLIAM ASHLEY, whose death we regret to record, was an economist of note. He studied history at Oxford and afterwards went to Germany, where he came under the influence of Schmoller, which gave an impetus to most of his later work. For a period he held various university posts in the United States of America, returning to England to found the Commerce Department at the University of Birmingham, where he was professor, dean of the Faculty of Commerce, and later Vice-Principal of the University. On his retirement he settled at Canterbury and had several inquiries in hand, but these expectations were frustrated by a serious illness which terminated fatally on July 23.

Sir William Ashley was a realist in economics. He established his reputation early by his remarkable "Introduction to English Economic History." This book occupies a special place in British economic literature. While it is true that Archdeacon Cunningham had made important contributions earlier in the same field, Ashley's work had special qualities. He emphasised the comparative treatment of economic development, and showed the general continuity of that of England with the results already arrived at by a number of German writers. The book—considering that it was written in America—may be regarded as in many respects a *tour de force*. It opened a new field and almost set a new standard for British investigators. Also it opens up an interesting problem. Ashley traced the development of English economic life in the Middle Ages. The effect of the centralising power of the Church was towards a uniformity of organisation and of methods in different countries. With the bursting forth of distinctive national peculiarities at the beginning of the modern period, national diversity replaced uniformity, and one wonders how Ashley's method would have dealt with England of the sixteenth and seventeenth centuries or the period of the industrial revolution—alas, one wonders vainly.

Though Ashley was primarily an economist and historian, he had a great appreciation of scientific method and scientific discovery. This showed itself in an interesting way. When he was establishing the Faculty of Commerce at Birmingham, he was greatly impressed with the idea that the student who looked forward to a career in a manufacturing industry needed not only to know the economic issues involved and the commercial