

He was engaged during the last twenty years of his life on the fundamental problem as to whether a change of mass during a chemical action can be effected by the ether possibly taking part, as it might be conceived to do by the appearance or disappearance of electrons or by the disintegration of atoms. The final result of these experiments, which demanded on the part of the manipulator the exercise of extreme patience, and involved the most exact measurement, was a confirmation of the law of the conservation of mass.

It may be added that Landolt's "Optisches Drehungsvermögen organischer Substanzen und dessen praktische Anwendungen" and his "Physikalisch-chemische Tabellen" (with Börnstein) are classical works of reference.

In a land where men of science are held in honour, it was natural that Landolt's services as a teacher and investigator should be appreciated to the full. Although he himself was the most unassuming of men, and although his work was not of the kind to bring him into the glamour of the footlights, it fell to his lot to receive an unusual number of high distinctions. He was held in esteem and affection by all who had the privilege of his acquaintance.

ALEX. MCKENZIE.

PROF. R. ABEGG.

PROF. RICHARD ABEGG, whose untimely death, in his forty-second year, was referred to in these columns on April 7, was one of the most distinguished representatives of the second generation of physical chemists. It was at the end of a ballooning expedition on April 3 that, whilst attempting to land, the balloon in which Prof. Abegg had journeyed from Breslau to Köslin caught in some bushes and tilted, with the result that he was thrown out and sustained a fracture of the skull, from which he expired in the early morning of April 4.

Abegg studied chemistry at Kiel, Tübingen, and Berlin, and devoted himself at first to organic chemistry. He took his degree, as a student of A. W. von Hofmann, in 1891, with a dissertation on amidochrysene, but the far-reaching results then recently achieved in the field of physical chemistry attracted him, and led him into post-graduate work in the laboratories of Ostwald, Arrhenius, and Nernst.

As assistant to Nernst in Göttingen from 1894 to 1899, Abegg devoted himself to most of the problems of physical chemistry. The action of kathode rays on various salts, the silver germ theory of the latent image, measurements of the depression of freezing points and the osmotic pressure of concentrated solutions, and electrochemical problems in turn claimed his attention, but his theory of electro-affinity, which was formulated along with Bodländer, marks his greatest achievement at this stage of his career. In 1899 Abegg went to Breslau University, where he was soon made an extraordinary professor. Here he continued his work, but a good deal of his time was absorbed by editorial duties. The theory of electro-affinity led to much work on complex ions, which was carried out in conjunction with pupils from all parts of the world, including England, Russia, Japan, America, and Australia, and this work in turn led to the formulation of his theory of valency.

Abegg acted as editor of the *Zeitschrift für Electrochemie*, and at the time of his death had edited about half of a "Handbuch der anorganischen Chemie." It is to be hoped that the work in connection with this Handbuch is so far advanced as to ensure its completion. In connection with analytical

chemistry, along with Prof. Herz, Abegg published his "Chemisches Praktikum," which marks an initial step in the application of the ionic theory to the early stages of qualitative analysis, a step which had been indicated by Ostwald in his "Wissenschaftliche Grundlagen der analytischen Chemie."

At the London International Congress of Applied Chemistry, Abegg was appointed on a committee to consider the annual publication of tables of physico-chemical constants, and he attended a meeting of this committee held in Paris last October. Last October Abegg was appointed director of the Physico-Chemical Institute at the new Technische Hochschule at Breslau, which is to be opened next October in the presence of the Emperor.

Finally, a word as to Abegg's genial personality. He made his students feel like colleagues, and was always available with suggestive advice. If we place Abegg in the second generation of physical chemists, he has done his duty by the third generation, and his death will be mourned as a personal loss in all parts of the world.

SIR WILLIAM BOUSFIELD.

ALL friends of education will deeply deplore the loss of Sir William Bousfield, who died on April 7, in his sixty-eighth year. Although he had received the ordinary Oxford education, Sir William Bousfield's wide culture and sound judgment enabled him to see the growing importance of practical and scientific education, and to form correct conclusions on the advice, which he eagerly sought and acted upon, of scientific men. Elected to the London School Board, of which he was a member for six years, in 1882, he took the deepest interest in all problems connected with the improvement of elementary education, and, during his membership, he was chairman of the special committee which was appointed to consider the question of manual training. That committee took evidence from a number of experts, and it was mainly owing to its recommendations that the City and Guilds of London Institute and the Drapers' Company subsequently provided funds for a great educational experiment in the provision of manual instruction in a certain number of schools under the direction of the Board, which resulted, not only in the general adoption of handicraft instruction for boys, but also of domestic teaching in all girls' schools. The success of this experiment was largely due to the efforts of Sir William Bousfield, who, when he ceased to be a member of the School Board, became vice-chairman of a joint committee, under whose direction these important experiments were successfully carried out.

Associated with the Worshipful Company of Clothworkers by family tradition, he was appointed, in the year 1887, a representative of that company on the council of the City and Guilds of London Institute. Although the Institute was exclusively concerned with the development of scientific and technical instruction, Sir William Bousfield's advice proved of the greatest possible service to the several committees of the Institute charged with the different branches of its work. It is, however, in connection with its technology committee—of which he was, for many years, first vice-chairman and subsequently chairman—that his loss will be most felt. In the solution of the many difficult problems with which the department of technology has had to deal, Sir William was able to render great assistance, and, of recent years, as chairman of the board of examinations of that department, which was charged with the preparation of schemes of instruction in every branch of technology, his help