completely carried out programme was the symposium by the entomological societies on "Laboratory Procedures in Studies of the Chemical Control of Insects". The programme, which was presented at four sessions extending through two days, consisted of eleven principal topics which were formally discussed by invited leaders and informally discussed by other experts in the respective fields. It is expected that the Association will publish this symposium in the near future.

It would be erroneous and futile to pretend that the men of science who were gathered at Durham thought only of the niceties of mathematical theories, of the meteorology of New England, of the complex origin and formation of its mountains, of its fauna and flora, of the qualities and functioning of the human mind, of the complexities of society, of the progress in the medical sciences, and in agriculture and forestry. All these were considered, and although they were considered seriously they only caught the conscious attention and held it temporarily. Deep reverberations of a new *Blitzkrieg* were coming out of Russia, "nearer, clearer, deadlier than before!" Civilization was,

and is, making history around a sharp curve, and freedom was, and is, being defended principally by the gallant people of one small island. In the presence of such a tide in the affairs of men the attention could not long be held fixed exclusively by the wavelets of small additions to scientific knowledge.

Yet science gives a perspective that is unique. It deals with great distances, long periods of time, tremendous forces. It sees in outline the evolution of life from amœba to man. Against the background of the struggle of all life for existence it looks on the tragic vicissitudes of human history. It finds in the lower animals the elementary characters that in more complex combinations determine the nature of man. It gathers wisdom from all the history of the world instead of from only its last illegible page. It has no early millennium to offer, but it can point out certain pathways that should be avoided and others that are promising. And this men of science of the American Association, as well as those of the British Association, regard as one of their responsibilities to society.

OBITUARIES

Prof. J. C. Philip, O.B.E., F.R.S.

JAMES CHARLES PHILIP, born at Fordoun, Kincardineshire, on February 12, 1873, was both a son and nephew of the manse. He went to Aberdeen Grammar School and afterwards to the University, where in 1895 he was Murray scholar. He was a pupil of Japp and probably went to Göttingen on the latter's suggestion to become acquainted with the new science of physical chemistry as taught by Nernst.

In 1897 he came to work under H. E. Armstrong at the Central Technical College in South Kensington. Armstrong, though very critical of the doctrines of Ostwald and Nernst, was anxious to know of them at first hand. Less than a year later he was able to place Philip at Cambridge with Heycock and Neville, then engaged on their classic work on the constitution of binary alloys, in the interpretation of which the phase rule was to prove so helpful.

Philip stayed at Cambridge for a while but seized the first opportunity to return to London to the Royal College of Science as demonstrator and lecturer in January 1900. Here he remained all his life, becoming assistant professor in 1909 and first professor of physical chemistry in 1913. This was one of the earliest chairs in this subject in Great Britain. When Prof. H. B. Baker retired in 1932 he was made director of the Laboratories of Inorganic and Physical Chemistry. He took part in the design of the new laboratories in Imperial Institute Road begun in 1906

and busied himself more and more in every form of college activity—both official and social. He served for six years, 1932–38, on the Senate of the University, and was dean of the Faculty of Science in 1934 and deputy vice-chancellor during 1937–38.

Besides his teaching, Philip was actively engaged in research largely in collaboration with a continuous succession of students. His investigations ranged over a wide field: the properties of non-aqueous solutions (especially of electrolytes in organic solvents); adsorption of dissolved substances and vapours on charcoal; determination of the dielectric constant of liquids; molecular refraction; freezing-point diagrams of binary systems; chemical fogs.

It is particularly to his credit that he left behind him a strong school of younger men who to-day make the Imperial College a prominent centre of physical chemical training and research. It was characteristic of him to encourage his younger men to follow their own varied bents, and he shared his research students among them.

He became a fellow of the Royal Society in 1921. An honour which pleased him greatly was the honorary degree of LL.D. from his old University, Aberdeen, conferred on him in July of this year.

During the War of 1914–18 he was secretary of the Royal Society War Committee and largely concerned with organizing the preparation of local anaesthetics in university laboratories. In recognition of this work he was awarded the O.B.E.

Philip threw himself wholeheartedly into the activities and organization of his profession. He was secretary of the Chemical Society during 1913-24, and held the very onerous position of chairman of the Bureau of Chemical Abstracts during 1923-32, in the formation of which he took a leading part. From 1939 until 1941 he was president of the Society of Chemical Industry, having been persuaded to occupy the office for a second year. He had taken office as president of the Chemical Society only a few months before his death. He added to his labours in 1938 by consenting to prepare a history of the Chemical Society appropriate to the celebration of its centenary. Both the Science Masters' Association (1929) and Section B of the British Association (1936) had claimed him as president.

Philip's record is one of unselfish and continuous work for others, for those causes which he judged worthy. He was a devoted and active Presbyterian and gave much time to the duties of his church. He taught and carried out researches and organized with all his ability and was happy in all he did. Of such a man Meredith says :

"You of any well that springs
May unfold the heaven of things,
Have it homely and within
And thereof its likeness win."

Perhaps Philip's greatest memorial is in the memory and affection of the students of South Kensington. He sought to know every student individually, played tennis with them, sang songs at their concerts and entertained them at his house while he inducted them into the tradition of the Imperial College. At one time or another he took an active part in the management of practically all the student activities. One could never say of him, in Milton's words :

"Above the rest
in shape and gesture, proudly eminent."

This devotion to the duty which lay at hand, coupled in earlier days with a reticence of manner, made it seem as if he matured late in life—the Philip of the last decade, secure in the highest positions of his profession, was found to have a charm and a sincerity and to possess powers of leadership which we all valued. He was never forceful or aggressive; such traits were alien to his character.

The story of what he did for the College is too long to relate here in detail—rather would we express it as in "Pilgrim's Progress" :

"This place has been our second stage :
Here we have heard and seen
Those good things that, from age to age,
To others hid have been."

Philip retired from his professorship under the age limit rule in 1938. He was given many tangible expressions of loyalty and admiration, not least by the many old students whose careers he followed and who looked to him as a friend. The recall to duty followed almost immediately : he was summoned to act as deputy rector while Sir Henry Tizard was engaged on other work. When war came this position

was both arduous and exacting, the more so as the College decided to remain in London and carry on its work. Philip slept there most nights and was always to be found at his post.

His devotion to duty made him take on other, equally strenuous duties at this stage, in connexion with the allocation of scientific and technical personnel to posts in the Services and in war industries.

He became chairman of Committees of the Royal Society and of the Ministry of Labour and National Service concerned with the institution and operation of the Central Register; he also accepted the chairmanship of the University of London Joint Recruiting Board. It is said that this last position involved his interviewing about six thousand young men for an average of fifteen minutes each during the last two years. To all these offices he brought soundness of judgment, endless patience and a firm determination that everyone should have a fair deal.

Too many tasks were piled on his broad and willing shoulders, and there is little wonder that his strength eventually failed. He was taken in the very height of his achievement, rich in all the honours of his profession, richer in the love of his friends. Perhaps it is better so, than to live on the "other side of the hill" as Walter Scott called it and see one's powers, physical and mental, growing less.

Philip's teaching and the example of his personal life was to emphasize the significance of those non-material values commonly termed moral and spiritual. As he said, "surely the finest things in human life are the most difficult to express or define".

Philip married Jane Henderson of Aberdeen and had a son and a daughter : such is the bald statement, but it conceals a bountiful married life; he would have achieved far less without the constant help and support of Mrs. Philip. And their philosophy :

"I am content with what I have
Little be it, or much."

E. F. ARMSTRONG.

We regret to announce the following deaths :

Prof. Victor Jellos, formerly of the Kaiser Wilhelm Institut für Biologie, Berlin-Dahlem, known for his work on heredity and genetics, on July 5, aged fifty-three years.

Prof. E. Kremers, emeritus professor of pharmaceutical chemistry in the school of Pharmacy, University of Wisconsin, on July 9, aged seventy-six.

Prof. E. E. Maar, professor of the history of medicine in the University of Copenhagen, aged sixty-eight.

Prof. Paul Sabatier, For. Mem. R.S., professor of chemistry in the University of Toulouse, who was awarded the Nobel Prize for Chemistry in 1912, aged eighty-six.

Eng.-Capt. J. Fraser Shaw, chief engineer of the Fuel Research Station, Department of Scientific and Industrial Research.

Mr. W. A. Taylor, O.B.E., formerly a superintending examiner at the Patent Office, on August 18.