

discussion of the evolution of the group. Later he undertook in Zittel-Eastman's "Text-book of Paleontology" the section on brachiopods, which again is indispensable as a work of reference. In 1929, together with Clara M. LeVene, Schuchert produced the brachiopod section of the "Fossilium Catalogus", an invaluable index of genera and genotypes, newly classified.

Schuchert's combination of detailed knowledge of the brachiopods with a wide and inclusive outlook on palaeontology enabled him to recognize systematic differences but yet at the same time to avoid excessive 'splitting', while producing an orderly classification from a chaotic group. The outcome of long-continued thought and consideration, his studies revealed with complementary clarity the nature both of the component individuals and of the group as a whole.

MURIEL A. ARBER.

WE regret to announce the following deaths :

Prof. William M. Esten, emeritus professor of bacteriology in the University of Connecticut, on April 16, aged eighty.

Dr. K. Landsteiner, For.Mem.R.S., of the Rockefeller Institute for Medical Research, on June 26, aged seventy-five.

Prof. Garfield Powell, assistant professor of chemistry in Columbia University, aged forty-nine.

Dr. Mary J. Rathbun, honorary associate in zoology of the U.S. National Museum, on April 4, aged eighty-two.

Prof. W. A. Setchell, emeritus professor of botany in the University of California at Berkeley, on April 5, aged seventy-eight.

Prof. William C. Walker, professor of chemistry in McMaster University, Canada, on March 30.

## NEWS and VIEWS

### Industrial Research in Great Britain

SIR EDWARD APPLETON, secretary of the Department of Scientific and Industrial Research, in opening the new physico-chemical laboratories of the British Coal Utilization Research Association at Coombe Springs on June 23, congratulated the Association both on its new facilities in laboratory space and on the financial provision now available for large-scale work. The steps the Association has taken are among the first notable signs of a great forward movement in industrial research in Great Britain, Sir Edward said, which he confidently expects will be one of the features of post-war Britain. The Coal Utilization Research Association is serving the coal industry as a whole, and he particularly welcomed the expression of the interest of the miners themselves shown in the recent appointment of two members of the Mine-workers' Federation to the council of the Association. It is, he said, fashionable nowadays to decry British industrial research effort, because it is claimed that the amount of money spent on research per head of population is less than that in certain other countries. Much depends, of course, on what basis such a calculation is founded; whether or not, for example, development costs are included under the heading of research. Moreover, there can be unwise expenditure, as well as wise expenditure, even on research. But it can certainly be stated that British effort on research is not commensurate with our industrial needs. To talk merely of spending more money, however, was not enough. It was necessary to plan our attack on both new and old problems and, most important of all, to attract some of our best scientific brains in the country to solve them.

It has also been stated that, whereas Great Britain has, in the past, been responsible for many of the most fundamental discoveries in science, other countries have often been the first to apply them to practical ends. Sir Edward said that he could safely predict that when the full story can be told after the War, our work in the application of science, as distinct from the accumulation of scientific facts, will be found second to none. He instanced the example of one of the most striking of our war-time developments, namely, that of radio-location, which was not, as is commonly supposed, a new invention. Here a

technique developed for purely scientific ends has been magnificently applied by young British scientific workers to practical war-time uses. In this and other fields it has been amply demonstrated that the young men of Great Britain can hold their own in bridging the gap between laboratory science and its useful expression in appliances and industrial processes.

### National Academy of Peiping

A REPORT of the National Academy of Peiping covering the years 1937-42 has been issued by the Kunning Office of the Academy. On the outbreak of the present war with Japan, Peiping was immediately taken over by the invader, and the Academy, which at its foundation in 1929 consisted of nine separate research institutes with a staff of more than two hundred, succeeded in transferring part of the books and equipment of each of its institutes to the south; within a few months most of its work was resumed at Kunning, Yunnan, with a staff now consisting of 120 members. In addition to Chinese Government grants amounting to 620,000 dollars, grants are received from the Sino-American, Sino-British and Sino-French Foundation Funds. The Institute of Physics has been increasingly concerned with problems of industry and national defence. A laboratory for spectroscopy has been established to meet the needs of the new metallurgical industry, and the Institute has also standardized more than a thousand radio transmitters with its own quartz oscillators. Its other efforts have been confined mainly to the development of applied optics and geophysical prospecting. The Institute of Radium consists of laboratories for chemistry and radioactivity, in which many Chinese minerals have been examined, and for X-rays, where the work has been mainly on crystal analysis and X-ray studies of alloys of tungsten and antimony.

In the Institute of Chemistry, work has been carried out on the extraction of dyes from local plants and their application to textiles, the preparation and small-scale manufacture of medicinals from local raw materials, the recovery of used engine oils, replacement of Diesel oil by vegetable oil and preparation of a substitute for petrol from molasses and sawdust, analysis of water supplies and extraction of potash from different types of ashes. The Institute of