work appeared in the form of short papers. On the insects alone he published more than 1,200 of these. He proposed 5,500 new names for species and varieties of animals of all classes, though he worked most at the bees as he loved them the best. His collections he gave away to public museums as fast as they accumulated; 13,700 specimens of insects, many of them unique types, he gave to the British Museum (Natural History).

A final appraisal of this huge amount of work must, of course, await the verdict of future investigators. Cockerell worked easily and incessantly, and he inspired generations of American students with his quiet enthusiasm for natural history, his youthful and modern outlook, and his simple goodness; he was beloved by all who knew him.

He was twice married: first to Anne Fenn, daughter of Manville Fenn, the novelist, and afterwards to Willmatt Porter, an American devoted to the study of natural history, who survives him.

ROBERT B. BENSON

Prof. R. E. Liesegang

By the death of Raphael Edward Liesegang on November 13, at Homburg vor der Hoehe, in his seventy-eighth year, colloid science loses one of its most cultured members.

The early years of the present century witnessed the gradual transition of interest in colloid science from its qualitative and descriptive to its quantitative and mathematical aspects. A few notable workers, now a rapidly diminishing number, made their con-

tributions over this period of transition. Among these, R. E. Liesegang must be regarded as one of the most important. Temperamentally, he was endowed with a high artistic sense, and both his command of languages and the purity of his prose were attributes which played an important part in his scientific work.

His name will always be associated with that interesting phenomenon of periodic precipitation in gels, resulting in the formation of 'Liesegang rings'. The beautiful structures in banded agates can readily be reproduced in the laboratory by diffusion of electrolytes into gels containing suitable precipitants. Many claims resting, however, on somewhat more slender experimental evidence have also been made to interpret several different types of lamellar structures in biological material in terms of Liesegang precipitation.

Liesegang made notable contributions to our knowledge of the sensitiveness of photographic emulsions to light, and must be regarded as one of the pioneers in the fields of colour photography and television. Investigators interested in the early development of methods owe a great debt to Liesegang for his "Kolloidchemische Technologie". ERIC K. RIDEAL

WE regret to announce the following deaths:

Dr. C. W. Kimmins, for many years chief inspector of the Education Department of the London County Council, on January 12, aged ninety-one.

Prof. Burton E. Livingston, emeritus professor of plant physiology, Johns Hopkins University, aged seventy-two.

NEWS and VIEWS

British Hydromechanics Research Association

THE design and manufacture of hydraulic machinery is one of the oldest and most important branches of mechanical engineering, including, as it does, water turbines for power production, pumps of all kinds for water and other liquids, hydraulic presses for various purposes and a great variety of other machines and equipment associated with nearly all forms of industrial activity. At the present time, British manufacturers of such machinery are making a full and valuable contribution to the export drive. But the industry is a competitive one, and it is welcome news that despite their present preoccupations, the leading manufacturers have realized that it is only by continuous co-operative research and development that these activities can be maintained and extended, and have formed the British Hydromechanics Research Association for this purpose. The president of the Association is Sir John Anderson, and it is a good sign that the Council, in addition to representatives of the leading manufacturers, includes representatives of large users of hydraulic machinery.

The director of the new Association will be Mr. L. E. Prosser, who has had many years experience of research in basic and applied fluid mechanics at the National Physical Laboratory, and of the application of the results of such researches to the solution of important problems encountered in engineering practice. The Association will work in close co-operation with the new Mechanical Engineering

Research Organisation of the Department of Scientific and Industrial Research, which is planning to erect a well-equipped hydraulic machinery research laboratory as one of its most important activities in the general development of mechanical engineering science and its application to useful purposes. It has been said with some justification that whereas Great Britain has taken a leading part in the development and application of research in aerodynamics, the sister science of hydromechanics has been neglected. These new activities should go a long way to remedy this discrepancy, with resulting advantages both to manufacturers and to users of hydraulic machinery.

Research in Central Africa: Dr. J. E. Keyston

SUPPORT was forthcoming from all branches of scientific opinion for proposals put forward in 1946 at the Royal Society Empire Scientific Conference that research in Africa, south of the equator, should be planned and organised on a regional basis. Even before the Conference, the three Central African territories of Southern Rhodesia, Northern Rhodesia and Nyasaland were contemplating arrangements for a joint attack upon the research problems of their own sub-region of Africa, and for collaboration with the research organisations in the neighbouring territories of East Africa and the Union of South Africa. The Central African Council, which is a consultative assembly of representatives of the three Central African countries, has given effect to proposals made