

of mercury with organic solvents and radicals, now ascribed, in the modern theory of valency, to the unique character of mercury among the metals and its power of forming covalent linkages of unusual type.

Another subject that attracted Marsh was the preservation of stone from decay, and in 1926 he wrote a highly original little monograph on the subject entitled "Stone Decay and its Preservation". Finding in decayed stone from diverse localities the presence of nitrates, he concluded that the decay was due to forms of life in the stone, such as the micro-organisms known to exist in it. The treatment to preserve it should aim at sterilizing it and keeping it sterile. The book concludes: "All that is recommended is to keep the walls of a building clean and thus prevent them from becoming nests of living organisms". In the last conversation I had with him, he discussed the chemistry of taste and was then working upon it.

Marsh was educated at Rugby and Balliol, studied also both in Germany and Paris, and for a short time was lecturer in materia medica in Oxford. He was made a fellow of the Royal Society in 1906, and served on the council of the Chemical Society in 1902-7. He was married in 1903 and leaves a widow and five daughters. In 1906, when forty-six years old, he astonished everyone by winning by examination an open prize fellowship at Merton College, which he held up to 1930, and during it filled for a time the office of sub-warden.

In his younger days Marsh was an intrepid yachtsman, and in company with one of the three Lynam brothers used to take long voyages in their small yacht among the Hebrides and even out into the open Atlantic. Inquiring for him in 1901 at Oban, knowing his intention of attending the British Association meeting at Glasgow that year, I found the local waterman in considerable anxiety, as nothing had been heard of the yacht or its crew for many weeks. He loved the Scotch crofters and liked to get right away among them and to share their mode of life. Though to unsympathetic people he may not have troubled much to make himself agreeable, he was essentially very human and lovable, and those who worked with him and were admitted to his friendship will cherish his memory with deep affection and loyalty.

FREDERICK SODDY.

Captain R. S. Rattray, C.B.E.

WE record with deep regret the death of Captain R. S. Rattray, distinguished as an anthropologist and authority on the native peoples of West Africa, who was killed in an accident while gliding at Farmoor, near Oxford, on May 14, at the age of fifty-six years. Captain Rattray was acting as pilot of the Oxford University and City Gliding Club, which he himself had founded only a week before.

Robert Sutherland Rattray was son of the late Mr. A. Rattray of the Indian Civil Service, and grandson of the late Robert Haldane Rattray, Chief Justice of Bengal. He was educated at Stirling High School and Exeter College, Oxford, holding the

diploma of his University in anthropology, and the degree of D.Sc. He was *Officier d'Académie* of France, and was called to the Bar by Gray's Inn in 1914. In the South African War he served as a trooper, receiving the Queen's medal with five clasps. In 1902 he entered the service of the African Lakes Corporation, British Central Africa, serving until 1907, when he entered the Colonial Civil Service on the Gold Coast. He became an assistant district commissioner in 1911, and thereafter held various administrative appointments, until in 1920 he was acting senior assistant Colonial Secretary and clerk to the Legislative Council. During the Great War he served in Togoland, being district political officer during the Anglo-French occupation in 1914-17. For his services he received the M.B.E. and was advanced to C.B.E. in 1929.

In 1924 Rattray was made head of the recently formed Anthropological Department in Ashanti. It is in connexion with Ashanti that Rattray's name will longest be remembered. He had already made some notable contributions to the study of the customs and folk-lore of West Africa, when soon after his appointment as Government anthropologist he published his "Ashanti" (1924). This was the first of a series of volumes, in which he made a comprehensive and detailed study of Ashanti social organization and law, art and religion. Much interest was aroused by his unravelling of the story of the Golden Stool of the rulers of Ashanti, which, long familiar to the British public, had been a mystery completely misunderstood, even by many whose position demanded more accurate information. This matter was certainly not without interest—great interest indeed—for the anthropologist, but the overwhelming value of Rattray's studies for his fellow workers lay in his accurate observation, his clear, precise statement, and his restrained, but illuminating, power of interpreting his facts in relation to their cultural environment. To a wider public, the volume containing his study of Ashanti art is made a standard work of reference by the inclusion of a contribution from Vernon Blake discussing the place of African art in relation to the principles of aesthetics.

One of Rattray's duties not long before his retirement was to make a survey of tribes of the hinterland brought under British control by mandate, but as little known to anthropological science as they were to the administration. This survey was made with a view to the introduction of some measure of indirect rule; and a record of the observations then made was published by him in his book "The Tribes of the Ashanti Hinterland" (1932). Its essential completeness, when considered in relation to the rapidity with which the work had to be carried through, is a lasting memorial of Rattray's quickness of observation and grasp of detail. On his retirement Rattray was a frequent lecturer on anthropological topics at Oxford and elsewhere; and it may be noted that he was then one of the first to point out that indirect rule is not a complete panacea for the difficulties of native rule, not the least of these,

(Continued on page 929.)

perhaps, arising from the feelings of a section among the natives themselves.

Rattray, while still an officer in the Service, was one of the first to fly to West Africa; and on his retirement, flying divided his interest with anthropology. He became one of the pioneers of gliding. It was his ambition that the club which he founded at Oxford should eventually become a friendly rival of the similar club at Cambridge; but this ambition is now left for others.

WE regret to announce the following deaths:

Prof. A. E. Boycott, F.R.S., emeritus professor of pathology in the University of London, on May 12, aged sixty-one years.

Dr. W. Eagle Clarke, honorary supervisor of the Bird Collection and formerly keeper of the Natural History Department, Royal Scottish Museum, Edinburgh, on May 10, aged eighty-five years.

News and Views

Prof. Hans Geiger

THE Council of the Physical Society has this year awarded the fifteenth Duddell Medal to Prof. Hans Geiger, of the University of Tübingen. The medal is awarded to "persons who have contributed to the advancement of knowledge by the invention or design of scientific instruments, or by the discovery of materials used in their construction". Geiger's connexion with Great Britain goes back to the days, early in this century, when he went to Manchester to study radioactivity under the direction of Lord Rutherford, and it will also be remembered that one of the early results of this happy partnership was the demonstration of the possibility of detecting a single α -particle by its electrical effect. The method in its original form was somewhat tedious and troublesome, but the invention of the 'point' or Geiger counter made possible much more rapid counting, the counting of β - as well as of α -particles and, in its more recent form, introduced by Geiger himself, even the differentiation of the effects produced by α - and β -particles. These early researches and inventions laid the foundations on which have been built the more modern elaborate and less exacting automatic methods of counting used in this field.

GEIGER has also contributed notably to our knowledge of radioactive phenomena. In particular may be mentioned the experiments of Geiger and Nuttall, repeated later with greater accuracy by Geiger himself, to determine the ranges of the α -particles from various radioactive products. These experiments led to the formulation of the well-known rule connecting velocity and range, which gives a means of calculating velocities from known ranges with remarkable accuracy. But of outstanding importance are the experiments made in Manchester by Geiger and Marsden on the scattering of a beam of α -particles by thin sheets of matter. They recorded the striking observation that some of the α -particles in a beam directed on to a sheet of matter are deflected through very large angles and may even emerge on the side of incidence of the beam of α -rays. To explain the effect, Rutherford postulated the existence of large-angle scattering as

the result of occasional single encounters with atoms. This led to the formulation of Rutherford's nuclear theory of atomic structure, with all its subsequent remarkable developments and far-reaching reactions on atomic theory.

Prof. E. Schrödinger and the University of Graz

SINCE the recent incorporation of Austria into Germany, little precise knowledge has been available as to the result of the change upon the position of some distinguished Austrian men of science. Upon inquiry we are informed that Prof. E. Schrödinger will continue to occupy the chair of theoretical physics in the University of Graz. The *Tagespost*, Graz, of March 30, publishes a letter from Prof. Schrödinger to the Senate of the University, in which he explains that he has not hitherto taken the active part expected of him in the National Socialist movement but is now glad to be reconciled to it. The last paragraph of his letter reads as follows: "Well-wishing friends who overestimate my importance consider it right that the repentant confession which I made to them should be made in public. I too belong to those who seize the outstretched hand of peace, because, sitting at my writing-desk, I have misjudged up to the last the real will and the true destiny of my land. I make this confession readily and joyfully. I believe it is spoken out of the hearts of many, and I hope in doing this to serve my country."

Dr. R. P. Linstead

DR. R. P. Linstead, whose appointment to succeed Prof. G. M. Bennett in the chair of chemistry in the University of Sheffield, is announced on p. 943 is a distinguished younger worker in organic chemistry. Dr. Linstead is thirty-five years of age. He received his training at the City and Guilds College, Finsbury (1919-20), and at the Imperial College of Science and Technology, London (1920-25), graduating with first-class honours in chemistry in 1923. For a time he carried out research work in organic chemistry at the Imperial College, being awarded degree of Ph.D. (London) in 1926, and of D.Sc. (London) in 1929.