in industry, scientific research, education and scientific publication. Trained originally as an engineer, he first held the post of director of the laboratories of the Dion–Bouton motor works from 1905 until 1912. The years 1912–25 were spent as lecturer and later professor at the École Centrale des Arts et Manufactures, and in 1931 he became professor at the École Supérieure de Soudure Autogène, Paris. His scientific work has been mainly in physical metallurgy, with particular reference to the properties of steels. His work on the transformation of steels, both carbon steels and alloy steels, is classical; it defined the nature of these transformations, and, in particular, indicated the role of alloying elements in alloy steels. Later he turned his attention to the transformations in the light alloys of aluminium, and made substantial contributions to the theory of these reactions. He has worked extensively on the solidification of metals, dealing in particular with the principles governing the solidification of metals in moulds and the property of 'castability', and he has devoted much attention to the study of autogenous welding. In association with Prof. Chevenard he has made extensive studies of volume changes in alloys and has perfected methods of dilatometric analysis which have been widely used, particularly in France, in the exact study of transformations in alloys. He has also worked on the thermal analysis of complex systems, on inclusions in metals, on corrosion, and on the distribution of stress in metal structures under load, while his systematic study of microstructures and their classification has been a particularly valuable contribution to physical metallurgy. Prof. Portevin's published papers are a model in clear expression and reveal a beautiful command of language. For forty-five years Prof. Portevin has been associated with the French periodical *Revue de Métallurgie*, of which he is now technical director, and he has been responsible for maintaining the high standard of this well-known scientific journal. In the course of a long and distinguished career, Prof. Portevin has received many honours from universities and scientific and technical societies throughout the world. He is a Commandeur de la Légion d'Honneur, a Commandeur de l'Ordre de la Couronne de chêne de Luxembourg, and a member of the Institute of France.

Prof. T. Reichstein

Dr. T. Reichstein is professor in the Institute of Organic Chemistry in the University of Basle. The importance of his investigations in the steroid field was recognized by the award jointly to him and to Drs. Philip S. Hench and Edward C. Kendall of the Nobel Prize for Medicine in 1950. But it is not in the steroid field alone that Prof. Reichstein has made outstandingly distinguished contributions. His researches into the structure of ascorbic acid led to his synthesis of this substance in 1933, by a method which formed the basis for the early large-scale production of this vitamin. He has continued to display his amazing ability in the field of carbohydrate chemistry by the elucidation of the chemistry, usually accompanied by synthesis, of many rare sugars. It is in the field of steroids, particularly with respect to heart poisons and adrenal hormones, that Prof. Reichstein has made his most famous contributions. His partial synthesis of 11 deoxycorticosterone in 1937, and his isolation of corticosterone from adrenal tissue in the same year, were landmarks in this field of investigation, and from 1943 onwards his partial synthesis of the corticosterone-like series of adrenal steroids opened up possibilities which are still being explored. It was Prof. Reichstein's earlier researches that made ultimately possible the large-scale production of cortisone, a substance that has become of great importance in the treatment of rheumatoid arthritis and other diseases. Prof. Reichstein is still a comparatively young man, and it may confidently be expected that his outstanding contributions to the chemistry of products of natural importance will continue for many years to come.

Institution of Mining and Metallurgy: Awards

The Institution of Mining and Metallurgy has recently made the following awards: *Gold Medal of the Institution*, to Dr. G. K. Williams, in recognition of the importance of his work in connexion with research into the metallurgy of lead and zinc and the development of metallurgical processes; "*The Consolidated Gold Fields of South Africa, Limited*" *Gold Medal*, to H. E. Jeffery, for his paper on fire prevention and fire-fighting, with particular reference to the Kolar Gold Field (*Trans.*, **60**); "*The Consolidated Gold Fields of South Africa, Limited*" *Premium of Forty Guineas*, jointly to R. Cornthwaite and F. Juretic, for their paper on the sinking of an Irwin shaft at Roan Antelope copper mine (*Trans.*, **60**); "*Arthur Claudet*" *Student's Prize*, to T. A. A. Quarm, for his paper on a method for the preparation of high-purity indium metal (*Trans.*, **60**); and the "*William Frecheville*" *Student's Prize*, to A. P. Millman, for his part-authorship of the paper on heavy metals in vegetation as a guide to ore—a biogeochemical reconnaissance in West Africa (*Trans.*, **60**). Honorary membership of the Institution has been conferred on E. Hooper, past-president, in recognition of his services in the development of the Institution from its foundation sixty years ago, and on E. D. McDermott, past-president, in recognition of his services to the Institution and to mining and metallurgical education.

Scientific Research and Defence

The debate on defence in the House of Lords on April 23 provided no answer to the question whether Britain is using scientific men to the best possible effect in defence work. Lord Alexander of Hillsborough, in opening the debate, questioned the desirability of the Ministry of Defence being a rapidly expanding department; he urged that the critical question facing us to-day is that of the point in economic expenditure when we reach the limit of safety and security, and that we must be careful that we do not show that free nations can defend themselves only at the expense of bankruptcy. He raised one specific point of scientific interest regarding the value of the helicopter in anti-submarine; in reply, the Minister of Defence, Lord Alexander of Tunis, stated that it would be very useful for the visual detection of submarines in coastal waters. As regards research, the Minister of Defence stated that we are now employing many more scientific men on defence problems than we did before the Second World War, and they are making a remarkable contribution to our defence effort. The most important innovations usually result, he said, through scientific workers and engineers detecting the possibility of an extension or technical application of scientific knowledge, and the best results are achieved when the military officer and the technical expert meet on a footing of equality to pool their ideas. He believes that our