OBITUARY

Sir David Chadwick, K.C.M.G., C.S.I., C.I.E.

THE death of Sir David Chadwick on April 26 will be mourned throughout the British Commonwealth and indeed beyond. A man of vision and infectious enthusiasm, and with the great gift of lucid and persuasive presentation, he effected, quietly and imperceptibly except to a few initiates, a small but veritable revolution in Commonwealth relations.

Chadwick left the Indian Civil Service for family reasons while still in full vigour and with membership of the Viceroy's Council in prospect. He was forthwith, in 1927, appointed secretary of the Imperial Economic Committee. In the following year he added to this post the secretaryship of the Council of the Imperial Agricultural Bureaux. Indeed, he was the skilful midwife and patient nurse, if not the begetter of this organization, which is remarkable not only for the acknowledged excellence of its work in making available to the Commonwealth and the world at large the progress of research in the agricultural sciences, but also because it exemplified in its origin an entirely novel form of inter-governmental co-operation.

The Imperial Economic Committee, when Chadwick came to it, was, despite its name, a 'Whitehall baby', created and financed by H.M. Government in the United Kingdom. True, the other Governments of the Commonwealth were invited to nominate, and did nominate, representatives to sit on the Committee, and the Committee's reports were addressed to all the Governments. Nevertheless, the Committee was, in fact, solely the responsibility of the United Kingdom Government. But when the idea of the Imperial Agricultural Bureaux was conceived, Chadwick accomplished a veritable *tour de force*.

Recognizing the advance in Commonwealth relations implicit in the proceedings of the 1926 Imperial Conference, which ultimately was made explicit in the Statute of Westminster, Chadwick drafted a scheme whereby all the Commonwealth Governments were to become true partners in erecting, financing and administering the new organization. Then he circulated his draft and expounded it with a persuasiveness and enthusiasm that begat conviction. So was born, largely by the efforts of one man, a unique Commonwealth partnership.

A few years later, when after the Ottawa Conference the Empire Marketing Board was disbanded, the Commonwealth Governments asked the Imperial Economic Committee to carry on a large part of the Board's intelligence services as a co-operative Commonwealth enterprise, and decided to reconstitute the Committee on the Imperial Agricultural Bureaux model. Thus came into being a second Commonwealth co-operative organ. With an expanded but remarkably economical staff, Chadwick carried out the Committee's old and new functions with consummate success. The output of regular intelligence reports, weekly, monthly, quarterly and annually, and of *ad hoc* reports and world surveys, was interrupted by the outbreak of war. The work of the Imperial Agricultural Bureaux, however, was continued, and Chadwick remained at his post with a skeleton staff until peace returned and he could at last hand on the torch to his successors.

Chadwick had a passionate faith in the British Commonwealth—a faith that moved mountains. His shade will walk the Elysian fields happily and buoyantly, if the two Commonwealth organs, which owe him so much, continue to serve the Commonwealth and constitute for him a monument *aere perennius*.

ALAN GREEN

NEWS and VIEWS

Royal Society: New Foreign Members

THE election of Prof. Karl von Frisch, Prof. Otto Loewi, Prof. Karl Manne Georg Siegbahn and Dr. Otto Struve to foreign membership of the Royal Society was announced in *Nature* of May 8. The following notes survey very briefly the main fields of their scientific activities.

Prof. Karl von Frisch

THE work of Prof. Karl von Frisch, of Munich, has influenced our whole understanding of the chemical and visual senses of insects and other animals. In the past few years he has made outstanding contributions to our knowledge of behaviour with his studies on the methods of communication and orientation among worker honey bees. In 1919 von Frisch showed that bees could be trained to distinguish with high accuracy a great many different tastes and odours, and that the chemical senses of bees are in some respects similar to those of vertebrates. By a long series of conditioning experiments, he also showed that bees have well-developed colour vision, and he was able to establish with a considerable degree of accuracy the wave-lengths to which bees' eyes are sensitive. In 1923 he showed that information about the existence of rich sources of food discovered by a foraging worker could be communicated to other members of the colony by means of a characteristic form of dance executed on the

surface of the comb. This was followed by a series of papers (1946–51), from which it appeared that the methods of communication and orientation among bees reach a degree of precision and complexity hitherto undreamt of. He discovered the methods by which bees estimate the distance of the source and showed how they interpret information supplied by the returning workers. He established that landmarks are utilized for orientation, and above all he showed that the bee's eye is sensitive both to the plane and intensity of the polarization of light reflected from the unclouded sky. Bees are able to use these means of orientation even when the sun itself is invisible, and to retain in their memories, for a period of days, a pattern of polarization presented by the sky at a given time of day and to take into account the alteration of this pattern with the change in position of the sun.

Prof. Otto Loewi

PROF. OTTO LOEWI is best known for his work on the liberation of pharmacologically active substances at nerve endings. The similarity between the actions of certain drugs and the actions of autonomic nerves had suggested to various people that autonomic nerves might actually liberate drugs at their endings, but it was not until 1921 that Loewi, who was then professor of pharmacology in Graz, overcame the formidable difficulties of actually proving this to be