

Kingdom of silver pieces which gave way to copper as the State grew poorer, the whole standard being backed by gold. It is difficult to decide how far the balance was used for general purposes, as its representation on tomb paintings is almost confined to the weighing of gold, silver and precious stones, either domestically for distribution to the metal workers on private or public estates, or as a registration of income or taxes from within the State or of 'tribute' or prizes of war from abroad.

#### Sewage Purification

MR. JOHN D. WATSON, in his presidential address delivered on November 5 to the Institution of Civil Engineers, dealt with the phases of public works which have engaged his attention for more than half a century, and showed how the development of sanitation and improved water-supplies has brought about a very considerable reduction in the death-rate. He spoke of the Iddesleigh Commission, the reports of which showed that the disposal of sewage into an adequate volume of clean water—either salt or fresh—is sound and proper, not only on the grounds of efficiency and economy, but also on strictly scientific principles. As a matter of principle, purification by land-irrigation is sound and still fairly popular. Percolating filters are now popular, and while this method of purification has a direct relationship to the contact-bed method, it produces a more consistently uniform effluent, is more generally reliable and the operating costs are less. Although almost unknown twenty years ago, bio-aeration or activated sludge is now established beyond question as one of the most useful methods of sewage purification. It has proved itself to be scientifically sound, and, when the plant is well designed, it is economical and freer from nuisance than any method yet discovered. Having stated the most desirable lines for future development and discussed several noteworthy schemes, Mr. Watson emphasised the extent of loss resulting from lack of co-operation, and concluded his address by pointing out that, while the nation owes a great deal to the Ministry of Health, there is still much to be done before the goal is reached when there will be no river-pollution. In his opinion, a central authority is necessary, and this should be the Ministry of Health rather than the *ad hoc* body suggested by the Royal Commission, provided that power is given to set up a research department wide enough to include the excellent work which has been done in recent years by the Water Pollution Research Board.

#### South African Association for the Advancement of Science

THE South African Association for the Advancement of Science held its annual meeting at Paarl on July 1-6. On July 1, Prof. M. M. Rindl, professor of chemistry in Grey University College, Bloemfontein, president of the Association, delivered an address entitled "A Plea for the Establishment of a National Research Council and for the Limitation of a National Research Policy in South Africa". Replying to criticisms of the Association and its policy, Prof.

Rindl said that provision of funds for fostering research in the form of fellowships, scholarships and research grants in South Africa is not ungenerous. Much of this is directly attributable to the persistent agitation of the Association. In its early days, the Association and the Royal Society of South Africa were the only bodies providing research grants from their own funds. Furthermore, the annual award of the South Africa Medal and Grant to a prominent research worker in South Africa has done much to stimulate competition among investigators. As a result of the Association's action, a national committee of intellectual co-operation has been appointed, and it is hoped that the outcome will be the establishment of a National Research Council, and the inauguration of a national research policy on lines similar to those adopted in Great Britain, the Dominions and in many industrialised countries overseas. Another activity of the Association has been to appoint a committee to collect authentic data of the early history of scientific endeavour and industrial achievement in South Africa. With this end in view, the committee is approaching pioneers of science and industry to place on record their reminiscences and the history of the development in the industries which they founded, or with which they have been associated.

At the conclusion of his address, Prof. Rindl presented the South Africa Medal and Grant to Dr. Edwin Percy Phillips, and the British Association Medal and Grant to Miss Margaret Orford. His Excellency the Earl of Clarendon, Governor-General of the Union of South Africa, has graciously accepted the invitation of the Council to become the president of the Association for the year 1935-36. This will be the thirty-fourth annual session and will be held at Johannesburg. For this year the Association is departing from its normal procedure of meeting in July, and the Johannesburg session will be held on October 5-10. Members attending the meeting thus will have opportunity of visiting the Empire Exhibition, which is being staged for several months in Johannesburg.

#### Mellon Institute of Industrial Research

IN accepting the Chemical Industry Medal for 1935, at the meeting of the American Section of the Society of Chemical Industry, at the Chemists' Club, New York, on November 8, Dr. Edward R. Weidlein, director of the Mellon Institute of Industrial Research, Pittsburgh, Pa., described some of the scientific investigations at the Institute. The Mellon Institute is an industrial experiment station, a training school for industrial scientific workers, a centre for research in pure, as well as applied, chemistry, and a clearing-house on specific scientific information for the public. Dr. Weidlein said that the Mellon Institute has shown about 3,600 American companies, either as individuals or as members of industrial associations, that scientific research, properly carried out, is profitable to them. Most of the problems accepted for study during 1911-35 have been solved satisfactorily. The Institute has also