

## News and Views

Sir Leonard Rogers, K.C.S.I., C.I.E., F.R.S.

THE award by the Royal Society of Tropical Medicine of the Manson Medal to Sir Leonard Rogers will be felt by all to be a fitting recognition of outstanding contributions not only to tropical medicine in general, but particularly and almost uniquely to the practical application of therapeutic measures in the treatment of some of the most important major tropical diseases. As a result of his studies of biochemical and other changes in cholera, that most dread and dramatically fatal of all tropical diseases, Sir Leonard Rogers introduced the use of hypertonic saline injections at a time when such forms of treatment were little used. Further, to his untiring energy in directing attention to the necessity of taking active steps to combat the critical stage of the disease by this and other methods, many advances in the treatment of cholera owe their origin. The introduction by Rogers of antimony treatment of kala-azar in India, and his early efforts to improve the form of administration of the drug as well as to extend its application, was very largely responsible for later great advances in the treatment of this disease by organic antimonial preparations and for the remarkable developments which were later introduced for combating kala-azar on a large scale in India. By his insistence on the value of emetin in amoebic dysentery and by his introduction of the soluble salts of emetin, he very greatly stimulated the use of this valuable drug in the treatment of amoebic dysentery in all parts of the tropics. It was also his unflagging interest and insistence on the treatment of leprosy that led to so much attention being directed to the gynocardates, now widely used. Among contributions of a more academic type may be mentioned the discovery of the flagellate stage of the parasite of kala-azar, early researches on malaria and studies on the epidemiology of cholera. To the energy and initiative of Sir Leonard Rogers must also be ascribed the establishment of the Calcutta School of Tropical Medicine, the first large institution of the kind in the tropics.

### Prof. A. Smithells and Salters' Institute Fellows

IN appreciation of advice and assistance rendered by Prof. Arthur Smithells while director of the Salters' Institute of Industrial Chemistry from 1922 until his retirement last year, a group of fellows of the Institute has made a presentation to him of a set of silver beakers suitably inscribed. Subscribers to this token of gratitude and affection were, with one or two exceptions, limited to those who held fellowships during Prof. Smithells' term of office as director. The Institute is maintained by the Salters' Company and has two main activities: training of selected graduates in applied chemistry, by means

of fellowships, in Great Britain or abroad, and assistance by means of grants for fees and books to young men employed in chemical works who are attending evening classes. To the selection of the fellows, Prof. Smithells gave much thought and attention, and already many of them are filling important posts in chemical industry, this being the object for which the Company maintains the fellowships. He devoted also a very sympathetic consideration to those who were awarded grants, having regard to all the circumstances of the applicants, who are analogous to the apprentices of former days in whom the City companies took a living interest. About fifty of the former fellows who were selected during Prof. Smithells' time, as mentioned above, have now testified to their regard for the former director, and for the help he gave them in the important stage between the university and entrance into industry, by the recent presentation to him.

### Disorderly Molecules and Refrigerating Engineering

SIR FRANK SMITH in his James Forrest Lecture to the Institution of Civil Engineers on May 3 pointed out that in recent years very low temperatures (that is, great reductions of molecular motion) have been attained, and the properties of materials at very low temperatures have been studied. The corresponding advance in engineering technique has resulted in the development of refrigerating engineering. The Joule-Thomson effect, whereby the work done in separating the molecules of a gas allowed to expand from a high pressure results in the gas being lowered in temperature, is used in many commercial processes for cooling gases, and in some cases for liquefying them. In order to obtain pure gases from air, the process of rectification is employed. The process depends on the fact that when equilibrium exists between a mixture of two liquids and the vapour it gives off, the composition of the vapour is always different from the composition of the liquid if the two liquids in the mixture have different boiling-points. For example, oxygen boils at 90° K. and nitrogen at 77° K., and when equilibrium exists between liquid air and the vapour above, the vapour contains about 7 per cent of oxygen and 93 per cent of nitrogen. The separation of oxygen and nitrogen by rectification is therefore carried out by allowing liquid air to drop slowly into liquid oxygen; the vapour given off by the latter condenses as it comes into contact with the drops, while part of the nitrogen in the drops simultaneously evaporates, and if the drops are sufficiently small and fall very slowly, all the nitrogen evaporates before the drops reach the vessel containing liquid oxygen. The process is continued, with the result that the gas becomes steadily richer in nitrogen. Other gases can also be extracted from the air by low-temperature separation.