After a short interval in Heidelberg, Traube migrated to Bonn, where he worked as assistant at the Agricultural Academy. It was there that he began his studies of the viscosities and surface tensions of liquids. So early as 1891 he expressed the opinion that the molecules forming adsorbed films at the surfaces of solutions obey equations of state analogous to those of three-dimensional gases, the area per molecule being the analogue of the molecular volume, and the lowering of surface tension that of the gaseous pressure. This time Traube anticipated the march of scientific opinion not by two but more nearly by thirty years, for it was not until the impetus given to the study of surface phenomena by Hardy, Langmuir and Harkins had made itself felt that the correctness of his view was firmly established by Adam (1921), Volmer (1925) and others.

Already in 1885 Traube had shown that with members of a homologous series dissolved in water (for example, the lower alcohols or the alkyl acetates) equal lowerings of the surface tension of the water were produced by concentrations which decreased *geometrically* about three-fold for each additional CH_2. In much later work he extended a form of this generalization (Traube's rule) to adsorption at liquid/liquid and solid/gas interfaces, although he was careful in this last case not to confuse the affinity or free energy of adsorption, to which the rule would apply, with the saturation capacities of the surface, to which it would not.

Traube found a practical outlet for these discoveries in the assessment of the fusel oil contents of spiritous liquors. He also applied his theories of film formation and surface activity to explain the viability of drugs in living tissues (1904). Ever since its formulation, Traube's theory of drug action has exercised a profound influence on pharmacological research, and perhaps to-day more than holds its own against the rival lipoid solubility hypothesis of Overton and Meyer. Traube's other studies included such diverse subjects as the molecular volumes and intrinsic pressures of pure liquids (1895–1920), the theory of critical phenomena (1902), colloidal gold, the theory of catalysis (1913), the stability of matter in the submicronic state of division (1928–29) and the froth flotation of minerals and of organic chemicals.

A careful experimenter and possessing an exceptionally penetrating mind, Traube was never overelaborate either in his laboratory techniques or in his formulation of theories. Unlike those of his great contemporaries, Nernst and Ostwald, his writings were never pontifical, and, so far from their becoming current dogma, it was left to later generations of chemists to appreciate their essential merit.

After holding for a third of a century the title of 'extraordinary' professor at the Technische Hochschule, Berlin, Traube came as an *émigré* to Britain in 1934. He settled in Edinburgh, where he was welcomed as a guest of the University. Active-minded to the last, he completed shortly before he died the manuscript of a book of reminiscences. To this and to his surviving daughter, Dr. S. Boas-Traube, I am indebted for the biographical details given in this note. D. H. BANGHAM.

WE regret to announce the following deaths :

Mr. J. S. Addison, deputy chairman of Courtaulds, Ltd., and chairman of the scientific advisory committee of the Empire Cotton Growing Association, on December 15.

Mr. Edward A. Martin, formerly secretary of the South-Eastern Union of Scientific Societies, on December 14.

Mr. H. F. Witherby, M.B.E., the well-known ornithologist and publisher of works on natural history, on December 11, aged seventy-three.

NEWS and VIEWS

A Programme for Reconstruction

THE statement, "Forward—By the Right", issued by the Tory Reform Committee (Pp. 16. Tory Reform Committee, House of Commons, London, S.W.1), is of considerable interest to scientific workers as indicating principles and objectives on which there is a large measure of general agreement, however widely opinions may differ as to the measures by which the objectives are to be attained. Eight principles are enunciated and illustrated : national unity ; empire unity ; the interdependence of nations ; the full development of resources ; the practical approach ; individual freedom ; trusting the people ; and finally, that of first things first. Much general support will be found for the view that in Imperial affairs attention should be transferred from abstract questions of political status to such practical problems as Imperial defence, air and sea transport, broadcasting and communications, education, research, economic development and migration. In regard to the interdependence of nations, it is urged first that those military organizations for consultation and joint action which exist between the United Nations should be maintained, and also those organizations such as the Middle East Supply Centre which could be adapted to the needs of peace and assist in removing the causes of dispute. The International Labour Office and the Hague Court should be revived and such joint enterprises as are exemplified in the Hot Springs Conference developed. While mutual co-operation and understanding between the British Commonwealth, the U.S.A., the U.S.S.R. and China must form the basis for establishing a framework of stability, the final framework of any world organization will require a broad foundation.

Under the development of resources, the Statement, after emphasizing the necessity of a policy of full employment, including Empire development, agriculture and the development of exports, calls for the devotion of far greater resources in men and money to scientific and technical research, including provision in the educational system of Great Britain for the increased numbers of trained scientific workers required. On the question of planning, the Statement is not clear, but it emphasizes the necessity both of ample statistical and other information as a basis, as well as ensuring that the objectives of policy command general support. Dealing with public control, it is advocated that the public interest should be the decisive test ; private profit is not accepted as the sole test of public advantage. The peace-time essentials are regarded as, first, the retention