

form free from the objections raised by German critics: there can be little doubt that Ramsey would have returned to this subject and further developed it. He has written on 'universals' in *Mind* (Oct. 1925), and on mathematical logic in the "Encyclopædia Britannica" and elsewhere. Two papers in the *Economic Journal*, on the mathematics of taxation (March 1927) and of saving (December 1928) must be mentioned, on account of the high praise bestowed upon them by economists competent to judge.

This scanty list reveals the bent of Ramsey's mind. As a student he proved himself a mathematician of exceptional gifts, but his interest and strength lay in the application of mathematics to problems of philosophy or economics. His main interest was in the very difficult boundary region between mathematics and logic: in this he was already recognised as an authority. For a truer appreciation of him as a man we must turn to his contemporaries, his friends and colleagues. To them, Frank Ramsey seemed to tower over his fellows intellectually even as he did physically—for he stood 6 ft. 3 in. or thereabout and was of unusually sturdy build. What Ramsey might have achieved, how grave the loss to learning in his untimely death, they cannot tell; but the memory of a friend who combined unrivalled powers of mind

with an unassuming simplicity of manner and character will remain.

Ramsey married in 1925, Miss Lettice Cautley Baker, and leaves two daughters. At the end of November he was attacked by influenza, the ill-effects of which persisted. At length an operation was judged to be inevitable, and after it he died.

WE regret to announce the following deaths:

Prof. Charles Julin, member of the Belgian Royal Academy of Sciences and formerly professor of comparative anatomy in the University of Liège, known for his work on the morphology and embryology of the Tunicates, on Feb. 5, aged seventy-three years.

Dr. E. D. Roe, Jr., director of the observatory and for twenty-nine years professor of mathematics at Syracuse University, known for his interest in pure mathematics, the testing of objectives and double stars, on Dec. 11, aged seventy years.

Prof. Eduard Study, emeritus professor of mathematics in the University of Bonn, author of works on the geometry of dynamics, on ternary forms, spherical trigonometry, orthogonal substitution and elliptic functions, on Jan. 6, aged sixty-seven years.

Prof. A. V. Vasiliev, of the Universities of Kazan and Leningrad, who was distinguished for his work on the theory of numbers and mathematical philosophy and was instrumental in establishing the Lobachevski prizes for works on non-Euclidean geometry and mechanics, on Oct. 6, aged seventy-six years.

News and Views.

RATIONALISATION, especially in reference to the chemical industry, was the subject of a paper by J. Davidson Pratt, general manager of the Association of British Chemical Manufacturers, read at the University of Bristol on Feb. 6. The general principle that exact knowledge should be the basis of industrial policy was most clearly stated: and of course the principle is in practice recognised more generally in the chemical than in other industries. Imperial Chemical Industries and the German I. G. are well known. Chemistry involves so obviously the problem of research and co-ordination of results that the tendency to large scale and long range thinking in the industries dependant upon a knowledge of chemistry can scarcely be resisted. Mr. Pratt was in fact preaching to the converted. But the conversion, as he pointed out, has not gone far enough. Besides the important issues with which he dealt there are others. National 'rationalisation' on the basis of amalgamation or association of firms gives the group so united a great *political* influence, which in practice has been used for the introduction of protective tariffs and the maintenance of high prices within the tariff-wall. It is quite useless to say that the consumer should not suffer. He will, unless policy prevents it, and the policy of a national amalgamation in any trade is never in favour of the consumer at home, unless competition is feared from abroad. But even international agreements may be aimed only at keeping prices up.

In Great Britain, however, we have still a long way to go towards standardisation and amalgamation in most industries before any danger to the consumer

need be feared. For example, the coal industry seems still to be thought of, even by its reformers, as a separable industrial unit. But would not true rationalisation be based upon the *uses* of coal, not the mere getting of coal? Chemistry has scarcely been used by those who have controlled the policy of coal-getting. They have provided productive industry and the private consumer with primitive lumps of a natural product and given no attention to research either for power supply or for by-products. If one may venture upon political issues, neither the Samuel Report nor the present Government's Coal Bill has envisaged the chemical connexions of coal. The whole industry is pre-scientific. The chemists have still a large field to enter, outside what are called the chemical industries. The danger, indicated but not emphasised by Mr. Pratt, is that the financier and industrialist will not go far enough in the application of scientific knowledge and the promotion of research. It is very tempting to 'rationalisers' to be satisfied with a collection of meaningless statistics as to existing processes or methods.

NEVER before in the history of the world have greater or more momentous issues presented themselves in the political sphere than those which now confront us. Even the greatest of all at any time, that of peace or war, though not now a direct or immediate issue, can never be far away but lurks as a sinister phantom in the background. There is thus the greater need on the part of the electorate in any democracy for intelligent apprehension of the many difficult and intricate political problems which call so urgently for solution—and the political here neces-