(yet not useless) pastimes. Thus, to select one instance, full sets of pieces of cardboard are required: all the pieces of a single set are to be of the same shape (usually triangular, or square, or hexagonal) and of the same size : they are to be coloured, each, for example, with three out of four colours, while no two are to be coloured in exactly the same way. By the adoption of definite rules for combining the pieces of a set, a large number of different forms can be obtained, each such form being a geometrical pattern. Each pattern can be repeated so as to provide a general symmetric design. The designs can be utilised in a variety of ways : for humble wall-paper, for mosaics and woven fabrics, for the refined ornament of architecture. In a small volume entitled " New Mathematical Pastimes ", published in 1921 by the Cambridge University Press, he gave an account of these recreations, at once light and serious : the contents are entirely his own creation.

MacMahon's investigations extended over nearly half a century. Many in number, diverse in range, they constitute a fine contribution to his science, and they assure him an honourable place among the prominent pure mathematicians of his generation.

A. R. F.

Prof. T. Brailsford Robertson.

News has been received of the death on Jan. 25, from septic pneumonia, of Prof. Brailsford Robertson, of the University of Adelaide. His premature death, at the comparatively early age of forty-five years, removes one of the most active and valuable workers from biochemical research, and is a very serious loss to the recently instituted movement for the more rapid application of biological knowledge to the development of animal husbandry in Australia.

Thorburn Brailsford Robertson was educated at the University of Adelaide. In 1904, attracted by the work of the late Jacques Loeb at the University of California, he went there as a research student in biology and for several years worked in close collaboration with Loeb, and eventually succeeded him as professor of biochemistry and pharmacology at Columbia University in 1916. In 1918 he was called to the chair of biochemistry at the University of Toronto in succession to Prof. A. B. MacCallum, and in 1920 he returned to Adelaide as professor of biochemistry and general physiology in succession to his father-in-law, the late Sir Edward Charles Stirling.

From 1920 until the time of his death, Prof. Brailford Robertson occupied a prominent position in Australian biological science, both in pure research and in the application of the results of research to industrial problems. He was one of the founders of the *Australian Journal of Experimental Biology and Medical Science*. When the Commonwealth Council for Scientific and Industrial Research was instituted a few years ago, he was invited to become the chief officer in charge of investigations on the nutrition of animals. To enable him to devote the major part of his time to this work, he was relieved of teaching at the University,

though he continued to be a member of the Senate, so that his experience might be available in developing the school of biochemistry and physiology at the University.

Prof. Robertson was an assiduous worker and a prolific writer. He did most important work on the physical chemistry of the proteins, and later conducted long and laborious research on problems of growth and senescence. Among the problems of general physiology to which he made valuable contributions may be mentioned allelocatalysis as a factor in the multiplication of infusoria, the permeability of cells and the underlying physico-chemical principles involved in cell division. In addition to numerous papers in scientific journals, he published " The Principles of Biochemistry " and other two works, namely, " The Physical Chemistry of the Proteins " and " The Chemical Basis of Growth and Senescence ", in both of which he incorporated the results of his own original work on these subjects.

Prof. Robertson had a stimulating personality, and, as a lecturer, had the gift of imparting his new enthusiasm to his audience. His death will be deeply regretted in scientific circles, especially in North America and Australia, in both of which continents he exercised a great influence in the development of biochemistry, both as a science and in its application to practical problems. The loss of his profound scientific knowledge and great experience in organisation will be a very serious blow to the work of the Commonwealth Council for Scientific and Industrial Research.

J. B. O.

Mr. F. P. Ramsey.

The death on Jan. 19 of Frank Plumpton Ramsey at the early age of twenty-six has cut short a life which bore exceptional promise of eminence in mathematics and philosophy. The elder son of Arthur Stanley Ramsey, now President of Magdalene College, and the author of well-known treatises upon subjects in applied mathematics, Frank Ramsey was born in 1903 and passed his boyhood in Cambridge. From King's College Choir School he became first a scholar of Winchester, and then a scholar of Trinity College, Cambridge : in 1923 he graduated in the first class of the Mathematical Tripos, with distinction, and in 1924 was elected to the Allen (University) Scholarship. At the time of his death he held a University lectureship in the Faculty of Mathematics, and was a fellow and director of studies at King's College, Cambridge.

It could not be expected that Ramsey's published work would fill a large number of pages ; yet there is enough to prove the distinction of his mind and powers. The London Mathematical Society has printed two weighty papers, " The Foundations of Mathematics " (1926) and " On a Problem of Formal Logic " (1929). The former, written after Ramsey had become acquainted with the work of Wittgenstein, is probably his most important original production. In it he aims at presenting the general method of Whitehead and Russell in a