include the first test as part of some instructive and amusing game in the ordinary school curriculum, and this without feeling that colour tests were the 'last straw'; there seems scope here for some invention by an educationist who is prepared to study the problem.

The report speaks in various places of the desirability of having well-printed cards for confusion chart tests, adequate lighting, proper refractive corrections, etc.: but these remarks do not appear adequately to reflect the immense importance which is rightly attached by the public to uniformity and justice in tests of this kind. In regard to one calling, the trade union concerned has taken a most active interest in such matters, and was reputed to go so far as to coach candidates in the tests. Even the school 'screening' tests should be uniform in character and adequately planned; a set of grimy cards, half-seen in a bad light, may make more trouble than they are worth. There are people who misunderstand the objects of such tests, and are capable of purchasing a set of cards for study in an attempt to defeat the examiner. If the screening test should be carefully conducted, this applies even more forcefully to the case of the testing of the doubtful cases classed in the report as Group IIa. In spite of the convenience and undoubted effectiveness of the confusion chart method, the report leaves one with the impression that there is no guarantee that different sets of cards, even of the same supposed character, will not differ appreciably among themselves. This may not matter for a first screening test, but seems a serious drawback in the case of the decision (often difficult to make) as to whether a candidate is admissible to a particular vocation.

It may be that some means can be found of ensuring that confusion chart methods are properly controlled both in the production of the charts and their condition of use; but in this connexion my own experiences in an attempt to produce a standardized colour vision lantern may be of some interest.

In reviewing 'lantern' colour vision tests for entry to the Royal Navy, Commander Macleod found that there were considerable differences among the actual lanterns employed. A committee of the Medical Research Council, to which I had the honour of being co-opted, proposed to make the Board of Trade lantern test, known and well proved over a long period of time, the basis of a lantern test for the Royal Navy. The new lantern as re-designed, and made by Messrs. Kelvin Bottomley & Baird, Ltd., gives almost exactly the same effects as the Board of Trade lantern, except that perhaps the luminous equality of the lights is somewhat closer. Exact equality is too elusive a fox to chase, but by the helpful co-operation of the National Physical Laboratory and the makers, we were able to formulate a set of tolerances to which all lanterns could be produced, but not without considerable effort and care. A good many lanterns have had to be corrected before they passed the careful tests of the National Physical Laboratory. This lantern is the only one, so far as I know, which is regularly produced to conform to the Laboratory's specifications. This question of guaranteed equality and testing is not mentioned in the section of the report dealing with lantern tests, though it is the essential feature of the new lantern.

I have been at some pains to emphasize this question of uniformity because I feel that the vocational tests in particular are too important to be left to somewhat haphazard methods. The report comments,

very justly, that if an electrician is tested by a matching test, using wires having clean coloured wrappings seen in a good light, he may not find the same difficulty that he does in practice when the light is poor and the wrappings dirty or faded. On the other hand, there are all degrees of dimness of light and fading, and it is possible that a person who failed in a supposedly 'realistic' test with one concern might pass in another. This may not matter much in the case of small industrial undertakings, which can please themselves about the tests they employ; but if, for example, entry to the Civil Service depends on a test, it ought to be reasonably uniform. On the bases of their possible standardization, and the satisfaction of the candidates with the tests, 'lanterns' have at present some claim to be considered for tests in cases other than those of mariners and transport workers. Every practical test is, in some degree, arbitrary.

Apart, however, from matters of secondary importance, the report should be of great public service in providing for the first time a clear general picture of the problem, and the lines along which its solution should be attempted. The rewards of success will lie in a small but definite improvement in the efficiency of industry, and (much more important) the avoidance of the disappointment and difficulty which may invade the lives of those who are unfortunate enough to suffer from defective colour vision. It is much to be hoped that the report will be carefully read by all educational authorities and persons concerned with recruitment for industry and the professions.

L. C. MARTIN

OBITUARIES

Dame Margaret Tuke, D.B.E.

THE largely attended memorial service in St. Paul's Cathedral on March 11 was a tribute to the memory of a woman who gave the best years of her life to the cause of women's education and who, by her inspiration and leadership, brought Bedford College to the forefront of British university colleges for women.

Dame Margaret Tuke, who died on February 21 at the age of eighty-four, was the daughter of James Hack Tuke, of Hitchin, Herts. She was educated at St. John's, Withdean, Brighton, from which school she proceeded to Newnham College, Cambridge, where she read for the Medieval and Modern Languages Tripos. She was appointed to a lectureship in modern languages at Newnham in 1890 and continued in Cambridge until 1905, in which year she accepted the tutorship to women students and a lectureship in French at University College, Bristol. After two years at Bristol, she was appointed principal of Bedford College for Women, then occupying inadequate buildings in Baker Street, London. During Miss Tuke's tenure of the principalship, the College grew in size and importance, and its academic standing became firmly established. It was moved to its present site in Regent's Park and, largely owing to her initiative and energy, extended its range of studies considerably, especially in the natural sciences. Laboratories for botany, chemistry, geology, physics, physiology and zoology were opened, designed to provide adequate facilities for advanced teaching and research work. Additions were also made to the number of subjects in the Faculty of

Arts for which teaching was provided, and Bedford College became one of the most important as well as the largest of the colleges for women in the universities of Great Britain.

Dame Margaret's services to the University of London were notable. It was only four years after her appointment to Bedford College that she was elected to represent the Faculty of Arts on the University Senate, and she was repeatedly re-elected in this capacity until her retirement in 1929. It was very unusual for the head of a college to be elected by the professors, readers and teachers of a faculty as one of their Senate representatives; but the Faculty of Arts had been quick to recognize the administrative ability of the new principal of Bedford, and to see that she would be a tactful advocate of their views. She was an active member of the Academic Council from 1911 until 1929, and also served on a score or more of Senate committees dealing with a wide range of matters, scholastic and social. Of some of these she served as chairman, notably of the University Scholarships Committee, to the work of which she devoted much time when the annual awards were under consideration. Her views on university matters commanded attention and respect. She was responsive to new ideas and encouraging to the younger generation and to colleagues who desired to see improvements made in courses of study or examinations. For her services to education she was created D.B.E. in 1932. The honorary degree of D.Litt. was conferred upon her by the University of Reading in 1937. She was a fellow of Newnham College, Cambridge, from 1905 until 1936.

Dame Margaret was unassuming in manner and blessed with a quiet charm and a ready smile—sometimes said to be a disarming asset. There are gifts of courtesy and kindness which are always recognized and are particularly valuable in one holding an administrative appointment, for they serve to soften the unavoidable asperities which such an office may involve. Dame Margaret Tuke possessed these gifts in a very special degree, and leaves behind her a memory which is sweet and fragrant—a memory which those who were privileged to know her will always treasure.

FRANK HORTON

Prof. P. M. Roxby

PROF. PERCY MAUDE ROXBY, as his second name and surname imply, belonged by descent to families long known for service to our public life, especially in the Church. He was the youngest son of the Rev. H. M. Roxby, vicar of Buckden, Hunts, and it is highly characteristic that he had taken a house at Buckden with a view to retirement there, so deep were his attachments to the rural tradition of England, in spite of all the devotion he had lavished upon the University of Liverpool and its students over a period of forty years.

Born on November 21, 1880, Roxby was educated at Bromsgrove School and Christ Church, Oxford, to which he went with an open scholarship in history. He followed this up by gaining the Gladstone Memorial Prize in 1902 and a first-class in modern history in 1903. After graduation, he studied under Prof. A. J. Herbertson, then recently settled in Oxford as head of the Geography Department. Before he had completed his projected scheme, the University of Liverpool inquired for someone to teach geography,

and Herbertson sent Roxby to begin what was to be a great life-work as a teacher. After various preliminary stages he was given a full lectureship with the responsibility for geography in the University of Liverpool in 1908. He was awarded the Albert Kahn Travelling Fellowship in 1912 and visited the United States, India and China, beginning in connexion with the last-named what became a life-long attachment and devotion. In 1917 a new chair of geography was given to Liverpool in recognition of Roxby's work, and he held the professorship until 1944.

Roxby's welcome to foreign students in his department brought him notable recruits, including some like Prof. Chang from China and Profs. Amer, Awad, Huzayyin and others from Egypt. He was given leave to act as a member of the China Education Commission in 1921 and, with this added experience of the East, he wrote valuable articles to help teachers and students to understand and interpret China. In 1930 he was invited to act for a year as visiting professor in the Egyptian University at Cairo, where some of his students were implanting his tradition. In the same year he became president of the Geographical Section of the British Association for the Advancement of Science, and his address was a notable plea for the humanist approach to geography.

Under such a vital teacher, the friend of all his students, the Geography Department at Liverpool grew and became one of the acknowledged sources of strength of the University. In addition to lectures, discussions, and help with essays and theses, Roxby gave his time without stint to his students and their problems, personal as well as scientific. He also spent perhaps too much of his time and strength on geographical, educational and international study groups up and down the country without thought of fee or reward. His position as an acknowledged leader of efforts for international understanding became clear as the years passed, and he devoted much thought to committees promoting cultural relations with China and Chinese universities. This ceaseless activity perhaps lessened his output of printed work, but he contributed articles on China to the "Encyclopædia Britannica" and to various reviews, and this culminated in his editing of the Naval Intelligence Handbook on China printed for official use during the 1939-45 war period. It is greatly to be hoped that this monumental work, to which he contributed so much, may soon be made available for general use.

During the War, Roxby's school of geography was to a large extent evacuated from Liverpool to Harlech, and Roxby became for a while responsible for the part of the University of Liverpool installed in that beautiful mountain region, which made a strong appeal to him and led him to encourage students before and after graduation to concern themselves with studies of Wales. If, however, China, Egypt, Lancashire, East Anglia and Wales held his special interest, as a stream of publications by his students indicates, his sympathies were universal, and all superiority complexes were alien to his open mind, which yet maintained a strong loyalty to his own origins.

In 1944 the British Council invited Roxby to become its chief representative in China, and this led him to anticipate his retirement from the University of Liverpool, where he had for so long been an outstanding and beloved member of the professorial staff. He had married in 1941 Miss M. P. Howden, lecturer in history in the University, and with Mrs.