

in the obliteration of "many-valued functions" without any simple phrase to replace what we were talking about.)

The Editor tells me that other correspondents deal with Mr. Pargeter's third letter.

*Hele's School,
Exeter*

Yours sincerely,
J. V. WILD

OBITUARY

ARTHUR JOHN MOAKES, M.A.

A. J. Moakes (Jack) came to St. Paul's School as a scholar from Thornton Heath Preparatory School in 1923 and went to Trinity College Cambridge as a science scholar in 1926. He gained a first class in Part I of the Maths Tripos in 1927, was a wrangler in 1928, and went on to take the Natural Sciences Tripos in 1929. After a short time teaching at Berkhamsted he returned to St. Paul's as a master and spent almost the rest of his teaching life there. He left St. Paul's in 1967 and took a part-time post at Southlands College of Education until he retired in 1969.

He taught mathematics and physics in the eighth forms where his success as a teacher was reflected by the many scholarships and subsequent firsts won by his pupils. He was scoutmaster of one of the school troops where his wide tolerance, friendliness and sense of humour endeared him to boys of every type. His interest in sea scouting led to annual camps on the Norfolk Broads—for both scouts and non-scouts—which are still a feature of life at St. Paul's. During the war he accompanied the school on its evacuation to Crowthorne and served with the Home Guard. He became head of the mathematics department in 1956.

In recent years Moakes was acknowledged as one of the leaders of the movement to liberate school mathematics, and most of the important things that he carried out were to this end. He developed an interest in desk calculating machines which led to his first book *Numerical Mathematics* published in 1963. It is a tribute to this early work that these machines have been accepted as a teaching aid at all levels in schools throughout the country.

The beginning of the last decade saw Moakes, worried by the widening gap between the traditional mathematics of that time and the developing University courses, writing his second book *The Core of Mathematics* which was designed to help the sixth former across that gap. At the same time he was leading St. Paul's to be one of the original members of the School Mathematics Project (S.M.P.). He became unhappy about the way S.M.P. was developing at 'A' level in those early days, so he joined the North London Schools Branch of the Mathematics in Education and Industry (M.E.I.) Project and played a vital part in the development of the 'A' level syllabuses produced by that group.

During this time his writing commitments were increasing. He became editor of the Introductory Monographs in Mathematics, a series published by Macmillan, wrote with Hugh Neill his third book *Vectors, Matrices and Linear Equations* and embarked with Peter Croome and Tony Phillips on the massive series of books *Pattern and Power of Mathematics* which is still in the process of publication.

He spent much of his holidays lecturing at teachers' courses and mention should be made of two courses in particular. First, he was a member of the first group of teachers to go to Kenya in 1965 to help introduce 'modern mathematics' into East Africa. He was also an annual contributor to the ministry course first at Hull and then in Brighton.

But undoubtedly Moakes felt that his most important role in the last five years was in the field of examining. He had an extraordinary gift for setting questions and as a moderator he was extremely kind, helpful and constructive. In one way or another he was concerned with the early S.M.P. examinations both in Elementary and Additional Mathematics, the St. Dunstan's examinations, and various other work for the Oxford Local, the London, the Cambridge Local, the Northern Ireland Examination Boards, and the Cambridge Scholarship papers. But it was as setter, moderator and general coordinator of the M.E.I. examinations that he felt he was making his most valuable contribution, and where he will surely be most missed in the mathematical world. The success of these examinations owes much to his firm guidance and gentle inspiration.

In addition to all this, he still found time to be an extremely active member of his local Congregational church.

His many friends and colleagues will all join in thankfulness for the inspiration of his life. He leaves a widow and three children.

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A. C. HEATH
HUGH NEILL

REVIEWS

Primary Mathematics Today. By E. M. WILLIAMS and HILARY SHUAED. Pp. x, 462. £5. 1970. (Longman.)

This is primary mathematics as it should be today and as it will surely be tomorrow. If the essence of the book were to be conveyed in one sentence, this might be: controlled discovery by the child of significant forms and patterns. That the child should discover rather than be told is a principle which, though it goes back at least to Vives, has only been generally accepted in recent times, and its application has hardly yet been fully explored. Happily, the belief that children provided with an ample supply of Fletcher trolleys and Atwood machines will, by themselves, discover Newton's laws of motion is not now as widely accepted as once it was, but the problem of control and guidance remains delicate. The authors, fortunately, are no believers in imposing on the teacher a catalogue of "Thou shalt..." and "Thou shalt not..."; such dogmatism merely cramps the good teacher, while persuading the mediocre that