

found that we need another axiom to say that if \mathbf{b} is perpendicular to \mathbf{a} , then \mathbf{a} is perpendicular to \mathbf{b} , and one or two other more subtle assumptions will appear as necessary before we can proceed to angles and angle-sums.

It is a tragedy that Geoff Sillitto did not live to work out in detail these ideas which were taking shape in his mind in his last year, and to develop more systematically the geometry which Scotland is now being asked to learn. But I hope I have shown that there was logic in the conception, even if the realization of it has been faulty.

Yours sincerely,

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To the Editor, *The Mathematical Gazette*

DEAR SIR,

To supplement the proposals made by A. K. Austin in his article "Finite and Infinite Sets" (*Mathematical Gazette*, February, 1968) it should be possible for the sixth form pupil to appreciate that to take the existence of the infinite set as an axiom is parallel to taking the Law of Uniformity as an axiom in Inductive Logic. The ground of logical induction is the relation of Causality. This is a complex relation involving two principles:

Causality—every event has a cause.

Uniformity—under like conditions the same cause always has the same effect. The second is necessary because generalization is impossible without it and it is the nub of the problem presented in the article.

Some would disagree with Mr. Austin's final paragraph:

"This method should help to sustain the pupil's view that mathematics is deductive and not undermine it by suggesting that in some parts of mathematics, deduction is replaced by leaps into the unknown."

We all can argue that mathematics *system* is deductive but its axioms, it must be allowed, have from time to time been "leaps into the unknown". It could also be argued that with the results of the infinite set theory advocated in the article each time they are used is a "leap into the unknown".

Yours faithfully,

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OBITUARY

CLEMENT VAVASOUR DURELL

"Durell" has been almost a technical term among mathematicians for most of the first half of this century. Born at Fulbourn in Cambridgeshire in 1882, he was educated at Felsted and, as a scholar, at Clare College, Cambridge, being seventh Wrangler in 1903. He began teaching at Gresham's School, Holt, in 1904, and moved almost at once, in 1905,

to Winchester, where he remained for the whole length of his teaching career. On retirement he moved to East Preston in Sussex; his establishment consisted of a housekeeper, a gardener and large dogs. In recent years he had spent the winters in Madeira and, for the last three or four years, in South Africa where he died on 10 December, 1968.

"His chief recreation at one time," to quote a friend, "was golf which, according to somebody who knew him, he played in a style of his own spending no time in addressing the ball, but striking it vigorously and immediately setting off in pursuit."

His textbooks stretched in an apparently never-ending line from *Elementary Problem Papers*, 1906, (Arnold) to *A New Trigonometry for Schools*, 1963, (Bell). His association with the firm of Bell was long and friendly and I am indebted to Mr. W. H. Mills of that firm for help in the preparation of this note. His association, too, with Mr. A. Robson is well known, and their collaboration produced text-books which have been of outstanding value to many a developing young mathematician.

Durell was a valued member of our Teaching Committee and helped in the preparation of a number of Reports. I myself first met him at close quarters in the work leading to *The Teaching of Higher Geometry in Schools* (1953), for which he acted as secretary under the chairmanship of Professor E. H. Neville. He was an indefatigable worker, producing numerous drafts, and a courteous though persistent critic of anything he thought loose or inconsistent in the efforts of others.

I conclude with a personal, perhaps frivolous, note of gratitude. Receiving a box of chocolates from abroad one year, Durell passed it to me for my family, saying that he himself did not so indulge. The same thing happened the next year. After that, for some 10 or 12 years, a large box of "Durell" chocolates was a feature of my family Christmas table; and the accompanying letter showed a personal concern for us all that was typical of a naturally shy man's innate kindness.

E. A. M.

RICHARD VICTOR HARLEY ROSEVEARE

R. V. H. Roseveare, of Cornish stock, was born in 1897. He was a nephew of our distinguished schoolmaster President, W. F. Bushell.

He was educated at Winchester and Trinity College, Cambridge, and a Scholar of both. After a short period of research into Theory of Numbers he settled down (if such a verb could ever apply to him) to a varied and fruitful teaching career: Winchester, Toronto (on an exchange basis, where he met Frances Fraser of Calgary, Alberta, whom he married in 1931), Cheltenham (Headmaster), Gordonstoun, Sudan (as Director of Education) and back to Winchester to succeed Durell in 1944, retiring in 1957.

But retirement was no state for R. V. H. Roseveare! He served on his County Education Committee, County Library Committee, on the Stroud Educational Foundation, on Governing Bodies of at least four schools or colleges; and he was organist at the family services of Chalford Church.

Among all this, the affairs of the Mathematical Association continued to attract him, and he was for many years a valuable member of our

Programme Committee, where his ingenious mind was of prime importance in gathering together assorted and apparently contradictory suggestions. He was also an examiner of wide experience.

The kindness and humility of manner which were outstanding characteristics endeared him to a large circle of friends, and his loss was mourned by many.

E. A. M.

C. DUDLEY LANGFORD

Dr. Langford was well known to members of the Mathematical Association as a staunch and ingenious contributor to *The Gazette*, but not many knew the serious disabilities against which he struggled for many years with unflinching courage.

Born in Highgate, the son of Dr. Charles Harris Langford, medical practitioner, he was educated till the age of 8 at the Misses Legges' Froebel School and then at the "Prep" Department of University College School, under Mr. Simmons, to whose influence he loved to pay tribute.

He was "top of his school" in 1923 and proceeded to the Royal College of Science, Imperial College, Kensington. He was one of the two youngest ever to receive the degree of Ph.D., at the age of 22. After a brief spell of industrial research he turned to teaching, being particularly happy in King Alfred coeducational "modified Dalton plan" School. He made his young pupils work out multiplication tables in a variety of bases—long before "Modern Maths".

The effects of polio, which had attacked him at the age of 12, now began to be felt and a series of fractures, caused by falls due to muscular weakness, forced him to retire. Pain continued to increase, but his courage and sense of humour never failed him. His wife describes how he "made life more pleasant for all who came in contact with him", and a mutual friend, not given to exaggeration, has marvelled at the support that she, on her side, continued to give.

It has chanced that his Classroom Note 171, *Simple proof wanted*, in our issue for October, 1968 (p. 273), has produced a record response. It is perhaps fitting that I acknowledge here the list of solvers as a token of the pleasure that Dr. Langford gave to so many mathematicians. One or two selected solutions appear under Classroom Notes.

E. A. M.

The solvers:

W. T. Blackburn, W. A. Broomhead, F. J. Budden, C. E. A. Burnham, S. N. Collings, Rear-Admiral Sir Charles Darlington, A. L. Davies, N. M. Dongre (Bombay), S. Fairthorne, H. J. Godwin, R. L. Goodstein, G. H. Gratton-Guinness, E. M. Hartley (Ghana), A. Heaton, T. Hind (at Watford Grammar School), J. A. H. Hunter (Toronto), S. Inman, M. R. Jones, P. Lockley, R. H. Mahy, B. W. Martin, M. D. McLaughlin, B. L. Meek, S. Moses, C. Stanley Ogilvy (U.S.A.), M. Olinick (U.S.A.), G. I. Owen, C. J. Parry, D. C. D. Potter, P. R. Sanders (Zambia), T. Knappe Smith, Mr. Steggals, B. Stokes (New Zealand), R. Thatcher, G. R. Walsh, G. W. Ward, F. E. Whitehart, A. D. Woodall, G. Wulczyn (U.S.A.).