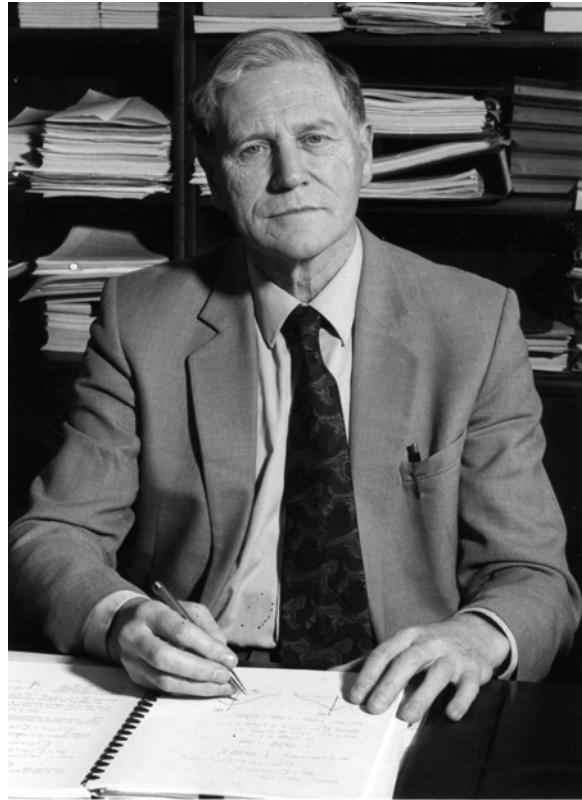


Vale – Alexander Provan ROBERTSON (1925-1995)

Alexander Provan Robertson was born in Glasgow on 16 June 1925, the only child of an assistant station master and his wife. He received his primary and secondary education at the Shawlands Academy, a state school that attracted and nurtured bright students. Some streaming occurred in the secondary years whereby the brighter students were required to study Latin and Greek.

Thus began Alex's life-long interest in the origins and precise meaning of words in both spoken and written communication. Alex did not stay on at Shawlands for the usual sixth year of a Scottish secondary education as he was successful in gaining a bursary to Glasgow University in his fifth year; he enrolled there in September 1942.



Alex had started to specialize in mathematics, physics and chemistry, but in his second year, with World War II having reached a critical stage for Britain, the government was directing the study programmes of those students not called up for military service. Alex was accordingly directed to switch the emphasis of his studies for a time to radio and electronics. He nevertheless managed to include courses in Latin and moral philosophy, in each of which areas he won a university prize.

Graduating with a Glasgow MA in January 1946, Alex accepted an assistant lectureship in mathematics in Glasgow and stayed for eighteen months before going to Cambridge on a coveted Ferguson Scholarship. He moved into St John's College, Cambridge as an affiliated student in the Michaelmas Term 1947 and completed Part 2 of the mathematics Tripos in that year. He was to remain at Cambridge for four years, completing first a BA and then most of his doctoral research.

During this enjoyable and hugely active period Alex found time to broaden his musical knowledge, studying organ for a time under Dr George Guest. It was also during this period that Alex met Wendy Sadie. They were married on 28 August 1951, not long before Alex commenced duties at Glasgow in early October where he remained for 14½ years, resisting in that period the temptation to return to Cambridge when he was elected to a research fellowship at St John's.

Towards the end of this appointment Alex had been introduced to the charms of academic life in Perth. In 1963 Larry Blakers was looking for an algebraist to teach at the University of Western Australia in second term. His contact in Glasgow recommended Alex, a functional analyst instead, and Blakers issued the invitation. On that occasion Wendy was unable to accompany him, but when in 1969 he returned to the University of Western Australia as a Visiting Professor, Wendy and the children made their acquaintance with Perth as well.

Meanwhile Alex had been offered, and had accepted, the Chair of Mathematics at the University of Keele in Staffordshire. Keele was still a young university, 14 years old at the time, although not offering quite the scope for influence as a brand new university would subsequently offer to a foundation professor.

Alex Robertson was appointed to Murdoch University as Foundation Chair of Mathematics on 1 July 1973; this was some eighteen months before Murdoch admitted its first students. Alex played an important role in the formation of the University, something that he carried through right up to his retirement in January 1990. At various deliberative forums in these years Alex generally found himself more in agreement with conservative than with radical opinion. According to Geoffrey Bolton's published history of Murdoch's first ten years, Alex shared to the full the Scottish love of argument from first principles and the Scottish scepticism about ambitious plans for human improvement.

In his 16½ years at Murdoch Alex recruited and retained a fine team of younger mathematicians, most of whom are still at the University. It was this team under Alex's leadership that was able to build up the new degree programme to the strength that it now enjoys. Alex was a much respected and trusted mentor to his staff, and I certainly remember him as a very sympathetic sounding board to all of his mathematics colleagues.

At the time of his appointment Alex had been admitted to two fellowships, those of the Royal Society of Edinburgh and the Institute of Mathematics and its Applications. This followed his important contributions to mathematics, especially in the area of topological vector spaces. His interests reflected his classical Cambridge mathematics education, which included areas such as the convergence of series and properties of measures.

I very much like the following two of his results from these respective areas. The first, which appeared with the title 'On rearrangements of infinite series' in *Proc. Glasgow Math. Assoc.* 3(iv) (1958) 182-193, is that given any conditionally convergent (real) series $\sum_n n$ and any regular method A of summability there is always a rearrangement $\sum \sigma(n)$ that has bounded partial sums but is not A -summable. A second result, published jointly with Mike Thornett under the title 'On translation-bounded measures' in *J. Austral. Math. Soc. (Series A)* 37 (1984) 139-142, shows that a positive measure μ on the Borel subsets of R^k is translation-bounded if and only if the Fourier transform of the indicator function of every bounded Borel subset of R^k belongs to $L^2(\mu)$.

But he is best known mathematically for the joint paper with Wendy Robertson 'On the closed graph theorem' in *Proc. Glasgow Math. Assoc.* 3 (1956) 9-12, and the joint book with Wendy Robertson, *Topological Vector Spaces*, which was first published by Cambridge University Press in 1964, appeared in its second edition (paperback) in 1973, and has also been translated into German and Russian. This book is used as an advanced text throughout the world, especially in Europe. Some time before his death Alex commenced work on a second book *Applied Fourier Analysis*, with Jo Ward, and she and Ken Harrison are in the process of completing this. Alex was also active in the training of postgraduate students, having the honour of supervising Murdoch's first PhD, Le Van Tu.

Not just in mathematics, but his knowledge in physics (especially electronics) and philosophy, the classics and classical languages made him the traditional scholar, the proponent of a university in the sense of Newman. His services across the wider campus community were frequently sought, partly because he was known to be thorough, reliable and scrupulously fair in all his dealings, and partly because his experience of liberal education afforded him the ability to communicate easily beyond the boundaries of his own discipline.

Alex helped earn goodwill and respect for his university on two other fronts. Because he had previously enjoyed an association with the University of Western Australia's Mathematics Department, and even more pertinently, because Wendy was now a senior staff member there, husband and wife were able to forge a strong link between the two universities through the mathematics disciplines. This was especially valuable to Murdoch in the early years, when the (then!) young Murdoch mathematicians were trying to develop their research from a rather thin resource base.

The second sphere of external activity was Alex's involvement with the Secondary Education Authority over several years and with the Tertiary Institutions' Service Centre as Murdoch's representative. His standing with secondary teachers of mathematics was recognized in 1985 when he was asked to lead a People to People Mathematics and Mathematics Education Delegation from Australia to the United States.

Alex retired in January 1990, a little earlier than he needed, because he felt that he should not be influencing the merger debate (which had preoccupied the University since 1989) if he would not be there to share the consequences. On retirement he was immediately appointed Emeritus Professor, and was very happy to be invited back to assist with teaching and participate in the weekly mathematics colloquium.

Of all Alex's attractive human qualities the one which seems central and salient to both his family's assessment of him and assessments often heard from professional colleagues was his moral and intellectual integrity. Other qualities, such as academic rigour, fair mindedness, tolerance, courtesy and self-restraint, flowed from this integrity. Most of us in the world of scholarship can only envy Alex that accolade - or, more constructively, be inspired by it.

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