Obituary

Clive Selwyn Davis
15 April 1916 – 29 October 2009

Clive Selwyn Davis, Emeritus Professor of Mathematics and former Head of Department at the University of Queensland, died in Brisbane on 29 October at the age of $93\frac{1}{2}$ years. Clive was born in Sydney and grew up in Strathfield. He had two brothers, Lionel and Lance, who predeceased him by many years, and a sister, Audrey Zedora now 96, who, like Clive in recent years, is still sharp of mind, though frail in body.

Clive was a brilliant child, and was raised by parents who encouraged him to develop his many talents. He could read by the age of four, and retained a life-long interest in words, language and reading. For many years he learned two new words per day from the dictionary, and read and memorised many poems. But he also had a practical bent which first showed itself in his love of tools. His first Stanley plane was bought when he was 12 years old, and it formed the basis of a large collection of wood-working tools. His other notable collection started with his first car, a Crossley, and this was followed by a 1935 Sunbeam and several Rovers. All were kept beneath his house in Corinda — to be restored in due course.

Clive's education started at primary schools in Summer Hill and Homebush, and later at Sydney Technical High School. He then enrolled in Engineering at Sydney University, but found it too practical and transferred to Science. He obtained a First Class Honours degree in Mathematics in 1937, followed by First Class Honours in Physics in 1938, and then by an MSc in 1939.

An extracurricular activity followed from his membership of Sydney University Air Squadron in 1936. He spent many a weekend at Richmond being trained by the Royal Australian Air Force Reserve, and became an experienced pilot.

After graduation Clive was employed by the Australian Government, and was sent to England to undertake research on aircraft instruments and aerodynamics at the Royal Aircraft Establishment, Farnborough. Upon the outbreak of the Second World War, he volunteered for the Royal Air Force, where he served with distinction, being awarded the Distinguished Flying Cross in August 1941. He later transferred to the RAAF, and returned to Australia, albeit with some difficulty.

Clive also served on the Air Staff, and he is mentioned in the official war history as being prominent in the development of Operations Research in air operations. In the later stages of the war, Clive commanded 103 squadron of Liberator heavy bombers in operations from North Queensland and Papua New Guinea, retiring with the rank of Wing Commander.

After the war, Clive obtained a scholarship to travel to Trinity College, Cambridge, where he was awarded his PhD in 1949 for a thesis on number theory under the supervision of L.J. Mordell. A lectureship at Bristol University was followed by his appointment to the chair of Mathematics at the University of Queensland in 1956.

Clive served in the Mathematics Department for 27 years until retirement in 1983. He was Head of Department from 1956 to 1972, and during these years he worked hard for a new building for Mathematics, and to build up staff numbers and to develop courses. Such was the scarcity of qualified staff at that time that on one occasion Clive had to travel to Britain and Ireland on a recruiting drive. The total of Mathematics staff in 1956 was 6, compared to 47 in 1977. He also fought for a separate Mathematics library in the Mathematics Department building, which, when it eventuated, was greatly appreciated by staff. It is now named after him.

Clive Davis was an excellent and stimulating lecturer with a commanding personality. Former students remember the clarity, vigour and high standard of his lectures. His handwriting on the board was immaculate, and his brief dictated final summary of each lecture was much appreciated.

He was a member of the University Senate for ten years, and during that time was active in improving staff conditions, including the setting up of the FSSU superannuation system. He also served on the University Research Committee for seven years, being Chairman for the last three of those years. In 1966 he was President of the Royal Society of Queensland. From 1956 to 1968 he was Treasurer of the Australian Mathematical Society and from 1968 to 1970 was its President.

To a life of distinction and service Clive added a keen interest in nature and the environment. He was a founding member of the Barrier Reef Committee, and of the Wildlife Preservation Society of Queensland. He had a keen interest in plants, and especially in growing bromeliads. Also he was a keen and canny squash player, and continued playing until he was 78.

Clive and Toni were married in May, 1943, in Melbourne. They had three children: Dinah, Penny and Julian. Later in life they adopted a young boy, Robert, aged two, who needed a home. They provided him with love and care for many years, and took him on endless outings. A great tragedy for Toni and Clive was the death of their son, Julian, in a light-plane crash in 1986.

Toni predeceased Clive on 20 November, 2008, also aged 93 years. Clive is survived by daughters, Dinah and Penny, adopted son Robert, son-in-law Patrick, daughter-in-law Carolyn, 11 grandchildren and five great-grandchildren.

Clive's first paper appeared in 1945 and was written while he was in the RAAF. It was an elegant derivation of the regular continued fraction expansions of $e^{1/k}$ and $e^{2/k}$, using definite integrals reminiscent of Hermite's proof of the transcendence of e. Clive subsequently went to Cambridge and studied geometry of numbers with L.J. Mordell. This resulted in four papers published in 1948–1951. His 1948 paper disproved a conjecture of Minkowski on the critical determinant of the region $|x|^p + |y|^p < 1$ and replaced it by a conjecture that was later proved by A.V. Malyshev and A.B. Voronetsky in 1977. His 1950 paper on the minimum of an indefinite binary quadratic form typified Clive's ability to present a topic in its simplest and most elegant form. His Cambridge PhD, awarded in 1949, was titled *The Minimum of a Binary Quartic Form* and was published in two papers in *Acta Math.* in 1951.

Clive was among several bright Cambridge number theory graduates, including David Burgess and Christopher Hooley, who joined the staff at University of Bristol during Hans Heilbronn's leadership. His arrival in 1956 to take up the headship of the University of Queensland Mathematics Department resulted in a rejuvenation of the department and of the mathematics library, but also caused a hiatus in his mathematical publication until 1978–1979, when he returned to a definitive study of the rational approximations to e. Two notes in the *Gaz. Aust. Math. Soc.* were published when Clive was in his eighties.

Clive's presidential address in *Proc. Royal Soc. Queensland* **78** (1966), 1–9, is a good example of his clarity of exposition.

R.F.C. Walters (MSc 1967) and K. R. Matthews (MSc 1966, PhD 1974) completed their degrees under his supervision.

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