

# Champernowne, David Gawen

(1912–2000)

- Frank A. Cowell
- <https://doi.org/10.1093/ref:odnb/74505>
- Published in print: 23 September 2004
- Published online: 23 September 2004
- This version: 04 October 2007

---

Champernowne, David Gawen (1912–2000), economist, was born on 9 July 1912 at 2 Keble Road, Oxford, the only child of Francis Gawayne Champernowne (1866–1921), a barrister and bursar of Keble College, Oxford, and his wife, Isabel Mary, daughter of George Rashleigh, of Riseley, Horton Kirby, Kent. He came from the Dartington line of the Champernowne family, who had lived in south Devon for over 500 years; Katherine Champernowne was the mother of both Sir Humphrey Gilbert and Sir Walter Raleigh. He went to Winchester College as a scholar and in 1931 won a scholarship in mathematics to King's College, Cambridge. There he was an exact contemporary of Alan Turing, who became a close friend and with whom he later developed an early chess-playing computer program. He completed the mathematical tripos in two years, obtaining a double first. While an undergraduate he published a scientific paper on 'normal numbers' in the *Journal of the London Mathematical Society* for 1933. In this paper he was the first to produce an actual example of such a number in base 10; this has since come to be known as Champernowne's constant and is obtained by concatenating positive integers from one upwards and interpreting them as decimal digits to the right of the decimal point: 0.123456789101112...

With the encouragement of John Maynard Keynes, Champernowne switched to the economics tripos, and from October 1934 he was supervised by Keynes: again he obtained a first. He was an active member of Keynes's Political Economy Club, contributing papers on the theory of the rate of interest, on Marx, and on the conditions of short-period and long-period equilibrium. In 1935 he published an important review of Keynes's *General Theory* acknowledging the plausibility of Keynes's position, but only in the short run; he argued that in the long run, where price expectations are updated, workers' concern with money wages would be a temporary phenomenon and their primary focus would be on the maintenance of real wages.

After graduating, Champernowne was assistant lecturer at the London School of Economics (1936–8) and then university lecturer in statistics at Cambridge (1938–40). His research focused on the size distribution of people's incomes. His probabilistic model of the income-generating process was one of the first to show how an equilibrium distribution is related to the forces governing income mobility, and why the equilibrium distribution would conform to a characteristic shape. The work resulted in a prize fellowship at King's College in 1937. The essence of the model was eventually published in the *Economic Journal* in 1953, though the full version of the fellowship dissertation did not appear as a published monograph until 1973, as *The Distribution of Income between Persons*. It laid the foundations for the widespread application of stochastic process models to analysing income distributions.

During the Second World War, Champernowne served with F. A. Lindemann as assistant in the statistical section of the prime minister's office (1940–41). Later he worked with John Jewkes at the Ministry of Aircraft Production's department of statistics and programming. In 1945 he returned to academia and became a fellow of Nuffield College, Oxford, and director of the Oxford Institute of Statistics. He was appointed professor of statistics in 1948, and on 30 March the same year he married Wilhelmina Barbara Maria (Mieke) Dullaert, daughter of Petrus Ludovicus Dullaert, a merchant; she was from the Netherlands and worked at the institute. They had two sons. While at Oxford Champernowne pursued his pre-war interest in Frank Ramsey's theory of probability: this led to work on the application of Bayesian analysis to autoregressive series at a time when the Bayesian approach was intellectually unfashionable. The work culminated in the major trilogy, *Uncertainty and Estimation in Economics* (1969).

In 1959 Champernowne resigned his professorship at Oxford in order to return to Cambridge, taking a lower-ranking readership in order to do so. He became a fellow of Trinity College in the same year and was promoted to a personal chair in economics and statistics in 1970, the year in which he was made a fellow of the British Academy. He also acted as one of three co-editors of the *Economic Journal* from 1971 to 1975. In addition to his own output he acted as midwife to a number of major theoretical contributions. He provided an invaluable 'translation' to John von Neumann's seminal paper on multi-sector growth, and his role as behind-the-scenes expert at Cambridge over many theoretical issues was legendary: A. C. Pigou's later writings on output and employment, Nicholas Kaldor's work on savings and economic growth models, and Dennis Robertson's *Principles* were all heavily indebted to his intellectual influence. Joan Robinson acknowledged the assistance of his 'heavy artillery' in underpinning and extending her major work on capital and growth; his early comment on her work encapsulated all the main points that subsequently emerged in the abstruse theoretical debate on capital theory.

After retirement in 1978 Champernowne's major project was to complete a monograph (with Frank Cowell of the London School of Economics), *Economic Inequality and Income Distribution* (1998). In many respects this brought together several lifelong concerns: the questioning of fundamental assumptions underlying market-orientated theories of production and distribution, the application of mathematical modelling to the analysis of income distribution, the desire for theoretical rigour in explaining the fundamentals of economic inequality (following his *Economic Journal* article of 1974), the application of ingenious numerical methods to solve analytically intractable problems (he had long shown a keen interest in applications of computer technology), and the concern for distributive justice (he was a long-time supporter of the Labour Party).

In his final years Champernowne suffered from Alzheimer's disease, and in 1995 he and his wife Mieke moved to Budleigh Salterton in order to be near their son Richard. He died at his home, Lower Eryl Mor, 22A Victoria Place, Budleigh Salterton, on 19 August 2000, of bronchial pneumonia. He was buried alongside his ancestors in the grounds of St Mary's Church, Dartington, where his grandfather, Richard Champernowne, had been rector. He was survived by his wife and two sons, Richard and Arthur.

## Sources

- The Times* (25 Aug 2000)
- The Independent* (26 Aug 2000)
- The Guardian* (1 Sept 2000)
- Daily Telegraph* (4 Sept 2000)
- WWW
- Burke, *Gen. GB*
- personal knowledge (2004)
- private information (2004)
- b. cert.
- m. cert.
- d. cert.

## Archives

- BLPES, corresp. relating to Royal Economic Society and *Economic Journal*
- BLPES, corresp. with J. E. Meade
- Nuffield Oxf., corresp. with Lord Cherwell

## Likenesses

- photograph, repro. in *The Times*
- photograph, repro. in *The Independent*
- photograph, repro. in *The Guardian*
- photograph, repro. in *Daily Telegraph*