CENTREFOLD

Professor L C Woods
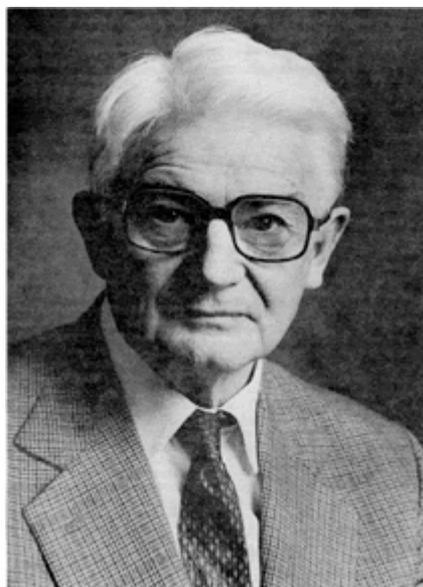
The account that I shall give of the life and work of Les Woods must be short, informal and incomplete, but I hope that, drawing on a diversity of sources, the most important being conversations with him enjoyed over a period of time when he and I shared a small house in West Vancouver in 1984, I can do some justice to both.

Les was born on 6 December 1922, and lived, for the early years of his life, in Mercury Bay. His family later removed to Auckland, and he had his secondary schooling at Seddon Memorial Technical College. In 1940 he became the first pupil of that school to win an Entrance Scholarship, and began to study towards a degree in mathematics at Auckland University College. But later in that year he had to withdraw from these studies because of lack of money. He then joined the Public Works Department as a cadet (at \2434/15/- a week) and was sent to Ashburton, to begin his cadetship with pick and shovel. However, on reaching the age of eighteen, he deferred further instruction in civil engineering, and joined the Royal New Zealand Air Force. After training, he served as a fighter pilot, flying Corsairs in the South Pacific theatre. While on active service, he gained the degrees of B.Sc. and M.Sc. (NZ) extramurally. He also made a start to his teaching career, giving classes, for modest fees, in technical mathematics (trigonometry, etc.) to aircraftsmen working for certificates. At the end of the war he returned to Auckland University College and added a B.E. (NZ) to the qualifications he had already got. In 1949 he went as a Rhodes Scholar to Merton College, Oxford, and did research with Alexander Thom, leading to a D.Phil. in Engineering Science, conferred in 1950. To this he added a B.A. with first class honours in Mathematics in 1951. His list of degrees does not end here: he later received two D.Sc's—from the University of New Zealand in 1954, and from Oxford in 1958—and an honorary D.Sc. from the University of Auckland on the occasion of its centenary in 1983.

Les's work has been in the classical tradition of British applied mathematics, which is to say that the solution of real problems, arising in physical or technological contexts, are what have

engaged him. While his papers may exhibit a formidable mastery of technique, they are characterised more by critical care and independence in formulation, and in the subsequent evaluation of the results. Following his student years at Oxford, he joined the Royal New Zealand Air Force in the Defence Science Corps, and was seconded to the National Physical Laboratory, where he worked on aerodynamical problems. Out of this period came his first major book, *Theory of Subsonic Plane Flow* (CUP,1961). In 1954 he went to Australia, first as a Senior Lecturer at Sydney University, and then as Nuffield Research Professor in Engineering at the newly created University of New South Wales. While there he became interested in reactor physics, as a result of work undertaken with colleagues at Lucas Heights. This led to the publication of a Methuen Monograph on neutron transport. He returned to Oxford in 1961, first as a lecturer in Engineering Science, then as a Reader in Applied Mathematics, and from 1970 as a Professor of Mathematics. His College now became Balliol, of which he is a Professorial Fellow. His research interests enlarged to embrace non-equilibrium thermodynamics and plasma dynamics, and he has published major monographs on both subjects; the first in 1975 (but recently reissued in paper covers) and the second in 1987. In the five years before his retirement, 1984–1989, Les was the Chairman of the Mathematical Institute, Oxford.

This severely abridged catalogue of scientific and worldly success might tempt the reader to suppose that Les is a solidly establishment figure. I suppose that there is an uninteresting sense in which that might be true, but there is a refreshingly maverick aspect to his character which the years have not attenuated. He has not flinched from open controversy. Perhaps the clearest statement of his approach to applied mathematics can be found in two papers, "Beware of Axiomatics in Applied Mathematics", and "The Bogus Axioms of Continuum Mechanics", both in the Bulletin of the IMA (Vol. 9, pp. 40–44, and Vol. 17, pp. 98–102 respectively). I shall not attempt to summarize these, but both are substantial in content and polemical in tone, and led to quite strong exchanges of views subsequently. I commend them to readers of this Newsletter.

Les has now officially "retired"; however, his programme of research interests, and the support he has to pursue them, hardly reflect this. I hope that he may again have the opportunity to revisit this country. On his last visit to Christchurch (as the New Zealand Vice-Chancellors' Distinguished Visitor), when he also represented Oxford at the Centennial of the University of Canterbury, I had the pleasure of entertaining him to a meal featuring Fouveaux Straits oysters. He still remembered these when we were together in Vancouver, where we had to make do with the less tasty North Pacific variety.

And so, after extending to him on the Society's behalf cordial respect and best wishes for the success of his projects I should like on my own part to end by pledging him a dozen of Bluffs best, against his return.

Brian Woods