CENTREFOLD

Professor David Benney

Dave Benney was educated at Wellington College and Victoria University College. He completed an M.Sc. with First Class Honours in Mathematics in 1951, when in examinations common to Auckland, Canterbury and Victoria University Colleges he was well ahead of any other candidate. Dave was appointed a junior Lecturer in Mathematics at Victoria for two terms of 1952 before enrolling at Emmanuel College, Cambridge on a NZ Postgraduate Scholarship. Like other NZ mathematics graduates of the 1950's, he took Parts 2 and 3 of the Mathematics Tripos because the NZ M.Sc. degree was considered insufficient, with justification, to proceed directly to a Ph.D. The offer of a Lectureship at Canterbury reached him in Sweden, where he was on holiday after the Part 3 exams in 1954, and was accepted by a letter and cable from Stockholm. One sentence in a reference written in his support is an indication of views at that time—"His character is above reproach, and he has not been associated in any way with political activity."

He is remembered at Canterbury for the quality of the Applied Mathematics courses he taught, and for his enthusiasm at skiing and tennis. His third and fourth year courses in classical mechanics described a subject which regretfully has largely disappeared from current syllabuses. The photo with this article was submitted with his application in 1954. Those who attend the Applied Mathematics Conference in February can judge how little he has changed in 36 years, and can test his continuing tennis skills.

His file at Canterbury records that he was granted a year's leave of absence in August, 1957, to do graduate study in the Mathematics Department, Massachusetts Institute of Technology. He passed the first qualifying examinations with such ease that he was exempted from the remainder and completed his Ph.D. in 1959 in record time, under the supervision of C. C. Lin. Once difficulties about his immigrant status in the USA were sorted out, he severed his links with Canterbury and was promoted rapidly at MIT. Canterbury made one last effort to entice him back as Head of Department when Professor Lawden resigned in 1967, but

unfortunately he had just been promoted to be a full Professor at MIT, and understandably saw an academically more rewarding future there. He is now Head of the Mathematics Department at MIT.

Dave Benney has established his reputation in nonlinear wave and stability problems. One paper he published in 1962 has equations which are pages long, showing a high degree of commitment, because this was before the days of symbolic computation packages. The principles he elucidated there were important even if most readers ignored the details. Many of his more than 50 papers develop new ideas which others have subsequently expanded, because Dave can never be accused of writing two words where one will do. Typical subjects include nonlinear waves in parallel shear flows, interactions between short and long waves, resonance in nonlinear wave systems, and nonlinear instabilities in hydrodynamics.

Among his graduate students are some, such as Alan Newell, who are now leaders in applied mathematics themselves. Dave is Managing Editor of the journal *Studies in Applied Mathematics*, which has been turned into one of the best journals in the subject. He wrote the undergraduate book *Calculus: An Introduction to Applied Mathematics* jointly with Harvey Greenspan in 1973. As expected, it is an excellent book on the application of mathematics, but unfortunately the publisher set a rather expensive New Zealand price.

We look forward to his invited address on 'Nonlinear wave and instability processes' to the Applied Mathematics Conference at Hanmer Springs in February.

Peter J. Bryant