

CENTREFOLD

Professor Peter Whittle



Churchill Professor of the Mathematics of Operational Research University of Cambridge

Peter Whittle was born in Wellington on 27 February 1927. He enjoyed considerable success at school, being Dux of Wellington Boys' College in 1944 and winning a Junior University Scholarship. His New Zealand University career was equally distinguished. He graduated MSc with first class honours in 1948. He was awarded a Post-Graduate Scholarship in Mathematics. Other honours to come his way included Senior Scholarships in Applied Mathematics and Physics and a shared Cook Prize in Mathematics.

From 1950 to 1953 he worked at Uppsala University, first producing a trail-blazing thesis *Hypothesis Testing in Time Series*, and then working as a docent in the same University. During his time in Sweden he met and married Kathe, a Finnish girl. They came to New Zealand in 1953 and for six years he worked at the Applied Mathematics Laboratory (later the Applied Mathematics Division), DSIR. He then went to England, first to lecture at Cambridge, and then in 1961 to take the Chair of Mathematical Statistics at the University of Manchester. In 1967 he was appointed to the Churchill Chair of the Mathematics of Operational Research at the University of Cambridge. During his career he has accumulated a number of honours and this process culminated in his being elected a Fellow of the Royal Society in 1978. He has since, in 1981, been elected a Fellow of the Royal Society of New Zealand.

Those are the basic facts: to them must be added first a brief appreciation of his work and then an appreciation of the man himself. His first research was in time series, their specification and certain sorts of hypothesis testing. At the time his research began it would be fair to say that time series as a statistical topic lacked direction. The associated basic probability structure had received the attention of a host of eminent mathematicians, including his supervisor Wold, Doob, Cramér, Loève, Kolmogoroff and many others, but the point of view of the statistical practitioner, the man who ultimately had to find suitable tools

for the analysing of data, had not received treatment of a corresponding depth. In his thesis Peter posed and solved in workable terms a body of problems connected with auto-regressive schemes and moving averages that are fundamental in the application of time series analysis to actual data. A reasonable judgement is that the difficulties in these problems were more those of analysis than of concept. The formidable success of the thesis lay, I believe, in the fact that analytical complexity was conquered with elegance and simplicity.

Peter's concern with the fundamental use of his techniques is evident in all his writings. In many of these a very difficult problem has had the difficulty squeezed out of it to the extent that the final translation to workable procedures has become relatively plain sailing. This concern with the effective use of his work was apparent in his early days at the Applied Mathematics Laboratory where he tackled a variety of practical problems, coping with rabbit population growth, plant variability in agricultural trials, seiche record analysis, control of errors in accounting and many others.

His early work branched out into Markoff chains and processes and to more general types of stochastic processes, and he produced many papers adorning this general area. A field which has occupied him most in recent years is that of optimisation and control. In 1963 this interest culminated in a book *Prediction and Regulation by Linear Least Squares Methods*. This field has become the corner-stone of the research he has done during his Cambridge professorship. It is strewn with problems that bristle with the kind of analytic intricacy that Peter is able to handle with ease.

Along with other members of the Applied Mathematics Laboratory, I was privileged to work with him, or at least watch him work, for some years. None of us at the time was really capable of working with him in the sense of being able to keep up with him. A problem could be formulated and looked at round its fringes by those of us who tackled it in a routine manner. While we were groping, Peter would have somehow infiltrated the problem in all its complexity and not only produced an answer, but pointed to future work.

It was soon clear that his abilities would not be constrained within the confines of New Zealand and it was no surprise that he decided to move to England. We followed his career and papers (in so far as we were able) with considerable interest and were delighted that his contributions were rewarded with the accolade of a richly deserved Fellowship of the Royal Society.

This account of his work may suggest that Peter's having wide work interests would also have wide interests outside his work. This is indeed so. For one thing he is most musical. As a boy he sang in his church choir. Later, he learned to play the oboe. When I visited him in Cambridge in 1973 he said his research was suffering because he was learning to play the flamenco guitar, which posed problems as hard in their way as he was used to tackling in mathematics. Of course, the flamenco guitar was conquered and the research did not suffer. He was a keen harrier in his younger days and has been known to run to work in Wellington from his home in Island Bay. He has always taken an active interest in church affairs.

By nature, he is quiet with a keen sense of humour and a ready laugh. He is unassuming and very friendly to everyone, while at the same time being willing and able to hold his own both technically and with dignity at meetings. His family life, with a devoted and charming wife and six children with their many demands and diverse interests must have been a continuing source of strength and pleasure to him.

Perhaps this account is beginning to sound like an obituary. The opposite is intended of

course. We can all be very pleased that the life and work process of Peter Whittle is very much an on-going one, by no means stationary but proceeding in a controlled optimum manner to new heights. He has many years left of productive mathematical life that will bring even greater credit to him and greater pride to his fellow New Zealanders.

J.H. Darwin