Ailsa Land retired in the summer of 1987 as Professor of Operational Research at the London School of Economics. It seems almost a contradiction in terms – for operational researchers it is just about as difficult to think of Ailsa without LSE as it is to think about LSE without Ailsa. Here JONATHAN ROSENHEAD and PAUL WILLIAMS give us their account of her life and times, in:

AILSA LAND – A PROFILE



Ailsa Land has been at LSE, woman and girl, throughout her career, in which she has gained a well-deserved international reputation for her work in mathematical programming, and in integer programming in particular. She began as a BSc.(Econ.) student in 1946 and progressed through virtually all the academic positions which LSE has to offer – research assistant, research officer, lecturer, senior lecturer and reader – before receiving a personal Chair in 1980.

Ailsa's name is indelibly linked with the development of mathematical programming. Her pioneering paper with Alison Doig in 1960 on the branch-and-bound method for solving integer programming problems has become a classic. Though researchers have explored a range of more esoteric methods, branch-and-bound forms the basis of most workable routines for solving IP problems.

In the 30 years since then, Ailsa has worked and published, with a series of collaborators, on many aspects of mathematical programming. The stream of research students from every continent that she has supervised could also testify to the breadth and depth of her contribution to the subject.

It is of significance to this contribution that Ailsa began as an economist. The links between economics and mathematical programming have always been strong, generating a number of Nobel Prizes for economics. Ailsa's economics took her into a number of practical problems arising in transportation. It was this practical concern which motivated, and continues to motivate, her interest in the mathematics of linear programming.

Ailsa's involvement has been mainly in the computational side of the subject. She enjoys implementing her ideas on computer. Her work with Susan Powell has made computer systems and algorithms accessible to a wider public. Recently she has returned to the overlap between economics and OR with her work on data envelopment analysis. This ability to produce numbers out of a computer as well as to explain the results in economic terms is what marks Ailsa out. These twin abilities are a salutary contrast to some of the excessively abstract concepts that are prevalent in mathematical programming.

There are many possible motivations for academics – recognition, reputation, power, influence and money, for example. None of these seem to have any influence over Ailsa. She tackles problems for her own satisfaction, and wouldn't dream of taking on a project for any other reason. Her suite of programs developed with Susan Powell is available free to anyone who can use it. There's no possibility she would rush into and through some work for fear someone else might publish first. If you mention the word "committee" to her, she's off in the opposite direction faster than a speeding algorithm. The conference, jet-set life is not for her – she has an aversion to travel. No, that's not quite correct. Travel is acceptable provided it is by the slowest possible means: lumbering mobile home through the Rockies, on foot with children the length of the Pennine Way – perhaps best of all, by barge on England's canals.

As a colleague she is a pleasure to work with – unstuffy, unfussy. No, that's not quite right either. Those who were occasionally (alright, more than occasionally) five minutes or so late for departmental meetings were likely to receive some direct comments on th virtues of consideration and social responsibility. Otherwise, academic life at LSE has been rather like that of a well-adjusted family – the occasional creative tensions, but basically harmonious, with the amicable give-and-take owing much to Ailsa's relaxed approach. Indeed, it has been and still is like an extended family, with second cousins once removed writing in and visiting from around the world.

Family is an essential ingredient in Ailsa's makeup in more than a metaphorical sense. While a research assistant at LSE in the early 1950s, she encountered not only her future research topic but also her husband, Frank (Frank is well-known in th adjacent field of systems analysis – of which he was Professor at LSE until 1986, when he moved on to a Chair at the London Business School). In the interstices of their joint careers they have brought up a remarkably integrated family of three (or, perhaps, it is the other way round) and now have grandchildren growing so rapidly in number that it is hard to keep count.

What with grandchildren and a large garden, there is plenty for Ailsa to do in her retirement. Except for one detail. She has not, of course, retired from either LSE or LP. She is in at the School more days than not, supervising research students or happily poised in front of the computer. As she said recently, *"Now I am retired I can do some research"!*