

VIDEO INTERVIEW TRANSCRIPT

## Macfarlane, Alison: transcript of a video interview (23-May-2016)

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**Related resources:** items 2017190 - 2017195, History of Modern Biomedicine Interviews (Digital Collection)

**Note:** Video interviews are conducted following standard oral history methodology, and have received ethical approval (reference QMREC 0642). Video interview transcripts are edited only for clarity and factual accuracy. Related material has been deposited in the Wellcome Library.

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## Macfarlane, Alison: transcript of a video interview (23-May-2016)\*

**Biography:** Professor Alison Macfarlane Dip Stat CStat FFPH (b. 1942) studied mathematics at Oxford (1961-1964), and took a Postgraduate Diploma in Statistics at University College London (1964-1965). She worked as a statistician in agricultural research at Rothamsted Experimental Station (1965-1967); on transportation studies for Hertfordshire County Council (1967-1970); the Planning and Transport Research and Computation Company (1970); at the Centre for Urban Studies, University College London (1970-1971), and as a programmer at the National Environmental Research Council's Experimental Cartography Unit (1971-1972). She joined the MRC Air Pollution Unit in 1972, and worked on, and developed, the daily mortality study initiated by Robert Waller and A E Martin. She left the Unit in 1975, and since then her work as an epidemiologist and statistician at the London School of Hygiene and Tropical Medicine (1975-1978), the National Perinatal Epidemiology Unit in Oxford (1978-2001), and City University London, has focused on maternal and child health statistics and evaluation of perinatal care. She has been Professor of Perinatal Health at City University London since 2001, part-time since 2011.

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### [1]. DEVELOPING AN EARLY INTEREST IN MATHS

Most of my primary school education was in the States and this was in the early 1950s and at that time the American system was very sort of project-oriented so we would work on particular project themes and the idea was to bring all the subjects into that, so that that got me into the idea of being interested in finding out about particular things. And it's reinforced by the fact that my mother, who was a French teacher but didn't work in paid employment after we were born, would also get interested in some particular things, let's say stimulated by a talk she'd been to or something she'd read and would find out about in more depth about it and tell us about what she was finding out about.

Well, when I was at Oxford I did a degree in maths, that was maths, maths, and more maths, and I was more interested in applying maths to other questions. And in my last year we were advised to go to the careers office and the guy that gave the careers advice sat there in a hairy sports jacket puffing a pipe. And his advice was, there were two things open: either you could become a maths teacher, and there was a great shortage of maths teachers, in which case you should go and see his colleague downstairs. And I was, didn't have the confidence that I would be able to teach maths at school level to people who didn't like maths and couldn't understand it. The other option was work on a missile called Blue Streak.

When I said I wasn't very interested in Blue Streak the career advisor asked me had I been on any of the Aldermaston marches, and I said yes. He said, 'I don't like you people, you don't wash,' and blew some more pipe smoke over me. In fact Blue Streak was cancelled the following year. So I decided to explore other avenues.

### [2]. ADVANCES IN COMPUTING

Yes, well when I was doing my statistics diploma at UCL they did have a computer in the basement but this was for research staff, and there were electrical calculators which were for the MPhil students. But for

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diploma students, like the undergraduates, we used the hand wound Brunsviga calculator. You wound it back and forth to add and subtract and then along to multiply. So it took a long time to do anything although you did think very carefully about what calculation you were going to do before you started on this physical labour. Then I went to my first job at Rothamsted and luxury of luxury, there was an electrical calculator on your desk for your sole use, and what's more, Rothamsted was very early in the use of computers.

The first computer they'd had since 1954, the Elliott 401, was just going off to the Science Museum as I arrived, and they were using a Ferranti Orion computer, which was ahead of its time but Ferranti had been taken over by ICT, which didn't develop its computers further and developed its own range. But this still involved punching cards, punch tape, in order to input data into the computer. So that was quite slow.

When I moved to Hertfordshire County Council, they were well behind Rothamsted, which after all is a pioneering research establishment, and there was just one computer, capacity 10 KB, and whenever you asked them if they would mount the Fortran compiler, they would tell you, 'But we're running the monthly payroll, you do want to be paid, don't you?' And they seemed to run that all month.

When I went to the Experimental Cartography Unit at the Royal College of Art they had mini computers, so called, which were about the size of a wardrobe, but their capacity would be far less than today's mobile phones. But that drove flatbed plotters because this was the early days of computerised maps.

### [3]. THE AIR POLLUTION UNIT

When I got to the Air Pollution Unit there was a laboratory computer, but for large scale computing we used the university computer centre and this was a fairly sizeable mainframe computer for those days. But the most important innovation for the work I was doing was the microfilm plotter. You wrote a programme on the main computer, it then wrote a tape, which was read into the microfilm plotter which plotted out a graph on photographic negative. And this made it possible to plot data for a whole year or daily data for a 10-year period automatically rather than having to draw the graph manually. Obviously this was a bit cumbersome, a two stage process compared to today being able to do it directly but it was a huge advance. Obviously being able to plot automatically on a photographic negative was a huge advance compared with plotting by hand, which had been the approach before, so I was able to look at these long series of data, which no longer had the really dramatic peaks of deaths coinciding with peaks of pollution, but still had important changes which you could see, particularly if you were plotting the whole long series together.

One of the things is that though, I mainly moved away from air pollution research after writing up the daily mortality study I did in the Air Pollution Unit, and even that was a move away because it was as much about temperature and flu as it was about air pollution. Various times I've returned to it, usually with other researchers who were more actively involved in the field at the time than I was, for example people like Ross Anderson. But it's interesting to see that now that the statistical methods exist for analysing daily mortality then there's a lot more work being done in the area. Obviously the work is only as good as the measures of pollution that can be collected and that may vary.

### [4]. THE RADICAL STATISTICS GROUP

Right, well the Radical Statistics Group started in late 1974 and it was founded mainly by people who had been together in LSE in the heady days of 1968 though those of us working in the health field hadn't been there at the time. I was counting cars in Hertfordshire and others were studying medicine. And the first thing we wrote was about a document published in 1976 *Priorities for Health and Personal and Social Services in England*. And it was the first time expenditure on the NHS had been put together in what is now called a programme budget, so it gave you a better idea of how the spending worked by sector. But the argument in the booklet was that at a time when the health service budget was beginning to be cut there would be less priority to spending on acute services and more priority to community services, mental health, mental illness, older people and prevention. When you actually looked at the numbers it didn't show this increase in the so-called priority groups and, which we mainly supported, though we weren't so keen on cuts in acute

services unless they were shown to be ineffective which of course lots of them hadn't been tested at the time.

We wrote a critique of this publication and wondered what to do with it. One member of the group had a colleague who lived in a squat in West Hampstead with a group of anarchist printers and they said they would show us how to put it together as pamphlet, which they duly did and we published it and several members of the group decided to write to the *BMJ* to draw attention to our critique and to the pamphlet. And when the letter came out I got into hot water and my boss at the London School of Hygiene, Donald Reid said I'd never get a job again.

Looking at who these naughty dissidents were, there were three statisticians, David Jones, Martin Bland and me. And we all ended up as professors either of medical statistics or in my case something else. And there were three medics, two of whom ended up with knighthoods. One was Iain Chalmers, founder of the Cochrane Collaboration, and the other was Andy Haines who became Dean of the School of Hygiene. And the third doctor was Sheila Adam, who became Deputy Chief Medical Officer, a job which she didn't enjoy very much but she obviously did it well. So I don't think it could be said to have blighted our careers.

#### [5]. CAREER CHALLENGES & THE NATIONAL PERINATAL EPIDEMIOLOGY UNIT

I never had any definite career plans. I thought that applying statistics to things of interest rather than just doing mathematical work for its own sake was more of interest to me. My first job at Rothamsted was great for getting experience of statistical work after having done a fairly theoretical course, because in those days with the manual calculators you were limited to what analyses you could do. On the other hand at Rothamsted, as Frank Yates, head of department, made it clear, that he always appointed women on a lower scale and paid women less, I knew that it wasn't somewhere that I would want to stay in the long term.

These days research is meant to, the idea is, that research will have immediate impact but one of the topics I worked on over a long period was research on place of birth, and this is an example of where policy was made in 1970 without any evidence. And with a colleague, Rona Campbell, we reviewed the evidence and decided the policy wasn't justified and published it both in a journal article, which is very rarely cited, and a pamphlet which was bought by 4,000 people. And this led up to a hearing of the House of Commons Health Committee on normal maternity services, which was the brainchild of an amazing MP, the late Audrey Wise, and they concluded there was no evidence for the policy that everyone should have their babies in hospital. This again, this led to a change in policy first under the Conservative government, and later a Labour government, and then at that stage the research which should have been done years earlier was done to investigate the policy and it was very much more detailed than what we were reviewing but of course it was in the same direction. So that was very pleasing. Another thing I found pleasing is that over the years I was in the National Perinatal Epidemiology Unit people would quite often ask for advice about statistics and about doing their research. And I went to the International Midwives Conference in Glasgow in 2004 and it was very reassuring that several people came up to me and said, 'Oh, you know, you won't remember me, I rang you up, you gave me this advice and I did this and then I did that and now I'm this.' And you know contributing to other people's confidence and careers is something I find very rewarding.

#### [6]. THE IMPORTANCE OF OFFICIAL STATISTICS

I'm concerned about, given that most of my research has involved re-use of official statistics, I'm concerned about the state of official statistics, that having developed them in the 1960s under the Wilson Government, they've been cut and cut and cut. It's concerning that we have much better technology these days and yet certainly in the field of maternity the routine statistics we have are not improving, in fact they are less good than they were in the past. For example, the London Hospital was a pioneer of obstetric computing but now it has a hospital IT system which is most uninformative and it just seems a very sad move backwards. More widely I think one of the positive things is that midwives are really becoming more active in research and use of data. And therefore being more questioning which is important. But equally the cuts and fragmentation in the health service is something which is very worrying because carving it up into little

pieces and selling it off to X, Y and Z gives you considerably less than the sum of these parts and make it more difficult, also make it more difficult to collect data about what's going on.

[END OF TRANSCRIPT]

**Further related resources:**

1. Christie D A, Tansey E M (eds) (2001) *Maternal Care*. Wellcome Witnesses to Twentieth Century Medicine, vol. 12. London: Wellcome Trust Center for the History of Medicine at UCL.
2. Derrett C, Wilkinson A (intvrs); Yabsley A (ed) (2017) *Biles, Brian: transcript of a video interview (26-May-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2017012. London: Queen Mary University of London.
3. Jones E M, Overy C, Tansey E M (eds) (2016) *Air Pollution Research in Britain c.1955-c.2000*. Wellcome Witnesses to Contemporary Medicine, vol. 58. London: Queen Mary, University of London.
4. Tansey E M (intvr); Tansey E M (ed) (2017) *Lord, Philip: transcript of an audio interview (21-Jul-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2017180. London: Queen Mary University of London.
5. Tansey E M (intvr); Tansey E M, Wilkinson A (eds) (2016) *Derrett, Christopher: transcript of an audio interview (22-Mar-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2016110. London: Queen Mary University of London.
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8. Wilkinson A, Derrett C (intvrs); Tansey E M (ed) (2017) *Macfarlane, Alison: transcript of an audio interview (23-May-2016)*. History of Modern Biomedicine Interviews (Digital Collection), item e2017188. London: Queen Mary University of London.