

Evolution of an academic career: DML's influence

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When I first met Don, I was already an established research fellow in regional economics. Don's subsequent influence directly helped me follow my dreams, passions and interests. Thus, my academic career grew, developed and transformed from regional economics, to information economics, and eventually to evolutionary economics. This reflection traces that evolving process, illustrating Don's influence throughout.

Not only were Don and I colleagues, working together on many joint research projects and publications – usually also with Stuart Macdonald – but along the way, Don (and Stuart) also supervised my PhD (Mandeville, 1996). When I first met Don, he was head of the Department of Economics at the University of Queensland, and I was a research fellow there in the field of regional economics, already with several publications, research grants and two books (Jensen *et al.* 1979; Butler and Mandeville, 1981). I was just getting established in academia, but, as will be illustrated, Don's ideas and influence profoundly shaped the subsequent direction of my entire academic career.

Initially, Don assisted in broadening the scope of my academic work. He suggested to me that, although I was a full-time researcher, perhaps I should consider doing some volunteer teaching in order to gain some teaching experience. The department of architecture and planning had asked Don if his economics department could provide them with a service course in basic regional economics. Don said, if I was interested, he would put my name forward. I was, he did, and so I held my first course with a great little class of about 12 second-year students. It was a good start to academic teaching, and helped me realise, early on, that, given my particular skills, talents and disposition, I would be wise to remain a full-time researcher as long as I could. This I subsequently did. Colleagues were very surprised that, when desirable tenured teaching positions were offered to me (at least two excellent opportunities came along), I did not even apply. Instead, I hung on and waited/applied for further temporary research contracts/grants. However, years later (as will be illustrated), I came to quite like the teaching side of academic work.

In terms of joint research, Don and I first had a meeting of minds in the area of the socioeconomic impact of information technology (IT). By the age of 16, I had developed a keen interest in the possible impact of computers on society. Partly this interest was stimulated by my great fondness for science fiction; I had read some excellent stories extrapolating very interesting social impacts of IT. For example, Isaac Asimov, in *The Naked Sun*, set his characters on a planet where everyone

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communicated via holograms, leading to a society where no one wished to be in the physical presence of others (Asimov, 1957). By then, I had already been following articles in *TIME* and *Scientific American* speculating on possible IT impact. These also chimed with my interest in utopian ideals.

So, when Don began talking about the ‘I’ of IT (that is, an information economics perspective on IT), I was obviously intrigued. Around this time, Stuart Macdonald and I were also doing some exciting things together, related to telecommunications and economic development issues. In particular, we were working on a paper (Macdonald and Mandeville, 1979) about how, possibly, developing countries could bypass some of the stages advanced countries went through to develop their telecommunications infrastructure. For example, they could bypass the fixed-line stage and go straight to mobile. Of course, a couple of decades or so later, this kind of leapfrogging by emerging economies was happening widely.

Also around this time, the momentum of my research funding in regional economics was running out of steam. This remains an on-going problem for research academics. In this instance – fortuitously – Don was asked by the then (1979) forthcoming Myers inquiry into technological change in Australia if he would like to tender for some of the research work. Don then asked Stuart and me if we would care to be joint investigators – with me being employed on the project as a research fellow. Yes, we were both keen. And so the information research unit (IRU) had its genesis with the three of us, and sometimes others, including Ann Moyal and Neil Karunaratne, working jointly on various research projects.

Thus began a significant change of direction in my career, or, to use entrepreneur-speak, I pivoted away from regional economics towards information economics. The IRU was very entrepreneurial. It often developed innovative research ideas, for which it then sought, and sometimes secured, research funding. Our work for the Myers inquiry on the diffusion and employment impact of IT (e.g. Macdonald and Mandeville, 1980, 1981) debunked prevailing myths about possible massive employment displacement effects of rapid IT diffusion in the workplace. Later, we went on to develop the seminal notion of the ‘I’ of IT in the information perspective of information economics (Lamberton *et al.*, 1982). This demonstrated why the prevailing idea of a ‘productivity paradox’ in the service sector was likely to continue to be realistic, despite increasing diffusion of IT. New IT in the office was not particularly productivity enhancing (despite the vendor hype) since the organisation needed to develop soft infrastructure to help the process of learning to use it efficiently. By the time users had learned how to use the technology efficiently, rapid technological change had brought new technology, requiring new learning. This was not a process likely to be rapidly displacing labour.

Now that the information economy has morphed into the digital, knowledge-based economy, and the Internet has emerged, IT has become ICT (information and communication technology). Again, there are many pundits, including, most recently, the world economic forum, forecasting that ICTs, artificial intelligence, robotics, automation, outsourcing and digital disruption will lead to large labour force displacement in the service sector of advanced economies. While this may or may not prove to be so, I suspect a careful ‘I’-of-ICT approach, coupled with an evolutionary perspective – after all, digital disruption is just the latest manifestation of Schumpeter’s (1950) ‘creative destruction’ phenomenon – could shed some new light on this complex issue. Unfortunately, Don and the IRU are no longer here to

do this, but perhaps one of Don's students writing in this volume – or one of their students – will take up this interesting challenge.

A lasting IRU project was the founding, funding and on-going editing of *Prometheus*. This was, and is, an innovative as well as demanding task. Eventually, what had evolved into the 'Don school of information economics' became known as the '*Prometheus* school of information economics' (Potts, 2003). Its emphasis, aptly illustrated by papers in *Prometheus*, on applied, policy-oriented technology, innovation and organisation issues, distinguished it from the better known, theoretical, market-oriented approaches epitomised in the 'information theoretic' work of Joseph Stiglitz, who received a joint Nobel Prize in 2001.

Another IRU project was central to the development of my academic career. When the industrial property advisory committee, which advised the Australian government on intellectual property (IP) matters, decided to conduct a review of the patent system in Australia, Don was asked to conduct the economic research component. The IRU now had a major, multi-year research project with considerable public policy implications. After discussions with Don, I began my PhD. My topic gradually evolved from 'economic effects of the patent system in Australia', which was also the topic of our research project (Mandeville *et al.*, 1982), to a more theoretical 'information economics perspective on the patent system' (Mandeville, 1996).

When my research focus shifted towards evolutionary economics, again Don played an influential role, with the result that this further reinvention of my career was no huge intellectual leap. Early on in my PhD work, he suggested that I read Schumpeter (1950). When the Nelson and Winter (1982) book appeared, Don said, correctly as it turned out, that the book was an important milestone, and urged me to buy my copy. In Don's view, information economics, or at least the *Prometheus* school approach, assumed the evolutionary perspective as a backdrop in its investigation of information and knowledge issues.

Don was always fascinated by the concept of an 'information sector'. Indeed, the IRU did a study of the Queensland information sector for the Queensland government (Macdonald and Mandeville, 1985). More broadly, Don was also interested in the meaning and implications of the information society. When the Internet changed everything, prompting the Organisation for Economic Co-operation and Development (OECD 1996) to coin a new term for this evolution of the information economy – namely, the 'knowledge-based economy' (KBE) – Don's influence inspired me to explore the wider implications of this new digital knowledge economy (Hearn *et al.*, 1998) for public policy (Rooney *et al.*, 2003), for the organisation of business (Mandeville, 2005), for service-sector innovation (Potts and Mandeville, 2007) and for economic development processes (Mandeville and Kardoyo, 2009).

When research funding became scarce, I shifted from research fellow to a full-time teaching and research post. Initially this meant quite a difficult adjustment, but eventually Don's inspiration as a teacher helped motivate my teaching in two key ways. Firstly, he persuaded me to develop specialised courses that reflected a good deal of my own research. These included courses on information economics, evolution of economic systems, economics of innovation and entrepreneurship, and globalisation and economic development. Initiating and teaching my own courses helped me to really enjoy the teaching side of academia. Secondly, Don's influence encouraged me to take on postgraduate supervision at honours, master's and PhD levels. Initially, many of my students worked on theses that developed an information economics perspective on particular economic issues. Unlike the traditional

approach of mainstream economics, analysis of information and knowledge considerations often yields novel insights and policy possibilities. For example, in examining the role of the patent system in innovation, an information economics perspective leads to conclusions very much at variance with conventional thinking and mainstream analysis: a view of the patent system remarkably consistent with the practice of open licensing in open-source innovation networks. Under an open-licence agreement, anyone can use an invention, but if they make an improvement on it, they are bound to share this with the open-source network, thereby advancing the overall innovation process.

To conclude, my career has been bountiful and fulfilling. Don's great intellect, his curiosity, his enthusiasm, his ideas and ideals, his work ethic, his love of innovation issues, knowledge issues, and particularly his love of teaching others have been fundamental in the development of my academic career.

Disclosure statement

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