

An instrumental scientist: Ivan D. Brown (1927-2014)



For those who might read this not having met Ivan, I can say with confidence that you would thoroughly have enjoyed doing so- been bathed in his kindness, entertained by his wit and supported by his ever-preparedness to help others address a real problem.

Ivan Brown died peacefully, surrounded by his wife and daughters, on 3rd November this year- just a few miles from the Cambridgeshire village which had been their home for nearly half a century. I was fortunate to be among a throng of family, friends and neighbours who celebrated his life on 20th November.

Ivan's career began somewhat unusually by current standards, given that he went on to achieve the recognition of British and international colleagues through awards of a Fellowship of the British Psychological Society, Honorary fellowship of the Ergonomics Society (1987), and several prestigious awards from the Human Factors and Engineering Society (HFES), including the Hal W. Hendrick Distinguished International Colleague Award (1990), the prestigious A. R. Lauer Safety

Award (1993). Ivan left school at 16- in 1943- and began an apprenticeship at Cambridge Instrument Company¹, studying at night for qualifications in Engineering. His progress at Cambridge Instruments was disrupted by a period of National Service – largely in India, where he swelled the Officer ranks of the British Army. Afterwards he returned to Cambridge, continuing his work at Cambridge Instruments, until in 1953 he applied for a post of Technician at the Applied Psychology Unit (APU), then located a stone’s throw from Cambridge Instruments. Constantly studying, Ivan gained external degrees in Psychology, BSc (1961) and PhD (1967), from University College London². Although the APU moved locations, Ivan never left it, retiring in 1994, as Assistant Director of the MRC Applied Psychology Unit. Ivan’s development from technician to senior scientist at the APU was a remarkable achievement, not least that it occurred at a time when it was the pre-eminent single influence on the burgeoning hegemony of cognitive psychology (Bartlett, Craik, Mackworth, Broadbent, Baddeley..., to name just the Directors, let alone scientific staff!).

What Ivan did at the APU was to measure things about people, as close as he could to the actual circumstances in which people did things they were used to doing. His fascination with vehicles- he was an active off road motorcyclist, and a leading member of Cambridge Matchless Motorcycle Club, in his younger days - led him to apply himself to problems, or measurement challenges. ‘Instrumentation’ is perhaps romanticising what were ground breaking studies of drivers’ “spare mental capacity” (Brown & Poulton, 1961), effects of listening to car radios in traffic (Brown, 1965), their nuanced inability to deal with what would become telephone conversation while driving³ (Brown, Tichner & Simons, 1969), driver fatigue (1967), the perceived “seriousness” of driving errors and offences (Brown & Copeman, 1975) and the exaggerated beliefs we appear to have in our own ability (Groeger & Brown, 1988). The latter is an example of how Ivan subtly challenged the received wisdom at the time, people may make ‘optimal’ decisions when they decide, but the temporal perspective of this optimisation is far shorter than one would have expected on the basis of utility theories. Wholly rational decision making, where death is the denominator, and excitement, time saving, and ease combine into a numerator, would lead none of us to venture onto the road. The irrelevance of subjective expected utility to a driver’s immediate decision making was one of the key messages in papers we wrote together on novice drivers (e.g. Brown & Groeger, 1989). Ivan’s work with Frank McKenna and John Duncan, represent very important attempts to apply rigorous psychometrics to safety in professional driving (Mc Kenna et al, 1986), and what was then fast developing neuropsychology to driving (Duncan, Williams, and Brown, 1991). This same ability to adapt methods of measurement in order to characterise performance in real world settings was also to the fore in Ivan’s ground breaking research on the demands of telephone switchboards (e.g. Wastell, Brown & Copeman, 1981, which used evoked potentials to assess attentional demand) and copy-typing (Hull & Brown, 1975, which contrasted the effects of visual and acoustic confusability).

¹ Cambridge Scientific Instruments, as it originally was when founded in 1881, was what we might now regard as a University ‘spin out’ company It developed from a collaboration between a don in Trinity College Cambridge (Albert Dew-Smith) and Horace Darwin, an engineer son of Charles Darwin. People who worked at Cambridge Instruments spawned household names such as Pye, Everett etc).

² This “external route” was favoured for APU staff, rather than registering as students in Cambridge.

³ Drivers were perfectly able to steer accurately between gaps when distracted, but were very poor at deciding which gaps they could pass through.

Because Ivan's unfussed geniality permeated the APU, one might easily wonder what Ivan did as Assistant Director. The rise from Technician to Assistant Director to Alan Baddeley, arguably one of the most influential cognitive psychologists of all time, is remarkable, and regrettably, probably impossible nowadays. Ivan, confident in his skills as maker, revelling in the challenge of understanding everyday problems and understanding the limits and virtue of engineering as a solution to these, was a perfect foil to Alan's more academic ambitions. He was the ultimate 'wing man'-entirely capable of leadership, shrewd in his assessment of those who sought to do so, but never pressing his own case where he judged others might be more successful.

Home grown, as Ivan was, his ability to make substantial societal and scientific contributions were very widely recognised as in, for example, his pioneering work developing the Parliamentary Advisory Committee on Transport Safety, the Visiting Professorship at the University of Groningen he so much enjoyed, a sabbatical in Canada's arctic regions studying extended time on task, as well as the recurring HFES recognition mentioned above. Delighting, as Ivan did, in travel and world-wide collaborations- decades before internet enabled us to do this so easily- he was, I suspect, happiest at home. One dimension of Ivan's humour was to be unrealistically literal, but "pottering about at home" was literally true in only one sense. He delighted in using his self-made potter's wheel create pottery plates, mugs and bowls for those he loved, all the while, no doubt, mulling over a witty revue he might write for his village amateur dramatic society, or what 'japes' might next divert a child or grandchild into another world brimming with curious possibilities.

In 1991 Ivan became an Officer of the Order of the British Empire (OBE), awarded by the HRH Queen Elizabeth for services to road safety. With the modesty and humour that were written through him, like a stick of souvenir sea-side rock and the related postcard humour he so enjoyed, he insisted that it was due to 'other buggers' efforts'. The truth is, however, somewhat different. Very many who never met Ivan have benefitted from Ivan's effort to communicate the utility of our discipline- truly trail-blazing in its time. So many of us lucky enough to do so knew his kindness and selfless creation of opportunities for others to pursue, and the trust, freedom and support which allowed us to thrive.

For those of us lucky enough to have worked with Ivan, it is almost impossible to remember him without a wry, but heart-felt smile, and an occasional memory that tickles each and every ventricle. His wit and spontaneity are impossible to capture in print, for me at least. I hope the following does Ivan some justice.....

The start of Ivan's retirement celebration at the APU was marked, as were many wonderful occasions, with the tinkling bell of Alan Copeman's trolley. Unusually in this case it was trundling towards the croquet lawn. Among other things, Ivan was presented with a bike. We waited expectantly for Ivan's speech- and - true to form he didn't disappoint. The spontaneity and subtlety of Ivan's humour was remarkable. He delighted in the bad pun, and double entendre, but the craft of his incisive wit and the precision and subtlety of its timing were remarkably consistent. Towards the end of an engaging and characteristically funny speech, he commented on how he had spent much of his research career in safety research - telling us how he survived his motorcycling enthusiasm, and explained that as he had grown older he was no longer sure that speed would be as comfortable and

enjoyable as it had been. Slowly, and very effortfully, throwing his leg over his new bicycle, and sitting with obvious discomfort on the saddle he quipped, "one thing I do know, though, is that 65 hurts⁴."

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⁴ (Hertz)