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Barry Dwolatzky (1952–2023): In memoriam

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On the morning of 16 May 2023, I received an email message from Estelle Trengove with the sad news of Barry Dwolatzky's passing. Estelle is the current Head of the School of Electrical and Information Engineering at the University of the Witwatersrand (Wits) as well as one of Barry's past graduate students. Barry was an active participant in the affairs of Wits University until the very end of his life. I met him for the last time at the opening of the Wits Innovation Centre that he helped to create; this was only four weeks before his death.

Barry and I enrolled to study Electrical Engineering at Wits in 1971. I recall in retrospect that many of the students of the day looked ridiculous. In our case this was probably a reaction to our recent release from national service. Distinctive features of our attire included long unkempt hair, garish bell-bottomed jeans, and tie-dyed T-shirts that were topped off with socks that didn't match anything. Our first meeting was probably on the Wits library lawn, in Pop's café, or in the student canteen. I still remember his smile, his softly spoken dry humour and a slight stammer that never left him. The class of 1971 included some very talented students, but we all found it a demanding course and down time away from our studies had to be rationed. A fond memory was Friday evenings with Barry at Jean Bodart's house. As engineering students go, Jean was a cultured man with an impressive collection of tape recordings and long-playing records that included several folk luminaries such as Pete Seeger, Bob Dylan, and Joan Baez. In these settings Barry made me feel uncomfortably inferior – even at this young age he was widely read with a rapidly evolving interest in South African politics.

Another fond undergraduate recollection was our Friday afternoon technical drawing classes that were held on the top floor of what came to be the Richard Ward building. An off-curriculum objective of these classes was to make planes out of A0 drawing paper and attempt to hit targets on the far side of Juta Street; despite our best efforts, the railway lines remained stubbornly out of range. Nobody would have guessed that in later life Barry would turn into a property developer who would be instrumental in the refurbishment of some of the buildings we flew over as students. Barry and I were separated in 1973, when he had to repeat a couple of courses; his multiple outside interests had spread him too thinly.

My 50-year friendship with Barry reminds me of two oscillators operating at slightly different frequencies that would slowly drift in and out of phase. Sometimes we were in contact and other times less so. After graduating in 1975, Barry stayed on at Wits to do a PhD in digital control systems. Motivated in part by his strong distaste for the military, and the prospect of further 'camps', he went to the University of Manchester's Institute of Science and Technology as a postdoc and then to Imperial College London. At roughly the same time I left South Africa to go to Cambridge. As fortune would have it, the head of the control group at Imperial was another Witsie, David Mayne, whose PhD supervisor had been the well-connected British elder statesman, John Westcott. John was apparently able to 'fix things' effortlessly within the UK civil service.

Barry's move to Imperial College required a new work permit. This involved a six-week wait and multiple trips from Manchester to the Home Office in London for a string of encounters with obstructive bureaucrats. Frustrated by all this, Barry explained his difficulties to John Westcott, who immediately picked up the phone and called a man named 'Bunter'. "His name is Dwolatzky, and the application number is xxx Thank you, old chap. Regards to your wife." John Westcott then explained: "If you go to Lunar House now your work permit will be ready." The full story can be found in Barry's memoir – *Coded History: My Life of New Beginnings*, which tells a more complete story of Barry's life as both an activist and a scientist. For what I am sure were sound reasons, John Westcott appointed Barry, while David Mayne hired me – we were united again.

Ever since his undergraduate days Barry had been interested in computers and computer programming. These interests were put to good use at Imperial where he joined John Westcott's group that was working on the computer modelling of the British economy. Their focus was to find ways of employing control-theoretic methods to develop the UK's economic policies. Barry worked on the 12th floor of the Electrical Engineering building at Imperial — we regularly got to meet for lunch. Barry's group included a fiery Turk and an equally volatile Greek. Barry's role was to develop software and mediate in all-to-frequent arguments. Barry did not like conflict and did not believe in the idea that the strength of an argument is proportional to the volume with which it is delivered.

As was routinely the case, fixed-term research grants would end, and the associated staff had to seek employment elsewhere. The conclusion of one such grant triggered my move from Cambridge to Imperial College, while the end of another resulted in Barry's move to the GEC-Marconi Research Centre on the outskirts of Chelmsford in Essex. This turned out to be a good move for Barry because he got involved in the use of artificial intelligence in robotic manufacturing. Barry was particularly proud of his contributions to flexible robotic manufacturing using object-oriented programming. As with many technological advances, artificial intelligence, computers, and high-speed digital communications can produce socially repressive consequences such as social credit scores, vaccine passports and manipulable digital currencies. Despite his enthusiastic support for these new technologies, he was less keen on the idea of his bathroom scales talking to the fridge, which would then conspire jointly with the local supermarket to 'improve' his diet.

When Barry was still living in London, and commuting to GEC, he received the news that he was seriously ill and would be immediately transferred to St Bartholomew's Hospital in London (a world-renowned cancer hospital). Barry had been diagnosed with hairy cell leukaemia, which at the time had a poor prognosis. I was amazed at the apparent calmness with which he took this terrible news – but that was Barry.

In 1989 it appeared that Barry's leukaemia was in remission and for various reasons he decided to return to South Africa. Another point of convergence was Professor Hu Hanrahan's offer of a senior lectureship for Barry at Wits.

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Barry Dwolatzky

In 1972 Barry and I were in our second year, and Hu Hanrahan was then a young professor who struggled to teach us some electronics. His return to South Africa was the start of a good period in Barry's

life: his cancer was in remission, he married Rina, he became a marathon runner, and an embryonic property developer.

Barry's many contributions to Wits have been covered by others, and so I will not deal with this aspect of his life in any detail. His Wits-related achievements included setting up several new undergraduate programming courses; he was founder and one-time director of the Joburg Centre for Software Engineering; he had the vision to spearhead the fundraising effort that transformed several rundown buildings in Braamfontein into the Tshimologong Digital Innovation Precinct and was its first director. He also persuaded IBM to establish their 13th research laboratory that is attached to Tshimologong. In 2016 he was honoured with a Vice-Chancellor's Award for Research and Teaching. He also worked alongside Wits University's Deputy Vice-Chancellor, Professor Lynn Morris, to establish the Wits Innovation Centre, which was launched only a month before his untimely death.

From a human perspective Barry was a simple man, but he was no simpleton. As part of Wits' centenary celebrations, we wrote a paper on some South African contributions to engineering that was recently published in this journal. While drafting the paper, I was amazed by his breadth of knowledge of the history of South African engineering and especially Wits' contribution to World War II radar; a topic I thought I knew well. He also had a high social IQ and was remarkably good in his dealings with people; I never knew him to become impatient or irritable, but he was also able to quietly stand his ground when necessary.

In closing, I would also like to mention that Barry was instrumental in arranging my current appointment as a Distinguished Professor at Wits, a gesture for which I am most grateful.

God's speed my friend, you will be missed by all those who had the privilege of knowing you.