

## OBITUARY



Paul Jowitt and Colin Brown at Gathering Together Farm, Philomath, Oregon, June 2010

**Professor Colin B Brown**  
Founding Editor of *Civil Engineering and Environmental Systems*

In the Editorial for the 30<sup>th</sup> Anniversary Special Issue of CEES I passed on the sad news of the death in November 2013 of Colin Brown, the Journal's last surviving Founding Editor. The Journal's other founding Editor, was Ian Munro, who died in 1985. I remember Colin saying to me at the time of Ian's death that he had lost his best friend. I feel much the same now.

The 30<sup>th</sup> Anniversary Special Issue was indeed special, not least for the role that Colin had played in establishing the Journal and then steering and supporting it in various ways for 30 years. In many ways, the Special Issue was a tribute to Colin. He was co-author of two of the Special Issue's papers, a discussor of a previous paper on civil engineering education, and the subject of some discussion of an earlier paper Colin had co-authored with another one of the "systems boys", David Elms. Colin was very much part of the planning of that special issue, and although he did not live quite long enough to see the final version in print, I know he was sufficiently aware and pleased with the shape it was taking.

In the last few years of his life Colin found a new direction in writing and thinking about engineering decisions, not just for themselves but because good decisions are central to engineering quality. It was fun, but what made it all the more exciting was the feeling he had that the work was significant and important. It seemed a useful and different direction, something that could never have been done in academic employment. It was a new phase of life and thought. The issues were not trivial: "*The topic has confused me and fresh thoughts have not contributed to clarity.*" It was a muddle, a genuine system problem, and from then on Colin became increasingly delighted as the issues gelled and expanded. The result was half a dozen papers with seemingly no end in sight. Some of them have graced this Journal. At his death two more papers were under way in collaboration with David Elms. It was typical of Colin that to the end he was excited by what he was doing.

Colin was born on January 15, 1929 (the exact same day as Martin Luther King, as he was sometimes wont to point out!). He emerged from a childhood set in the midst of World War II England. He left school in 1945. In some notes on his early life that he wrote for his family and which he shared with me, he wrote "*I detested the school life*", though he was a member of the school rugby team. He left school and "*at Birmingham Central Technical College I took a Higher National in Building and Construction Engineering, and then joined the Army, serving in post war Germany*". His army experience ended all desires to camp or 'rough it'. After soldiering he returned to the College and took the Higher School Certificate and got a State Scholarship to study at Kings College, London, studying philosophy, theology along with engineering, an apparent schism in interests that would define him throughout life. Always the iconoclast!

After working in Lincolnshire in Eastern England, he and his wife Irene decided to emigrate to Canada, and spent a couple of winters in Prince George, British Columbia before moving to Victoria. He then decided to attend the University of Minnesota to get his PhD. In his own words:

*"After graduating with a bachelor's degree in engineering I worked as a structural designer in England and British Columbia. The work was technical and required extensive hand calculations. I can still obtain a good enough answer with my slide rule. The relevant code of practice fitted easily into my jacket pocket. In Canada, a spell in the field as resident engineer provided a taste of interacting with contractors and making decisions based on back of the envelope sums. After six years of this professional life, Sputnik was launched into space and universities offered fellowships to engineering graduates. The Aeronautics and Engineering Mechanics department at the University of Minnesota provided an education that was a contrast with the undergraduate experience."*

He then joined the faculty at UC Berkeley in the 1960s. It was at Berkeley that he met Ian Munro who was spending a year there on sabbatical. They hit it off and became lifelong friends. It's there that both of them discovered "systems".

*Ian Munro came to Berkeley to conduct a course on shell theory whilst Igor Popov took a leave in residence. Ian and I were contemporaries, had served in the military without distinction and worked professionally for years prior to obtaining doctorates. We were aware of the bigger picture that the profession would have to encompass and the necessity of including subjective and non-numerical features into the decision making. However, we had no idea how to do it. One day we were walking down a corridor in the Electrical Engineering building and saw an announcement for a presentation on fuzzy sets. We turned left, sat down and listened to Lofti Zadeh give one of the first lectures on the topic. Afterwards we realized that this was a way to express vague and subjective information into civil engineering decision making but again, after hours of discussions, could not propose a scheme to accomplish the goal. We had to wait until David Blockley's seminal papers appeared before a satisfactory methodology became available. Before*

*Ian returned to Imperial College we decided to try to start a journal devoted to systems and it took us nearly twenty years for the first edition of this publication to appear.*

Berkeley were a bit slow in offering him tenure so he upped and went to Columbia University in New York. In 1969 he moved to the University of Washington in Seattle, leading the faculty with great distinction for 25 years. In the 1970s he came to Imperial College on sabbatical to work with Ian Munro. I was very fortunate to share my office with him. . . .

*Every few years I went on leave to foreign parts. The first was to Imperial College to work with Ian Munro. To my dismay I learned that I was doomed to share space with a doctoral student. The student was Paul Jowitt and he guided me through the entropy ideas of E T Jaynes and the battle going on between the frequentist and subjective views on probability. Those battles are long over and the combatants dead, but the exchange of ideas was important and now we certainly think in the manner of Bayes when undertaking our work. Again a major change in the last half century.*

And later. . .

*I was in Christchurch, New Zealand and met David Elms. Here the systems methodology was confirmed. Even though the political, social and other effects of a major earthquake near the same size cities in the United States and New Zealand would be very different, the individual systems studies would use the same methodologies and obtain relevant but different results. There was a sense that the systems approach is invariant to transformations in scale, time and place. At the same time David reinforced the view that an effort to increase precision at the expense of accuracy was a fruitless exercise.*

After retiring from the University of Washington, Colin and Irene moved to Corvallis, attracted by a town with a university, library, and plenty of trails for walking.

*Even now I realize that changes are going on all the time. Recently I attended a student banquet at Oregon State University where I have been received graciously since my retirement sixteen years go. The after dinner speech was on the topic of sustainability and I prepared for the usual abundance of platitudes. To my delight Tona Rodriguez-Nikl dealt with the topic in a systematic manner and revealed how broader ideas have to be included to any analysis and how superficial considerations can lead to incorrect solutions. Later he raised the problem of ethics in the making of civil engineering decisions that involve sustainability. To that time my interest in professional ethics was small. All that I had read on the topic seemed to involve club rules for professional behaviour. Tona pointed out that by varying the discount rate in any decision that included the long term future very different outcomes could be constructed. The arguments are formal and well understood. However, any decision will involve a world and population that does not yet exist. We are making a decision on growth, ecology, society and other matters for an unrepresented population. This has to be done but the ethical features of the process cannot be ignored. I suspect that such matters will become more significant in future years.*

*It is possible that the future arrangements in the profession are being generated by apparently separate activities today. I suppose there is some hope that a systems approach can reveal this bigger picture together with that peripheral vision that Ian Munro and I hoped for when we started this journal.*

Colin and I last met in Corvallis in 2010 when I was President of the Institution of Civil Engineers and Colin arranged for me to give the 2<sup>nd</sup> Kiewit Lecture at the University of Oregon. Colin, Irene, my wife Jane and I enjoyed a lovely lunch at Gathering Together Farm. I know that Colin was so pleased that I had reached the dizzy heights of the ICE Presidency. Well, without the help and support of my two great mentors, Ian and Colin, none of it would have happened.

In the early days, Colin and I used to exchange letters, and then emails but in more recent years we used to chat on the telephone every couple of weeks or so. The topics of conversation included systems, engineering, but more often than not, cricket, rugby and athletics. Often Colin would come out with one of his epithets. A few months ago we were chatting about PhD theses in connection with one of my graduate students. In one of his typically pithy comments he said “*a PhD should be regarded as a hunting licence and not a union card*”. A classic Colin comment. More recently, his family reminded me of another one: “*don’t be good at things you don’t want to do*”, to which it could be inferred that it’s best to be good at things you want to do. And Colin was. The best. He was a life-long learner and teacher; a man with wisdom and with a loyalty

to people, not institutions, who argued not only just to joust verbally but to make sure the facts aligned and the logic hung together. But overall a man who cared deeply about others.

Along with many others, I will miss him dearly.

Paul W Jowitt, February 28<sup>th</sup> 2014.