

More lives than a cat

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ABSTRACT: In a previous article published in this journal, this author recounted first his progression through receiving engineering education, followed by a similar telling of his contribution to engineering education [1]. The title, *Two lives out of nine* followed, rather loosely, from a previous writing in which he counted having had, up to the start of the new century, nine lives, the number a cat is said to have. However, the last decade or so has added further *lives* to that earlier number so he can now claim to have had more than a cat has (or is supposed to have), and that has led to this article. In these extra lives, he has made further use of that long education progress and has added further contribution to engineering education. Many conclusions can be taken from this account, an obvious one is that some older people never want to stop, another is there is a lasting benefit in education; and those are covered in what follows from this abstract.

Keywords: Engineering, management, education, life

INTRODUCTION

We really need to begin by settling the author's *nine lives* claim, and, despite every care in filing away written material, what he wrote about having had nine lives cannot be found. Thus, with no access to electronic memory we must depend on grey-cell memory, so now, looking back, here is what he offers as those *lives*, identified by years of age:

- 0 to 8 with parents, ended by mother's death;
- 8 to 14, living with father, ended by father's death;
- 14 to 25, living with grandparents, ended by marriage;
- 25 to 31, no children; ended by first birth;
- 31 to 32, one child, ended by second birth;
- 17 to 51, working in industry;
- 51 to 53, working as a consultant;
- 53 to 72, working in a university;
- 72 and after, retired;

which adds up to the feline number, nine.

Those divisions are of course somewhat arbitrary, such as the numbers showing some overlapping, and mixed in with those figures there is 5 to 17 in junior and high school; 17 to 23 in apprenticeship and trades school; 24 to 56 in tertiary education. There is also a relatively brief but historically important period, 20 to 22, during which he recovered from a traffic-caused injury.

And in the course of a total of now-over eighty years there have, naturally, been other events such as retrenchment (though none as literally, physically, shattering as the one in the early twenties) which have, like the wind and waves acting on a small sailing vessel, caused shifts of direction. Like many historical accounts, if one looks for details, they can be found, and they complicate simplicity into complexity.

So there is the nine lives, with what might be termed sub-lives within the nine. He does not argue all this is exceptional. Assuredly, many other lives would display even more interesting movements, but with an admission of bias he believes this record is worth talking about.

THE STIMULUS FOR THIS ARTICLE

Out of the proverbial blue, in late January this year, came an invitation to submit a paper to a conference, being held this year, in Florida (The 2nd International Symposium on Integrating Research, Education, and Problem Solving: IREPS 2012). The conference's particular topic is *case studies*, and the invitation was sent because one of the committee members had read this author's 2006 paper, which in part outlined the series of engineering management case studies written while teaching Engineering Management at the University of Technology, Sydney (UTS). The reader apparently had found the cases' outline interesting, and asked for more about them. Curiously, he had also taken the paper as the equivalent of a CV, which appears to have increased interest in the case studies.

Although somewhat puzzled by the thought that a purely personal record of receiving and providing engineering education could serve as a *curriculum vitae*, the author decided this opportunity could not be missed, the invitation was accepted, a paper was written and sent, and appears to have been accepted, even though the author stated, clearly, in the early correspondence, that he could not be present in Florida to present the paper.

FROM 2006: EDUCATION INPUT

After the content of the above section an outline of that earlier paper seems needed here, to give the current reader some idea of what must have attracted the American reader.

The author's engineering education began at the bottom of the engineering hierarchy, as an apprentice. How did that happen, when the grandparents could, probably, have afforded to pay for university education? It came about because his cousin, about the same age, who also had no effective parents (they had separated) and was living in the same household, wanted to study law, and this author believed (wrongly) that paying (late 1940s) university fees for both was not possible. So he became an apprentice to metal machining, which meant taking education for a tradesman in that craft, very conveniently and capably supplied by the employer at an on-site school.

That was followed by the Associate Diploma of the Sydney Technical College, which led to Bachelor of Engineering at the then-newly-formed University of New South Wales, to graduation in 1962. The eleven years from that to enrolling in the Master of Business Administration at Macquarie University in 1973 were spent settling down with family, in a house built in the 1950s, set on the edge of national park bushland. Graduation from Macquarie occurred in 1976.

In 1984, after a reasonably successful four-or-five years working as a one-person consulting firm, he took a position as lecturer at what was then the Institute of Technology, and here the word *stimulus* comes again into this narrative. He found a doctorate qualification was needed to be promoted through the tertiary ranks. At that time his son (born 1959) was already progressing towards a PhD, and the joint reaction to the father's enrolling was shared enthusiasm, they had both been undergraduates (though decades apart) at the same university, now they were sharing working on a higher degree; son graduated in 1989, father graduated in 1995.

FROM 2006: EDUCATION OUTPUT

Working in tertiary education began in 1962, teaching thermodynamics to Technical College students, something of a back-flip, considering that was where the author began his tertiary studies. The somewhat radical teaching structure he used in this subject resulted in an unusually-high pass rate, pleasing the teacher himself, his superior, and needless to say, the students. This was interrupted in 1973 by starting the MBA at Macquarie; in 1982 he was invited back for three years, and in the last of those three, in 1984, he also took an assistant lecturer part-time position at the University of Technology, Sydney.

That casual appointment led to some fifteen years of enjoyable work, first on contract, then, in a tenured position, teaching management, plus some other miscellaneous subjects, to undergraduate engineering students, and providing expert opinion on accident cases. The management subject was developed quickly into a combination of straight lecture, with an audio-visual item, and a weekly assignment in the form of a management serial of short stories, each able to stand alone but forming a series of decision problems; this, again, was a somewhat radical process, nothing like what had been used before, and which proved to work very well. These engineering management case study assignments are, apparently, what attracted the attention of the Florida conference.

This was, for many years, very satisfying work personally and as judged by the internal assessment system, but the final one or two years before he retired from UTS in 2001 were dissatisfying for several reasons, not only because his class effectiveness was diminished by decree but also due to a series of disquieting events, such as an attempt to bribe him to retire earlier and promotion denied after at least nine applications.

The second last straw was a farewell lunch tinged with an emanation of hypocrisy from many attending, and any future connection with the Faculty was terminated in 2002 when not one person, not even one of those with whom he had worked for some sixteen years, acknowledged his daughter's death, even though that was known by many, including the dean of engineering.

MORE LIVES?

In the earlier paper, this author remarked that there seemed *to be a measure of impudence* for someone of his age having future plans, etc, but he did state them as continuing with consulting and publication. So what has followed from those previous nine lives?

LIFE NUMBER TEN

The first was consulting work, which had begun in the 1990s, taking investigations from Insearch, a UTS commercial department, which acted as agent between parties needing consultants, generally to serve as an expert witness. The tasks he took were based generally on his doctorate work by investigation of industrial accidents. Time available for this work was limited by class time and other university activities. But having retired, opportunity increased, and was taken.

This record does not cover the pre-retirement period, it dates from 2000, the year before retiring, when only one investigation was recorded. But in 2001 seven were taken, 32 in 2002, and 16 in 2003; some of the work in those boom-years came not only from Insearch but also from Unisearch (a similar department in the University of New South Wales), some from a small private agent, and some were acquired personally. Most actions were based on a claim of negligence, an aspect of law he had learned at Macquarie, but basing a case on that became difficult after NSW state government legislation virtually prevented negligence claims from being used as a cause of legal action. The result as a fading-out, three in 2004, one in 2005, and none in 2006.

Many of the investigations were for accidents causing injury to employees, some were for damage to property, all in a variety of businesses, large and small factories, clubs (one case in Star City), shops, bank premises, and in a variety of locations, many in the metropolitan area, some in the country and some interstate. There were a few others not on accidents, such as one on a patent infringement and one valuing goods recovered after theft.

Being an expert witness is not simple or easy, there is a code to which the witness must adhere, and it is usual to find, if one is working for the defence that the plaintiff has an equally strong expert on his side. On one occasion, somewhat to his dismay, he found the opposing expert was the son of the man who had been his research supervisor when he had been a doctoral student. However, it is interesting work, the most important aspect being to ask the right questions, which can be very difficult when the truthful answer to the right question may reveal something preferred hidden.

It seems, around 2005-2006, there was some structural change in both universities, the department names changed, Insearch became Access and Unisearch became Global, the people also changed, and the work began to pick up; two investigations in 2007, four in 2008, two in 2009, three in 2010 and five in 2011.

One may readily conclude that those expert witness cases went a long way towards relieving the boredom experienced in 2002, immediately after retiring, and there is no doubt they did. One might wonder about his working with a UTS department after having remarked above that contact with the UTS Faculty was terminated after 2001; the reason is the women who worked in that department in 2002 heard of what had happened, and sent a suitable card and a large bunch of flowers; even though those ladies have left, replaced by a new crew, and the name has changed, the memory of their response is strong even though ten years have passed.

LIFE NUMBER ELEVEN

The desire to outdo *felis* is irresistible and continues; the next *life-step* was continuing publication. Why do so, after having left the Faculty? And remembering how that body took little, if any, notice of the flood of conference papers he poured out, year after year? That is a long-standing puzzle, examined in a later paragraph.

Academic publications are financially important to a university, a research report goes to Canberra every year, and the Federal government distributes extra largesse for what is in that report, more for journal papers, but even humble conference papers get funds. (As something of an aside in the general flow of this article, the author confesses he became sufficiently irritated by lack of recognition by 1998 so he visited the Dean of Engineering at the University of New South Wales, where he had been a student twice, and agreed a deal: in exchange for crediting his papers to UNSW instead of UTS (where he was still employed at that time) he would be given a position as Visiting Fellow, quite honorary, of course, costing UNSW nothing and paying the author nothing. So for some fifteen years all his conference and journal output has been bringing extra funds to UNSW, a relatively small amount, but real.)

The flow of publications, generally, depends on one factor: getting ideas. In some year there has been more a flood than a flow, from the year 2000 a hasty (possibly lacking in complete accuracy) check through the records shows: eight in 2000, seven in 2001, two in 2002, two in 2003, seven in 2004, four in 2005, four in 2006, two in 2007, three in 2008, five in 2009, six in 2010, and five in 2011, to total of 61 in 14 years. The previous years, from shortly before entry into academic life to 2000 show an output of 85, making a total of 146, a quite significant number, and more so if the number of unaccepted or undeveloped abstracts were counted in; perhaps a total of 200 ideas.

All that inevitably brings up the question: from whence, and how, come the ideas? Inspiration or perspiration? Mental slaving to conjure up something, or relaxing in a wool-gathering mode and letting them come in? All of those, and others, at different times? This author believes he has experienced all possible ways of getting ideas, for example, reading about an explosion loading a ship with ammunition during the second World War (cause said to be lack of adequate training) and a fire in a prison located in a Sydney suburb; the connection provided the basis of a paper stressing ignorance is not bliss but can be dangerous.

Another came from thinking about leadership and how it comes out in W.S. Gilbert's comic operas, another came from thinking of what student engineers can learn from the way fictional detectives have been shown to solve their cases. And sometimes ideas grow, serial-wise, an un-explored aspect of one can lead to a new idea.

From all these reminiscences (and many others), the author concludes there is no lack of ideas, they exist all around us, like waste papers on picnic grounds, all we need do is pick them up and collect them for use. Indeed, it is a puzzle why so very few of his colleagues wrote any papers, why most never wrote anything at all.

LIFE NUMBER 12

In 2007 (about the time of his 79th birthday) he was invited to take a position as a company director, not in a large company, indeed quite a small one, managing a block of shops in a Sydney suburb, a position which would bring in a small income but seen to be very interesting for a number of reasons. The main interesting reason was the problem of getting a new lease for the shops' site, owned by a State government department; this task has required working with an accountant and a lawyer, both of whom of course operated in different fields, but some memories of subjects studied at Macquarie in the MBA programme provided a base for understanding their special areas. So the work involved in this life has had (as one might expect) required learning new details, new techniques, new tricks; however, using previous education as a base. This experience strongly reinforced the author's belief that any education is valuable and important, even being able to read and write.

The appointment came at a time when the original directors decided to retire and hand the reins over to younger people; an amusing concept, both were younger than this author, who took one of the two directorships and an accountant (perhaps about half his age) took the other position. The logic in the minds of the retiring directors was: once a new lease was organised there would have to be a renovations programme, which would need an engineer to organise and supervise the work and an accountant to control the expenditure. This logic has proved thus far to be very reasonable, the only hitch has been the length of negotiation time with the government department, and communications for this have now gone on for over two years. There is some hope there will be progress this year.

ANOTHER LIFE?

The author hesitates to go to a number thirteen, he does not suffer from triskaidekaphobia and, in fact, has survived living in number thirteen in the street since a few years after marriage, so one might suppose, correctly, that the next would be *life number 13*. But this further life is an offshoot from Life Number 8, working in a university, so to avoid any sensitivity in the mind of a reader (or in his own) this life will be titled Life Number 8a.

This life-number relates to the serialised engineering management case studies, set in a chemical manufacturing company with the principal action occurring in a factory, written for classes through the '80s and '90s, six of which series were bundled together in book form, printed and bound paperback-style, and given to students at the end of their semester. At some time, over twenty years ago, perhaps around 1990, the author decided that the whole developing story-line deserved wider publication and began by submitting one of the later series (the first about accidents in a factory) to recognised main-stream publishers, making to them the point: *You regularly publish books about lawyers and doctors, and their work, so why not one about engineers?*

Anyone who has *not* gone through the writing-publishing process will have no idea what it is like, in this case, it has taken about twenty years to get into the game and, then, slightly less than two years from that favorable reply to copies-in-shops. Rejection was followed by rejection, none were interested, not even the publisher, which had published a similar story about engineering and management in the aircraft industry, all giving the impression that publication is only offered to those who have been previously published, raising the question: how does someone not already published get into the game? The answer seems to be: first, get published, but again one asks: how?

After so many rejections, there was a pause of a few years while attending to other matters, then, the author returned to the fray by going back several steps in the series, to near the beginning, to the narrative-time when the factory was being built, and tried the mainstream publishers with that. More rejections.

As a last straw a small publisher, Sid Harta Pty. Ltd., in Melbourne (the city which competes with Sydney as the cultural capital of this country) was contacted in 2010 and there was a cautious reply, inviting a more detailed and full submission, which was put through an appraisal process, accepted, it then through an editor, who made sundry recommendations, and finally to a designer, who took over the typesetting, cover, etc. All this was interrupted by family matters, and discovering need for revisions, and some serious misgivings about what was happening to print-

output books. In mid-2011, after much effort tidying the narrative, twenty *galley* copies were produced and the author sent ten to readers for review opinions, most of which were satisfactory though exposing a few needed corrections.

Where does that fit with engineering education? Here is what came from George Anastas, an American engineer who specialises in industrial safety:

I found *A Project in Ammonia* a marvellous blend of engineering, project management, science fiction, the future, corporate bureaucracy and politics, and corporate succession planning.

Succinctly, I enjoyed reading Ron Ward's tome.

Engineering students in the United States generally receive an excellent technical education. However, they do not receive much guidance in project management, management, personal relationships, cooperation and leadership. Accordingly, one market for *A Project in Ammonia* would be undergraduate and graduate engineering students coupled with a course (perhaps 1-2 semester credit hours) in Ethics, Project Management, Management and Leadership.

I found the primary characters well developed and the situations relating to management all too familiar.

And from an Australian engineer, Graham Lunn, retired, but from his remarks we see he is well aware of what goes on in corporate life:

I was particularly impressed with the chief executive (Sir Dennis - CEO) and his experiment with Professor Huntsman (University of London Business School). The way the exact paperwork that the project manager on Cheap needed to open his eyes to a new management technique was available and sent without fanfare by the Professor so that Arthur had to work it out for himself and did so to his credit. I was also impressed with the way Sir Dennis handled the possible infidelity and industrial espionage of Jeremy Minster (whom he was grooming to take his place as CEO).

The plot had many facets to it and stemmed from the bond between characters and the strength of the story and the way the diverse and capable people made a team to get the project going on Cheap. Major budget disasters were avoided by various ploys of the team members to keep their monetary stream positive. Sometimes this meant not divulging the real truth to head office.

Both had, and others have, more to say, the above is sufficient to show the tale-as-told contains details, which not only make it a readable narrative but it also contains teaching material.

In late 2011, after more work on the text, a printer's proof copy arrived for checking - and that identified some more necessary corrections, which led to production of a second proof, requiring further minor corrections - and this week, the first week of Autumn, *A Project in Ammonia*, is finally going into production, nearly two years after beginning negotiations with the publisher and about twenty years after this author first tried seeking publication for his fiction.

Rounding off this section, an interesting question may be generated by this novel's history. It is, of course, based on the case studies given to classes, and of course they were written when this author was employed by the particular university, so can that organisation make any claim if the novel's sales are satisfactory? It is possible, it might. The facts which argue against such a claim's success are: first, all the writing was done at home, furthermore, and more vitally, no-one in the Faculty (or the University as a whole) paid any attention to the author's output, no-one requested a copy of the paperback compiled copies of the cases, and when the reason for the success of the subject he was teaching, the case study series, was presented at promotion interviews it had no effect on the committee, promotion was denied at least nine times. So, the University paid no part in the creative writing, and paid no attention to what was the novel's foundation; therefore, any claim of connection with the work has no substance.

A FINAL NOTE ABOUT LIVES

Do those lives conflict with each other? Of course they do, some days a publication idea may be buzzing around, urging development on paper (figuratively, that is, the output appears on the screen) but the day's time requires travel to the shops to see what is going on or to supervise some activity, or vice versa. Or, now the novel is with the printer he should be working on the sequel but this paper must be finished - and so on, there is a benefit in having active lives, but they do intrude on each other. Would one have it any other way?

CONCLUSIONS

During the last weeks of February 2012, this author was in the elevator, which goes up from the parking levels in the local supermarket to the shop level and overheard a brief conversation between two people, strangers to the author and both younger than he: one asked the other the ordinary *how's things?* question, and the answer made clear the other

was not enjoying life, and, it seemed to this unwitting observer, that the sooner life stopped, the better. The author's mental reaction was: how sad, that a person so young (maybe seventy-ish) has nothing to which he can look forward.

Of course, physical condition can affect a person's view of life, and the injury suffered in 1949 certainly limits the author, sport such as playing tennis, enjoyed forty years ago, no matter how seldom a game was won, is no longer possible. But mental sport, such as acting as an expert witness (life number 10), continued publication such as this present article (life number 11), acting as a company director (life number 12), and the supreme effort of getting fiction published (life number 8a), still goes on, with no end in sight - yet. Being over eighty is no reason to shut down what one can do. There has been, from time to time, articles in the media about the business community's neglect of older workers whose skills may be out-of-date, but whose abilities may still be valuable in many ways, and while one must agree that potential value depends on many factors, this paragraph illustrates how age does not necessarily dim but can lead to new lives.

Now to the note in the abstract about the value of education, how has education contributed to these lives? Working on the PhD topic provided the entry to expert witness work, the topic was *the relationship between management and hazards in the chemical industry*, and that opened up the problems and solutions of industrial accidents generally. The MBA programme provided much of the background for the case studies, as well as the knowledge needed to teach management, and has also provided some of how to cover the company director position. The Bachelor's degree in engineering, with the college diploma leading to it, gave the beginning of the fundamental information, which fitted in valuably with all else which followed. None of those lives, 10, 11, 12 and 8a would not have been possible without the education background, and lack of educational continuance after trades school would have severely limited, probably changed completely, lives 4 to 9.

REFERENCES

1. Ward, R.B., Two lives out of nine. *Global J. of Engng. Educ.*, 10, 1, 101-110 (2006).

BIOGRAPHY



Ronald Bentley Ward arrived in Sydney, New South Wales, on 6th October, 1928. He attended early schools in inner suburbs, then Sydney Technical High School, still recognised as the one for engineers and scientists, which was in the 1940s located close to the city, now in a southern suburb. After passing the Leaving Certificate in 1945 he worked as an apprentice, then as a tradesman toolmaker at the Commonwealth Aircraft Corporation from 1946 to 1954. He, then, moved from aircraft engine manufacture to chemicals and worked with several firms in engineering positions up to 1979 when he opened his own consulting firm, specialising in project management. In 1984 he became a lecturer at the New South Wales Institute of Technology, which became the University of Technology, Sydney, and retired from that position in 2001. While working in industry, he completed a trades course in fitting and machining, the Associateship Diploma (Mechanical Engineering) of the

Sydney Technical College, Bachelor of Engineering at the University of New South Wales, and Master of Business Administration at Macquarie University. During the years at the University of Technology, he returned to the University of New South Wales to research a thesis on the relationship between hazards and management practices in the chemical industry and was awarded the degree of Doctor of Philosophy in 1995.

He has published three books, one text on communication, another on engineering management, and a third book outlining some engineering oddities, plus well over a hundred-and-forty papers on education, engineering, accidents, management and speculative topics, over a hundred-and-twenty expert witness reports. He has also written a series of one hundred-and-ten fictional case studies, and two as-yet-unpublished novels. All of these exemplify his interest in engineering as a profession, and the need of a broad education at the undergraduate level, where topics other than those purely technological should be included and presented in a manner to suit those students.

He has lived in Sydney suburbs all his life, and travelled interstate and overseas many times to conferences with his wife, Brenda. He has maintained his connection with engineering education by continuing to write and publish, and by having been accepted in 1998 as a Visiting Fellow in the Faculty of Engineering of the University of New South Wales.

He thanks WIETE for the invitation to submit this article for the Global Journal of Engineering Education.