Liber Amicorum for Alan Bundy by Francisco Cantu

Alan:

It was a real privilege for me having the opportunity to become a DREAMER during my PhD days at Edinburgh 1992-1997 and an past-DREAMER after my graduation in July 1997. I had learned about the standing AI work at Edinburgh by reading numerous publications in papers and books during the 70s and 80s and I always thought that it would be a formidable experience if some day I could earn a degree from such a prestigious university. However, because of work and family commitments, I realised that time had passsed by and that it was already too late for me to engage in the endeavor of getting a PhD degree, being a mature adult approaching the age of 40, with a wife and 4 children to take care of, and with unavoidable job obligations. But I said myself, why not give it a try, and I made an appointmet to meet you in Sydney during IJCAI 1991. I felt grateful and optimistic after that meeting and during the following year I went through all of the admission precedures that allowed me to start PhD studies in October 1992 at the age of 40, with serious doubts about the final success of such an adventure. During the admission process early 1992, you proposed the thesis topic of using proof planning to verify hardware designs. That was the next difficulty, since my background was on software and knowledge engineering and my knowledge of electrical engineering was very elementary, but you said, you will learn whatever is necessary to understand the problem domain. And you were right, the courses in electrical engineering I sat in at Kings Buildings and the reading of books in digital circuits provided the necessary background for the hardware part of the research. I spent the first year at Edinburgh by taking a sabbatical from my university Monterrey Tech, leaving the family behind to fully concentrate on defining the thesis proposal. The next difficulty was, what's next after the sabbatical?, and you help me to find the answer, the "home and away" option for foreign students. That alternative allowed me to keep my job, to be near the family and to pursue the PhD studies from abroad by interleaving regular visits to Edinburgh for doing work and presenting progress reports, writing bluebook notes and attending dream talks at your office, and that became a way of life between 1993 and 1996. And finally, after many hours of figthing Clam and Oyster, after 20 trips between Monterrey and Edinburgh, and with your wise guidance, advise and encourangment, the providencial sup-

port of my second supervisors Alan Smaill and David Basin that you helped me to sign in, and the help of friends like Toby Walsh, Andrew Ireland, Ian Green, Raul Monroy, Santiago Negrete and others, I submitted the thesis on March 11, 1997, presented the Viva on May 29, 1997 and graduated on July 09, 1997. The thesis was submitted from Monterrey by a remote printing that was collected and soft binded by Raul who made the submission on may behalf. Alan Smaill wrote during those years parts of code for Clam and Oyster that was indispensable for generating proof plans and executing tactics respectively. Writing the thesis in a coherent way was another challenge, especially for a non-native English writer like myself, and still it is. Yourself, Alan Smaill, David Basin and Toby Walsh did thorough reviews of drafts of the thesis that finally gave it the final shape. Of course, errors and mistakes in the thesis remain mine. Knowing who the examiners would be was a scaring experience, because their prominence and reputability as leading researchers, Mike Gordon and Mike Fourman; I called the Viva the "Mikes" nightmare. But your advise and counseling gave me the confidence to defend the thesis and as a result, the Viva took less that an hour and a half fin minro corrections that were done ina week for submitting the final hard-binded thesis on June 12, 1997.

During the last eight years after graduation, many lessons learned from you are still present and helping me in daily decisions of my academic and professional carreer, especially in my current duties as dean of research and graduate studies at my university. Many people including myself have tried to clone at least in part, aspects of the research environment and organisational scientifi culture that you have developed at Edinburgh, butthat has not been possible. I was really happy when I learned that you were elected recipient of the Donald E. Walker Distinguished Service Award during IJCAI 2003 in Acapulco, Mexico "...as a pioneering researcher in the automation of mathematica reasoning, Prof. Bundy is recognised for his outstanding service through his development of AI at Edinburgh, to the AI community of the United Kingdom and to the international community...", I enjoyed a lot that ceremony.

Because of my current duties, I had moved into areas of philosophy of science and epistemology, finding about the schools of thought prevalent during the 20th century like the neo-positivistic, logic school of the Wiener Kreis at Vienna founded by M. Schlick with contributions from Ernst Mach, Wittgeinstein (1899-1954), Carnap and others, the falsation argument of Karl Popper (1902-1995) and the structure of the scientifuc revolutions of Thomas Kuhn,

and I have started to make sense of terms that during my PhD days were incomprehensible such as "rational reconstruction", logic versus ontological truth and the sociology of proof. I then wondered, why does someone would want to make a rational reconstruction of rippling and the mathematical induction principles hardwired in the Boyer and Moore theorem prover?; isn't the Tarski semantics for giving symbols a meaning by associating them to real things just a re-wording of the definition of truth given by Thomas Aquina in his Summa Theologica in 1273 who defines it as the adaptation of the mind constructs to the real word?; why does a logician and AI researcher would want to do joint work with fellows from the Sociology department?, does the concept of truth is the result of the social acceptance of a theory even if it may be shown latter to have flaws?; does the empirical and inductive tradition that started with Roger Bacon (1220-1292) and Duns Scott (1274-1308),and was continued by other British philosophers like Francis Bacon (1561-1626), David Hume (1711-1776), Stuart Mill (1806-1873) and other British philosophers and scientists has to do with the fact that mathematical induction is so relevant as a research theme?; in what part of my PhD thesis did I apply the scientific method, because I do not see it in an explicit way in the document?. Terms like material logic versus formal logic make sense when former is understood as philosophical logic and the latter as symbol manipulation that follow axioms and rules of inference without regard to the semantics. The logical study of logic or meta-logic, is another concept I have been reflecting about. Ideas such as mete-level reasoning and object level reasoning start to make more sense. Many other things can be said about untuitionistic logic and issues about the philosofy of science and knowledge including reflections about Copernico, Kepler, Galileo and Newton, as well as Kant, Compte and modern philosophers, but that will be in another ocassion. These and many other thoughts come now to my mind adn make me reflect from a different perspective about my PhD days at Edinburgh.

For all this and many other things that are difficult to put in writing, I want express my deepest gratitude with all my heart and I may pray the Lord that He may bless you, bless your family and bless all of your projects, now and forever. Thanks Alan!.

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Francisco J. Cantu
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