

## **Book Reviews / Comptes Rendus**

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Damer, E. (2002). *Discovery by Design: The Department of Mechanical Engineering of The University of British Columbia Origins and History 1907-2001*. Vancouver, B.C.: Ronsdale Press. Pages: 220. Price: \$29.95 CAD (hardcover).

**Reviewed by Carolyn Baillie, Faculty of Applied Science,  
Queen's University.**

*Discovery by Design* by Eric Damer suggests that we would be reading about Discovery or Design. Jean Barman's comments on the back cover give us the impression that we will be learning something about the way in which a university department influenced the local community. I did not find either of these elements in the book. Perhaps this reflects my wishes, that if I am to spend time reading about the past, I want to know what it was like, what people felt like, how they spent their time, and why things developed the way they did.

What Damer's book does demonstrate well, however, are the driving forces for the current status of most university engineering departments (even in other countries). He starts off by telling us that the department was in fact developed in response to local needs. There were not enough engineers in the vicinity to train by apprenticeship the number required for all the new technologies

(engineers tripled in number between 1901-1911 (p. 21)). As we move through the decades, we see the change from engineering practice to engineering research, from a technical preparation to a preparation for a career in research or management. We see the first Ph.D. faculty employed in 1958 (p. 77), the advent of National Research Council grants in 1956 (p. 78), and by the 1960s, the lack of technical training was noticed. "The Department of Mechanical Engineering was not responsible for educating engineering technicians" (p. 86) says Damer. Who was then? No local school was equipped, and so the province was effectively back to square one. By 1975, Damer tells us that professional engineers in British Columbia were considering whether researchers in Canadian universities over the past decade had turned engineering education into a "disaster area" (p. 90). Since then, of course, we have seen the introduction of more and more aspects of the curriculum to make the programmes "relevant to employers" and the need for accreditation to ensure that relevance with the introduction of the CEAB in the 1960s. Still moving slowly back to the starting point, we also learn about Ed Hauptmann who, in 1970, considered three main objectives of engineering education. The first was to teach students a scientific and technical competence, but the second was "to understand the complex interactions of technology with the social and economic environment," and the third "to develop a sense of personal responsibility and awareness of (engineers') contribution to society" (p. 98). All themes that we still hear today and none of them have really been addressed.

Outside the curriculum, we see that the development of social conscience was no more apparent in the students. Although a student engineering society was encouraged because it "produced a better sense of social responsibility" (p. 100), after two years it was heavily criticized for "mob activity and violence." Damer's review gives us no encouragement that this situation has really improved. In fact, on my arrival into Canada during 2003, I have been appalled at the archaic tribal rituals of certain groups.

The issue of fees is mentioned briefly—and how this would affect who studied and who could not. It is not developed throughout the book as much as it could have been. This is one aspect of education which I believe has a profound influence on the social make up of the engineering student, especially so with deregulation. Damer, in fact, suggests that the “rhetoric of material self-interest dominated the early (Technical) Association” (p. 34) and later we see the “scramble for research funds” (p. 123) threatening department culture.

By the 1980s, Damer tells us that “the undergraduate programme continued to be a major department responsibility” (p. 125). Isn’t that what the department was meant to be responsible for in the first place? He also notes that “student representatives continued to raise concerns about teaching effectiveness” (p. 128). Student evaluation of teachers was introduced as a result. However there seem to have been little evidence of a need for faculty teacher training.

All of the above comments are true of most engineering departments that I know. In some countries, there have been attempts to change certain aspects—Sweden, for instance, has large programmes attending to gender issues, and in the U.K., faculty teacher training is now compulsory. However, much of the history we read here would be paralleled in other countries and in other universities. As Damer says in his preface, “the UBC Department of Mechanical Engineering was brave to hire an ‘outsider’ to write its history.”

As with any aspect of life, we always “negotiate” knowledge such that the way *you* receive the “facts” will always be different to the way that *I* do. In fairness, I did find out a lot about how the structures that I dislike about engineering education came into being. I did find out how a focus on developing engineers to meet people’s needs in society became a focus on ignoring students whilst pursuing more interesting and expensive research programmes instead. I read the book and felt like an outcast. These were not my people. I did not belong to this strange group of cold individuals who seemed

only to care about profit and self-interest. How many others have felt this before? Damer himself tells us that the first female student to get through the system was in 1967. Not the first to enroll, mind you. I was reminded of Florence Violet McKenzie, the first female electrical engineering graduate (about the time of the First World War) in Australia. She was refused entry into the University of Sydney, and went on to join the local technical college, where no one had mentioned gender, but the only requirement for entry was that she had to be an apprentice engineer. Florence taught herself how to install electricity and did so in a house in the outskirts of Sydney, then received a signed certificate to say that she had done this. On producing this paper at the Dean's office at the now University of Technology Sydney, they reluctantly had to let her enter. Why do I mention this now? Just to demonstrate that this, for me, is a real story. What I noticed most, when reading the book, was that women were just not there. How different would things be if there had been a balance of gender throughout this period? Perhaps I'm biased, but then I think I have a right to be.



Bumsted, J.M. (2001). *The University of Manitoba: An Illustrated History*. Winnipeg: University of Manitoba Press. Pages: 228. Price: \$34.95 CAD.

**Reviewed by James D. Cameron, St. Francis Xavier University.**

J.M. Bumsted, a faculty member at St. John's College, The University of Manitoba, is an important Canadian historian. This university study is merely his last entry in a long list of valuable contributions. The glossy, illustrated history has a preface, seven chapters, an epilogue, an appendix (lists of chancellors, presidents, chairs of the board of governors, etc), and suggested readings.