

Despite the Odds: Essays on Canadian Women and Science. MARIANNE GOSZ-
TONYI AINLEY, ed. Montreal: Véhicule Press, 1990. 452 p. ISBN 0-919890-96-2.

This anthology represents a model marriage of two disciplines, history of science and women's studies, which are themselves interdisciplinary. The result is a hybrid collection of twenty-four essays running the gamut in approach from antiquarian to scholarly, and from historical to sociological. The thirty-four authors themselves constitute a group every bit as diverse, including historians, mathematicians, and scientists, and social scientists with various areas of specialization. The wonder is that so many variables can be made to work as well as they do here, and much of the credit goes no doubt to the editor. Marianne Ainley, a former industrial chemist who went on to earn a Ph.D. in the history and philosophy of science, herself personifies the multidisciplinary nature of the book she has produced. Dr. Ainley has worked with care throughout, not only to order diverse materials under the rubric of a common theme, but just as importantly also to permit fragments and loose ends to reveal limits of our knowledge in this complex field of study.

Despite the Odds proceeds from the premise stated in Ainley's introduction, that "women have been under-represented in positions of power within an increasingly complex scientific community." This "lack of visibility," she writes, resulted from "complicated historical processes" which "obstructed women's higher education and career advancement" and "obscured and minimized their actual participation in science" because of "rampant stereotyping." It was "further compounded" by "the minimal representation of their achievements in textbooks and reference books" (p. 18). Each subsequent essay shares these assumptions and offers evidence intended to "redress this neglect" of women's "contributions to science and society as researchers, teachers, and editors of scientific journals" (back cover). Indeed, the articles set out to "describe issues and experiences that were representative of what happened to Canadian women in science in the past, and shed light on the problems faced by contemporary women scientists." In all cases, science is interpreted broadly, to include "medicine, mathematics, social and applied science, technology and innovation," and more generally as a "social activity practiced in a variety of settings on many different levels" (p. 17).

As a consequence of this programme, the essays are organized in three very different sections. The first, "Historical Studies," presents eight essays depicting women's experiences in Canada as both contributors to scientific knowledge and consumers of technologies since the early nineteenth century. Ainley opens this section with her own contribution on Canadian women natural scientists, followed by Clara M. Chu and Bertrum H. Macdonald on women's publications in science before World War I; Margaret Gillett on Carrie Derick (1862-1941) and botany at McGill University; Diana Pederson and Martha Phemister on women and photographic technology in Ontario, 1839-1929; Lykke de la Cour and Rose Sheinin on gender separatism in medical education at the Ontario Medical College, 1883-1906; E.E. Stieb, Gail C. Coulas and Joyce A. Ferguson on women in pharmacy in Ontario, 1867-1927; Dianne Dodd on the role of Canadian women in the advertisement of domestic electrical technology, 1918-1939; and Susan Hoecker-Drysdale on the careers of three women sociologists in Canada (Helen MacGill Hughes, Aileen Dansken Ross, and Jean Robertson Burnet). Each of these essays in its own way pursues the theme elucidated by Ainley's introduction, i.e., that women's careers in science have been "more or less obstructed" by

traditional expectations and institutional structures, since these careers "did not follow the patterns of those of most male scientists" (p. 62). One slight exception is offered by Chu and Macdonald, whose investigation based upon the massive catalogue edited by Alan Richardson and Macdonald, *Science and Technology in Canadian History: A Bibliography of Primary Sources to 1914* (1987), points up the example of Annie Jack, a teacher who began publishing on horticulture only after she married a fruitgrower (p. 70).

Yet some analytical depth might have been added to the treatment of this general theme of "obstruction" in women's history. A brief explanation of the social role of science, especially of natural history, in Victorian culture, would have helped to illuminate the reasons for women's increasing participation in the first place. Moreover, the Baconian model of science as the incremental growth of knowledge based on a division of labour, in which everyone was encouraged to participate at the level of his or her capacity to do so, goes a long way to explain the growing reliance upon "invisible scientists" (whether male or female) in the institutional structures of Victorian science, structures that persisted well into the twentieth century. These essays collectively raise deeper questions about traditional social and psychological structures. Now we need to know more about what they consisted of and why they persisted, as well as why certain individuals chose in growing numbers to challenge them. On this point it becomes crucial to set the subjects of these essays more deeply into their broader historical context, possibly by turning to secondary works that have attempted to deal with such problems on a larger scale. One source that might have helped Susan Hoecker-Drysdale, for example, is Marlene Shore's *The Science of Social Redemption* (1987).

The second section, "Biographical Studies," details more specific historical experiences of Canadian women in various sciences. This section (with Margaret Gillett writing on Maude Abbott the physician; M.F. Rayner-Canham and G.W. Rayner-Canham on Harriet Brooks the nuclear physicist; Barbara Meadowcroft on Alice Wilson the geologist; Edwinna von Baeyer on Isabella Preston the horticulturist; Ralph Estey on Margaret Newton the plant pathologist; Kailash Anand on Cypra Cecilia Krieger the mathematician; and Janice Beaveridge on Blossom Wigdor the psychologist and gerontologist) is highly source-driven, and rightly so. As Dr. Ainley explains, the very selection of these biographies "depended on the availability of documentation" that "is far from uniform" (p. 17); unfortunately, much of the documentation that "could illuminate the experiences of many Canadian scientists has been lost forever" (p. 18). How much more crucial it becomes, then, in addition to these useful biographical beginnings, to indicate the extent to which these scientific women were at all representative in their respective fields and remarkable careers. In the long run this will require reference to institutional sources that do exist, in order to weave the individual more firmly into the larger scheme of things. One example is Barbara Meadowcroft's essay on Alice Wilson the geologist, which would be balanced by greater insight into the administrative handling of Wilson's challenge to traditional assumptions about geological field work; Wilson was, after all, not the first woman to apply for work at the Geological Survey of Canada.

The third and final section, "Contemporary Concerns," applies "universal" issues for women *vis-a-vis* science and technology to the Canadian context. Among a wide variety of subjects (Louise Lafortune on becoming a mathematician; Betty Collis on adolescent females and computers; N. Nevitte, R. Gibbons, and P.W. Codding on career goals of

female science students; Rachelle Sender Beauchamp and Susan A. McDaniel on women inventors; Joan Pinner Scott on informal collaboration in science; Margaret-Ann Armour on careers in chemistry; Anne Innis Dagg on present conditions for women in science; Karen Messing on feminist scientific research; and Gillian Kranias on women and change in science); two of the most interesting to the historian are the essays by Messing and Kranias on feminist approaches to science. They underline what historians of science began to document some years ago, i.e., that science, far from ever having been value-neutral, plays a powerful ideological role in society, and always has done so.

There is no conclusion to link these three sections and to suggest lines of further inquiry on the subject of Canadian women and science. But these essays, and the selected bibliography appended to them, offer much food for thought. While we might agree that "it is interesting to speculate" what women thought about the popular assumption that "women, married or unmarried, should be in the house" (p. 133), this book points out new directions for actually finding out.

Suzanne Zeller
Wilfrid Laurier University

Histoire de la folie au Québec de 1600 à 1850: le désordre. ANDRÉ CELLARD.
Montréal: Boréal, 1991. 280 p. ISBN 2-89052-355-1.

On doit à André Cellard la toute première synthèse concernant l'histoire de la folie au Québec à l'époque pré-industrielle. C'est donc là un travail de pionnier. L'auteur a l'exceptionnel mérite d'avoir réussi à croiser les perspectives d'approche tout en exploitant un large rayon de sources avec un rare bonheur.

Cet essai survient dans la lancée des travaux de Michel Foucault, en France, et de André Paradis et de P. Keating au Québec. Ces derniers avaient délibérément mis l'accent sur la perception théorique de la folie et l'étude de la pratique discursive, laissant aux historiens, non pas le fardeau de la preuve, mais la tâche de resituer ceux que l'on désignait alors de "fous" dans leur contexte socio-économique et historique au sens large. C'est là l'approche globale de l'auteur et il y réussit en maniant les sources avec une impressionnante aptitude.

Qui était considéré comme fou? A quels symptômes l'identifiait-on? Quelles étaient les causes présumées de la déviance mentale? En fonction de quels facteurs la perception et les comportements à l'égard de l'aliéné ont-ils évolué? Voilà les principales questions que posent l'auteur. La recherche de André Cellard se situe donc au carrefour d'avenues diverses: l'histoire des mentalités et des idéologies, la sociologie et l'histoire médicale.

L'auteur a divisé son étude en trois périodes chronologiques distinctes: des origines de la colonie à 1720, époque où sont créés dans les Hôpitaux généraux des espaces spécifiquement destinés aux fous; de 1720 à 1801, alors que sont adoptées les premières mesures législatives concernant les insensés; et enfin, de 1801 à l'apparition de l'asile entre 1839-1845. Ces trois découpages chronologiques épousent la même structure: l'auteur esquisse d'abord à grands traits économiques, politiques et sociaux, la période étudiée; ces raccourcis historiques ne sont pas sans périls car il est toujours risqué d'asseoir un siècle sur deux ou trois pages, et Cellard réussit cet exercice difficile; ensuite,