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The Victorian Scientist: The Growth of a Profession. By Jack Meadows. (London: The British Library, 2004. vi + 202 p., ill., index. ISBN 0-7123-0894-6 $35)

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See table of contents

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integration of science into Canadian fisheries. The lack of such analysis may stem less from the author's own bias as a long-time civil servant in the fisheries department, and more from an inconsistent synthesis of the primary sources with the wealth of secondary literature on Canada's fisheries. The result is a great deal of fascinating information, largely, and unfortunately, disassociated from the broader economic, political, and social context of Canadian history.

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Science / Science

The Victorian Scientist: The Growth of a Profession. **By Jack Meadows.** (London: The British Library, 2004. vi + 202 p., ill., index. ISBN 0-7123-0894-6 $35)

Science came of age in Europe and North America in the nineteenth century, a trend that followed soon after in other areas of the world. By the beginning of World War I, work in scientific fields had taken on a professionalism not seen a century earlier. In both public schools and post-secondary institutions science had become entrenched in curricula, and government financial support for scientific research was common. Careers in scientific and technical fields could, in fact, be pursued full-time. In *The Victorian Scientist* Jack Meadows, noted British historian of science and information scientist, aims to describe this transformation by following the careers of forty "eminent Victorian scientists." His collective biography of these British men is cast as representing "how science itself evolved in the nineteenth century" (p.1). Written largely for a general audience, Meadows offers an overview that will also be read by historians of the period, particularly if they are interested in developments that occurred in England. Readers expecting to discover how scientific careers unfolded outside the UK will need to look elsewhere. Canada, for example, receives little notice, and in the chapter on "scientists abroad," Canadian connections are located in a section headed "links with the United States" even when Meadows refers to the first meeting of the British Association for the Advancement of Science held outside the UK, which occurred in Montreal in 1884.

With a principal objective of treating the middle decades of the Victorian period (the 1850s-1870s, when "the pace of change in the scientific community seems greatest"), Meadows selected leading

scientists active at that time: ten born before 1800, 18 born in the first three decades of the nineteenth century, and 12 born between 1830 and 1860. Charles Darwin, easily the most widely known of the forty, served as "recurring example," which Meadows used for comparison with the others to determine the extent to which Darwin was "a typical nineteenth-century scientist" (p.3). By the end of the Victorian era Darwin had been dead for over two decades, so whether he was an exemplar by which scientists of the full period could be characterized is questionable. There is no doubt, however, that the other thirty-nine men (including such notables as Michael Faraday, Charles Lyell, Joseph Hooker, Richard Owen, John Tyndall, William Thompson, and John Lubbock) were key players in shaping science in Britain and further afield. Meadows outlined the careers of these scientists under the themes of "school and home," "higher education," "training and research," "scientific links and communication," "speaking and writing," scientists in society," and "scientists abroad."

Perhaps reflecting his interest in information studies as well as history of science Meadows devotes more than a chapter to discussion of communication of scientific information. This significant activity, often taken for granted in other studies of science, warranted the attention Meadows provided, especially since communication and publishing themselves also underwent a transformation in the nineteenth century. Michael Faraday "believed there were four ways of gathering information – by conversation, by lectures, by reading and by observation or experiment" (p.78). While Faraday thought that each way could come through membership in the growing number of scientific societies, all scientists did not have the advantage of living in London where socializing with like-minded individuals occurred frequently at society meetings. Two trends in communication characterized the professionalization of scientists in this period: 1) an increasing importance assigned to the "quality and quantity of...publications" a scientist produced (p.87), and 2) "new research almost invariably appeared in journals, most of which were aimed at specialist audiences" (p.170). Norman Lockyer, one of the men who figures in Meadows' survey, was the founding editor of *Nature*, a major scientific periodical that continues to the present. Significant innovation in printing technologies and production of paper, improved transportation, and advances in post-secondary education also contributed to the communication trends. These developments allowed individuals outside of London, indeed outside Britain, to join the growing cadre of professional scientists in the latter decades of the Victorian period. By drawing attention to communication practices Meadows could illustrate

how science was interlinked with wider British society. Science, of course, did not develop in isolation from other fields of activity.

A well-illustrated book (even the cartoons are informative) and engagingly written, *The Victorian Scientist* succeeds in providing a general introduction to prominent British scientists of the period. Drawing on autobiographies, letters, and diaries, as well as numerous other sources, Meadows presents their diverse careers in lively style. When read in conjunction with other recent scholarship, which shows wide variation in how science developed in both Britain and elsewhere, this volume provides numerous insights on Victorian science from an author well-versed in the subject.

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***Public Science, Private Interests: Culture and Commerce in Canada's Network of Centers of Excellence*. Par Janet Atkinson-Grosjean.** (Toronto: University of Toronto Press, 2006. xviii + 269 p. fig., ill., app., index. ISBN 0-8020-8005-7 58$)

Quels ont été les effets du libéralisme économique sur la recherche scientifique ? Les réseaux des centres d'excellence, un programme du gouvernement du Canada créé en 1988, permet de donner un élément de réponse. Janet Atkinson-Grosjean étudie ce programme sous l'angle des rapports entre la science comme un bien public et son appropriation par des intérêts privés. Tandis que le gouvernement fédéral déréglementait ou privatisait de nombreuses activités économiques, le programme reçut mission de financer des chercheurs universitaires qui, distribués dans les universités à travers le pays, travaillaient sur des problèmes pertinents sur le plan économique. Les administrateurs, en s'inspirant du nouveau management public, changèrent les règles de financement : de sorte que devienne prépondérante la mise en valeur économique des produits de la recherche. Là réside l'intérêt premier de ce livre, celui d'expliquer comment les politiques économiques libérales affectèrent les pratiques et les institutions de recherche.

D'entrée de jeu, Atkinson-Grosjean situe les réseaux de centres d'excellence dans l'histoire des politiques scientifiques au Canada. Depuis la création du Conseil national de la recherche scientifique (CNRS) jusqu'à la commission d'enquête du sénateur Lamontagne, elle rappelle rapports changeants entre la science et l'économie. Les centres