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A Science on the Scale: The Rise of Canadian Atlantic Fisheries Biology, 1898-1939. By Jennifer Hubbard. (Toronto: University of Toronto Press, 2006. x + 351 p., ill., notes, bibl., index. ISBN 0-8020-8859-7 50 \$)

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Environment / Environnement

***A Science on the Scale: The Rise of Canadian Atlantic Fisheries Biology, 1898-1939.* By Jennifer Hubbard.** (Toronto: University of Toronto Press, 2006. x + 351 p., ill., notes, bibl., index. ISBN 0-8020-8859-7 50 \$)

There have been a number of recent books examining the history of Canada's fisheries, yet none have more completely anatomized the fundamental role science played in the history of the Atlantic fisheries than Jennifer Hubbard's *A Science on the Scales*.

Hubbard's revision of her doctoral thesis sets out to show how fisheries biology came to be integrated into the management and governance of the fisheries of Eastern Canada and how that science evolved and institutionalized in Canada over a period of roughly half a century. The chapter divisions are both thematic and chronologic. The first two chapters examine the motivations of early researchers and bureaucrats for adopting a scientific relationship with the fisheries. The third examines the themes of nationalism and science through the story of the groundbreaking Canadian Fisheries Expedition of 1914-1915, its international significance and long-term influence on scientific policy in Canada. Chapters 4 and 5 focus on the direct impact of fisheries biology in general, and more specifically the Biological Board of Canada, on maritime populations in Eastern Canada. Those interested in social themes related to the fishery and the ways in which science were applied to local problems will find these chapters highly instructive. Here Hubbard deals with issues such as the education of fishermen and developing regional fishing economies by improving fish processing and fish preservation techniques. In the process, the theme of an omnipresent, yet occasionally ineffective, state agency in the relationship between Canadians comes into greater focus. The final chapters look more specifically at the changing ideas and methodologies within fisheries sciences themselves—particularly the rise of the paradigms of ecosystem dynamics—and how those changes were institutionalized, for better and for worse, within Canada and how they ultimately led to the decline of the Biological Board. Finally, an instructive epilogue broadens the work to the present and reveals the value of historical study to current problems.

Initially, some may find the author's heavy attention to developments in Europe and the United States somewhat tangential to the subject. As the text evolves, however, this attention to external influences turns out to be one of the greatest strengths of Hubbard's study. As the author

successfully argues, Canadian fisheries sciences—and by extension decisions made by officials concerning Canadian fisheries—were deeply connected to the European and American scientific community. Showing how Canadian fisheries biology, scientific stations, and the Biological Board of Canada evolved within this international structure, reveals how Canadian activities were influenced by large scientific organizations such as International Council for Exploration of the Seas (ICES), as well as national scientific activities in other countries such as the establishment of seaside laboratories in Italy, France and England, and how they were singularly unique as seen in the ways they responded, or failed to respond, to changes in markets and modernization of the fishing industry. Hubbard adopts this approach in other ways as well. While histories of science can often get bogged down in celebrations of key actors who dictated change through the force of their personality, Hubbard avoids this pitfall by carefully folding the vignettes of notable Canadian scientists such as E. E. Prince, Johan Hjort, and Archibald Huntsman into a broader international and national context. In the process, she reveals these scientists to be individuals struggling to work within a system affected by a collection of scientific, political and economic influences.

While Hubbard does examine other fisheries such as that of lobster and herring, her main focus does fall mostly on the cod industry. This is understandable due to the intense interest by the Canadian public in the cod collapse, but it neglects the diversity of the Eastern fisheries and their unique historical problems. What was the role of the Biological Board in the development of the salmon industry, or the exploitation of eel by the French-Canadians along the Gaspé for example? What role may have it played in the massive catches of fish that went directly to the fertilizer industry, or the development of a French-inspired oyster culture industry? Moreover, Hubbard largely side-steps the exaggerated role that fish culture activities played in the development of Canadian fisheries strategies during the period, and geographical area, studied here. Why did so many view hatcheries as a scientific panacea and why did they go out of vogue in the mid-twentieth century only to be seemingly resurrected again in the guise of fish farming? These questions have been taken up by historians of the Western salmon fisheries, but remain largely unaddressed for the Eastern fisheries.

In the final analysis, these minor criticisms do not detract from what is an exceptionally well-researched text thoroughly integrated into the historiography and methodology of the history of science in Canada that makes important contributions to the genre. One of the most notable of these is found in Hubbard's demonstration of how fisheries sciences and marine scientists exemplified a very different structure from that of the

agricultural sciences where interest in basic and applied research operated in endemic conflict. In that regard this text would make it an excellent resource for those interested in intersections between science and the state and the discourses involving applied and basic research in Canada. Moreover, fisheries professionals would benefit from the objective analysis Hubbard uses to shed light on how fisheries biology and fisheries scientists were both embraced and misused in the political machinations of state building often to the detriment of fishing communities and the fisheries themselves. While some authors have argued more recently that biological sciences and fisheries management have been an overall benefit to the fisheries of Eastern Canada, Hubbard's history reveals more accurately that the application of ever-evolving biological and fisheries sciences, which were often flawed by dogma and short-sightedness, has made for a more complicated and problematic relationship between biological scientists and the fisheries of Eastern Canada.

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***The Reluctant Land: Society, Space and Environment in Canada before Confederation.* By Cole Harris.** (Vancouver: University of British Columbia Press, 2008. 512 p., ill., notes, bibl., index. ISBN 978-0-7748-1449-2 hc. 95 \$ 978-0-7748-1450-8 pb. 39.95 \$)

À l'heure où la notion d'histoire nationale est vivement débattue dans les établissements d'enseignement, mais plus encore parmi les chercheurs, il convient d'offrir une lecture historique du passé canadien qui ne soit pas basée sur des référents sociaux et culturels communs à une population, mais plutôt sur ce qui en fait sa réalité physique : sa géographie. Le problème n'est pas simple car l'histoire canadienne est truffée d'événements à double interprétation, à double tranchant et dont la portée politique ne cesse de se répandre et d'émerger sporadiquement sur la scène publique. Après avoir engagé des recherches sur la question en offrant un ouvrage qui a fait date dans la géographie historique, *Canada before Confederation: A Study in Historical Geography* (Oxford University Press, 1974), écrit en collaboration avec John Warkentin, Cole Harris propose de revisiter le sujet en y ajoutant toutes les études qui ont été réalisées ces dernières années. Les bibliographies, parfois quelques peu sommaires, offertes après chacun des chapitres font d'ailleurs apprécier tout l'intérêt qu'a suscité le sujet.