

comings. The compilers of illustrated volumes can inform the reader of omissions and of the problems encountered with selection. Maps and statistics can be used both to correct false impressions and to orient the reader. Most important, however, are the more traditional resources available to the historian — archival material, diaries, newspapers, and so on. Unfortunately, the editors of *Vancouver's First Century* not only made precious little use of any of these resources, they did not go to the trouble of including a bibliography directing readers to the growing body of secondary literature on Vancouver.

In general, then, *Vancouver's First Century* is a failure made all the more regrettable by the fact that it was such a good idea. The plan of illustrating a volume with superb photographs and other visual materials deserves enthusiastic endorsement. Fortunately, the book has served one very useful purpose — its production has resulted in the rescue and collection of many valuable photographs. Future historians of the city will owe the editors a substantial debt.

*University of Victoria*

ALAN F. J. ARTIBISE

*The Practical Application of Economic Incentives to the Control of Pollution: The Case of British Columbia*, edited by James B. Stephenson.

Published for The British Columbia Institute for Economic Policy Analysis by the University of British Columbia Press, 1977. Pp. 441.

Pollution control in British Columbia consists largely of government regulations prohibiting excessive rates of discharge of particular kinds of pollutants from industrial outfalls and smoke stacks and from (as well as to) municipal sanitary sewers. This basic policy is supplemented by a number of ad hoc government measures such as (a) prohibitions on the use of particular kinds of materials (such as DDT) or on the method of application of some materials (such as insecticides), (b) land-use regulations (such as those prohibiting the clear cutting of forests close to streams), (c) subsidies (such as those available to municipalities to build sewers and treatment plants), and (d) charges (such as those paid by households for garbage removal).

This system of controls has been criticized from a number of different quarters during the 1970s, and on a number of different grounds. Some environmentalists as well as some people connected with the commercial and sports fisheries have complained about its inadequacy in preventing

ecological damage. Others have complained about a lax and secretive administrative machinery set up to enforce compliance with the regulations. And others too have criticized the policies as unnecessarily wasteful, either because of the excessive costs they impose on industries and municipalities or because of the excessive administrative costs (borne by all levels of government) in implementing the controls. Politicians have reiterated these dissatisfactions. They should all read this book. It contains more information about the nature of pollution control in British Columbia than any other single source. The book — which in fact is a collection of nineteen different articles — contains a number of insights and lessons for academics, for the general reader, and for elected and appointed officials of government.

The value of the book for academics is in its empirical rather than theoretical findings. Economic theory has, for a large number of years, shown that a price placed on the use of the environment for the disposal of pollutants can successfully act as an incentive for waste producers to take into account the value that others place on their uses of the environment, other things being equal. Unfortunately, the major finding of this book is that “other things” in British Columbia are rarely equal, and, depending on the circumstances, governments may induce more efficient responses on the part of waste producers by employing a battery of policy mechanisms rather than relying on a single mechanism like an effluent charge. For example, in what is arguably the best article in the book, on pollution control in the mining and milling industry in B.C., Professor Peter Nemetz reviews the limited amount of information available on the damages of different kinds of mining residuals, collects and summarizes a range of technical information on abatement control measures for mill tailings and process water practices by some forty-six major mine-mill complexes, and compares the effectiveness of regulations, effluent charges and the sale of pollution rights to those companies using different technical abatement procedures (direct discharge, impoundment plus overflow, and closed circuit). He also calculates the cost-effectiveness of the three policy mechanisms in inducing closed circuit systems to be incorporated into large inland open pit mines, small inland underground mines and mines discharging directly into coastal waters. None of the policy mechanisms is inherently superior to any of the others. So much depends on the number and kinds of pollutants discharged and on the site specific characteristics of the mine, including climate. In short, academics will receive sanguine lessons about the technical feasibilities of applying alternative policy mechanisms to different classes of polluters from this book. As

incidental payoffs they will also be able to review a few original contributions to the field, such as (a) Professor James Stephenson's application of Blair Bower's model for calculating the abatement cost curves of alternative technologies for reducing biochemical oxygen demand and suspended solid wastes in pulp mill effluent; and (b) a reporting by Professors Kenneth Nicol and Earl Heady of their attempts to estimate the effects of various environmental controls on agricultural practices on macro variables, such as land and water use, in the United States.

The book will probably be of most value to general readers, if they will forgive the turgid style of the occasional article (such as that by Professor George Polling on "Treatment of Mineral Industry Effluents in British Columbia") or the occasional methodological sophistry (such as the mathematical equations in Professor Harry Campbell's "Pollution Control and the Productivity of Agricultural Pesticides"). The book contains a lucid overview by Professor Irving Fox of alternative policy mechanisms and of their relative advantages and disadvantages, and a wealth of interesting details and findings about the types of pollutants, control technologies and known and uncertain environmental effects for the metals production industry, the pulp and paper industry, the greater Vancouver region, and certain aspects of the agricultural industry. As merely one example, Professor Harry Campbell estimates that tree fruit farmers in the Okanagan actually spend less on pesticides than would be justified by solely financial considerations or required by environmental regulations.

If any politicians are still under the illusion that pollution in B.C. can be controlled merely by shutting down industrial violators of administrative standards or by renaming existing bureaucratic agencies as Ministries of the Environment, they will profit greatly by reading this book. Pollution control is essentially a policy process in which value judgments must be made about the priorities to be accorded to the environment and to the waste-generating activities of industries, households and individual persons. A dominant theme to be found in most of the articles in this book is how little we know about the consequences of various waste-generating activities on the environment (what economists call the marginal damage functions) and, to a large degree, about the costs of controlling these activities in technological and administrative terms (what economists call the marginal abatement functions). As a result, politicians and bureaucrats are often unable to make wise choices. Indeed, as Professor Fox points out in his concluding article, one of the advantages of an effluent tax may simply be in raising revenue for governments of any political persuasion to generate information so they can make such wise choices.

Otherwise, politicians and bureaucrats will find many of the articles in this book to be politically naive. Politicians and bureaucrats are often treated as benevolent despots, without preferences of their own and interests to serve, standing ready to adopt any policy mechanism that is technically efficient and effective. Paradoxically, Professor Gardner Brown's review of the experience of six European countries with pollution charges (where rates are set by political negotiation, not environmental considerations) may be the most instructive for British Columbia. The policy mechanisms used to control pollution of various sorts and in various places in British Columbia are permeated by administrative and political considerations at all levels of government. One wishes that the now defunct British Columbia Institute of Economic Policy Analysis were still around to sponsor another conference that would integrate such political and administrative considerations with the economic and technical ones included in this collected volume of articles from a 1975 Conference at the University of Victoria. This volume is, nevertheless, the best of the five volumes of conference proceedings sponsored by the Institute. It owes no small part in its success to the selection of capable contributors by Professor Fox of the Westwater Research Centre at the University of British Columbia, and to the succinct summaries of the articles provided by the editor throughout the book.

*University of Victoria*

MARK SPROULE-JONES

*Right Hand Left Hand*, edited by David Arnason and Kim Todd. Erin; Press Porcepic. Pp. 280.

*Right Hand Left Hand* is subtitled "A True Life of the Thirties." It is really a memoir of that decade compiled in the form of a scrapbook with commentary. The moving spirit is Dorothy Livesay, whose formative decade is here displayed; the editors, who have presumably had a great deal to do with the selection and arrangement of the material, are David Arnason and Kim Todd.

Dorothy Livesay was born in Winnipeg in 1909. Her family moved to Toronto in 1920, and there her father was engaged in journalism and eventually founded the Canadian Press Agency; her mother was an amateur writer whose own work was banal and who perhaps contributed most to her world and time by encouraging European immigrants with literary