

actors, the rivals and adversaries, the exogenous rivals and adversaries, and the Arctic Island actors. Readers are cautioned that "the composition of the system is in flux". Chapter VI is a revealing — and troubling — study of information: who generates it (the question of knowledge and secrecy comes back hauntingly in Chapter VII), who has access to it, and so on. It is followed (Chapter VIII) by an analysis of fundamental decisions and clusters of decisions that have affected events in northern petroleum development, and identifies some of the big ones yet to come. The analytical framework of the chapter on information (VI) gives shape to the penultimate chapter (Chapter VIII) relating to substantive issues: technological, environmental, economic, sociological and political. The chapter deals also with issues relating to the technology assessment system itself, and identifies a disturbing recital of "overview" issues: lack of an overall policy mechanism; unresponsiveness to change; lack of co-ordinated data systems; unsatisfactory inter-actor co-ordinating mechanisms; and federal-provincial conflicts. In the concluding note (Chapter IX) the authors plead for a "larger guiding perspective" beyond technology assessment. The cautionary and sobering conclusion of the report, as stated in the introductory summary, is that "in spite of the large investment of talent, effort and money, there is no overall sense of purpose to Northern development. Instead, actors respond to situations as they arise. The absence of an overall policy about which there is some degree of consensus seems clear. The Canadian capability to undertake comprehensive and timely technology assessments, on the basis of what is learned and to innovate socially relevant development programs, is not yet established."

The report, written as of October 1974, inevitably has been dated by the passage of time. Events might be characterized by adopting (or abusing) the terms used in the report to describe the degree of centrality and relationship of the actors themselves to the development programme. (1) The "energy crisis" of 1973 was just beginning to be felt (core?). (2) The Berger commission (independent central?) was just under way in the North, and had not been to the South; the report of the staff of this commission has just been published; responses (at the time of writing this review) have yet to be given; and the contents of the report of the commission itself are not known. Nor had the enquiry been broadened to encompass forms of

northern government (see item 14 on p. 155). (3) The Canadian government actors have changed (for example the Minister of Northern Affairs, the Minister of Finance) (transient?). (4) The influence of the Committee for an Independent Canada appeared to be waxing (transitional adversary?). (5) The Arctic Institute of North America was still headquartered in Montreal (independent exogenous?). (6) Wage and price controls were still only a possibility (independent irrelevant?). (7) The qualification of the Chairman of the National Energy Board to hear the pipeline application had not been challenged (independent transitional?). (8) The Northwest Territories Council was still not fully elected nor involved in the Berger enquiry (independent central?). (9) Tapirisat and Dene had not stated their land claims (strong adversaries?). (10) The incapacity of West Coast United States refineries to handle oil from the North Slope of Alaska had not been brought home (exogenous relevant?). (11) Mr. Nixon was still in the White House (exogenous irrelevant?).

The report was written by a team of six academics in the Department of Man-Environment Studies of the University of Waterloo, Ontario. They write with authority and conviction, and present an admirable reference point and base of information and analysis for any concerned observer of northern affairs, and the "ripple effects" of resource exploitation in a sensitized world.

The report itself is number 34 in a highly respected series of background studies to Canadian policy issues relating to science and technology commissioned and published by the Science Council of Canada. It is the first of six studies bearing upon the development of the Canadian North, most of which are not scheduled for publication. It is good that this one was.

A. W. R. Carrothers

THE POLITICAL ECONOMY OF NORTHERN DEVELOPMENT. By K. J. REA. *Ottawa: Information Canada (Science Council of Canada Background Study No. 36), 1976. 9¾ x 6¼ inches, 251 pages, illustrated. Paperback, \$4.00 in Canada; \$4.80 elsewhere.*

This painstaking study of northern development is largely historical and descriptive in nature. It starts with a definition of the "North" (defined as very large, with a southern boundary skirting Prince Rupert, Peace

River, Lake Winnipeg, Abitibi, and Sept-Iles), and of the main economic and political issues. Chapter II, which takes up about two-thirds of the volume, comprises chiefly descriptions of the past and present commercial enterprises and government activities in the Canadian North. Neither the data nor the analyses are new, but the compilation is done in a more careful and interesting manner. Hundreds of unobtrusive footnotes help to make the study a good guide through a very wide literature on such subjects as Yukon gold at the turn of the century, Brinco, Peace River Power, and the British Columbia Railway. The Canol pipeline, built during the Second World War, from Norman Wells through the Yukon, rates an interesting page, but the current Arctic pipeline proposals are not discussed.

In summarizing Chapter II, Rea notes that the "unorganized, dependent and colonial status" of the North, with its "traditional reliance on monopoly control" make it difficult to apply the traditional political-economic analysis based on an "individualistic conception of the state." As a substitute, he suggests that we think of a "corporative" state, in which the focus of analysis is interest groups rather than individuals. In the bargaining among private and public interest groups, the power of the Canadian electorate and parliament is reduced and that of the government and corporate bureaucracies correspondingly increased.

Chapter III provides a shorter review of activities in the northern regions of other countries. This survey of northern development policies in Alaska, Greenland, Norway, Sweden, Finland and the U.S.S.R., provides a welcome antidote to any impression that Canadian Arctic issues are unique. Nevertheless, Rea does point out some important differences. In the other countries, except Greenland, there has been a larger and more long-standing role for northern agriculture and consequently a greater depopulation of the North as industrialization has proceeded. Northern policy in all the countries but Greenland has provided some incentives for industrial development, reminiscent to those offered by the Department of Regional Economic Expansion in the Canadian Maritimes. Rea notes that nowhere else has northern development been left so open to international commercial and industrial influences.

In the short concluding chapter, Rea establishes one of his major themes: that the North has been largely developed for, and by, southern Canadian and international in-

terests. He all too briefly notes the recent attempts to establish a greater northern involvement, and the divergent interests of the native and white northerners.

In general, the study provides a very careful and interesting compilation of historical and current material on the role of government and industry in the north. My chief disappointment is that the concept of "political economy" used to set the boundaries of the study was rather traditionally limited to government and industry, so that the native groups and their activities were virtually ignored. The more broadly defined political economy of the native societies, as they have operated before and since the white presence, would have added much-needed new perspectives on the issues of northern development. Naturally, one could not expect Rea to include such a major effort in his already substantial volume, but he might have recognized more fully that such an addition could be a valid and important part of a study of the political economy of the North.

As for mundane matters, the price, layout, and typography of the book are all good. The paperback binding is less well done, if one is to judge from the fact that the first sixteen pages of my copy have already found their freedom.

John F. Helliwell

THE TAR SANDS: SYNCRUDE AND THE POLITICS OF OIL. BY LARRY PRATT. *Edmonton, Alberta: Hurtig, 1976. 8 x 5 1/4 inches, 197 pages. \$8.95 cloth, \$3.95 paper.*

For many Canadians today, energy policy constitutes the most baffling and controversial area of public affairs. Since they possess such abundant natural resources, why are they in such trouble? Energy policy seems to involve so many interrelated factors: escalating prices, declining reserves, environmental dangers, conservation needs, native land claims, and even the ownership structure. Yet, as the problems become clearer, the solutions become more elusive. Traditional means and approaches are no longer effective. The whole energy scenario is a series of "trade-offs"; each new source of energy supply, such as nuclear or from the tar sands, is more expensive than any other and carries with it further environmental and/or social problems. In addition, lurking in the background of the whole debate are the mutually conflicting principles of the growth ethic and the conserver society. It is because this field