

the obvious brevity of the list, that would be gratuitous. The list consists essentially of a mixture of titles that collectively cover the geographic breadth of the Eskaleut area and of those that deal in interesting ways with subjects discussed in the book. Most of the works cited are written in a style with which the general reader would be comfortable. The list also includes a reference to the *Arctic* volume of the *Handbook of North American Indians* (Damas, ed., 1984), which consists of a summary of practically every subject there is that relates to Eskaleuts.

A novice could begin with my bibliography and work his or her way quite easily into the *entire* literature on Eskimos as of about 1984. I thought that would be sufficient for a book of this kind. But it is not enough for Swinton. He mentions 16 additional authors who should be included in the list (each of whom has authored a large number of works). But why stop there? There are still others who have written interestingly about Eskimos. I could have listed the 600-odd works that I consulted directly while writing the book. However, since I did a great deal of interpretation of and extrapolation from the material contained in those works, a list of references in the technical sense would have to have been accompanied by hundreds of footnotes of explanation, one for nearly every sentence. Who would buy or read such a book? Perhaps a dozen or so specialists, but certainly not the people for whom the book is intended. Besides, those who want an up-to-date encyclopedic summary and a comprehensive bibliography already have them in the *Arctic* volume of the *Handbook*.

Finally, Swinton attacks the end papers, which consist of a map of the Eskaleut area showing the locations of the subgroups and regions mentioned in the text. He says he cannot understand "why only two geographical locations are included" in the map. I can't understand it either, because the maps in my copies of the book list 18 geographical locations as well as 22 subgroup designations, and most of the latter indicate geographical locations.

There are a few criticisms in Swinton's review that are germane, as well as being technically correct, and they must be acknowledged here. The most important one is his assertion that my statement that "artefacts used by Eskimos almost always exhibited an elegance and style far in excess of that demanded by the uses to which they were put" is wrong for most of the Canadian Arctic for almost a thousand years. I wouldn't go quite that far, but he is correct in saying that I overstated the case. He is also justified in his criticism of the small size of the photograph on page 123, and he correctly notes several errors in the acknowledgments.

The final germane point Swinton makes is that the book doesn't contain enough photographs of Canadian artifacts. This is correct, but it is not, as he suggests, due to condescension on my part. It is due to the fact that the major collections in what used to be the National Museum of Man in Ottawa have been locked up for several years in conjunction with the move of that institution to new premises. To have waited for them to become available again would have held up completion of this book more or less indefinitely.

Swinton's final assertion is that *The Eskimos* is concerned more with form than with substance. He makes this claim despite the fact that the overwhelming thrust of his criticism is directed at its form, whereas his few compliments are for the substance. Which view is correct is a matter that each reader must decide.

#### REFERENCE

Damas, David, ed. 1984. *Handbook of North American Indians*. William C. Sturtevant, general ed.; David Damas, ed. *Arctic*, Vol. 6. Washington, D.C.: Smithsonian Institution. 829 p.

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YELLOWKNIFE GUIDE BOOK. Edited by W.A. PADGHAM. St. John's, Newfoundland: Mineral Deposits Division, Geological Association of Canada, Department of Geology, Memorial University of Newfoundland, 1987. 209 p., 88 photos, 135 maps and diagrams, refs., index. Soft spiral-bound. Cdn\$30.00.

What is there to see in Yellowknife, N.W.T.? Among other things there is the geology — a reason for being there from the early days

of mineral exploration to the present. With this guide one can spend a pleasant day or two visiting outcrops in or near the city by foot or by easy access with car or boat. Stops in the guide are well located and the book serves as a useful personal guide to outcrops in this unusually well exposed area of Precambrian geology in one of Canada's major gold-mining districts.

The book is a collection of 19 papers by authors having varying backgrounds, expertise and outlooks representing eight universities, government institutions and exploration and mining companies. Following a one-page introduction, the book begins with a colourful personalized outline (A.W. Jolliffe) of the early history of prospecting, gold discoveries and geological mapping by the Geological Survey of Canada during the 1930s around Yellowknife.

The following three papers provide a general geological setting and framework for the field guides. In order, they include (1) an abbreviated and selective summary of Slave Province geology and interpretations of tectonic setting of the Yellowknife mining district (W.A. Padgham), (2) a concise account of sedimentology and interpretation of the Burwash Formation, which represents a major Archean sedimentary basin associated with all volcanic belts in the southwestern Slave Province (J.B. Henderson), and (3) selected problems of structural geology, including faults and shear zones, volcanic belt geometry and tectonic environment of the Yellowknife belt (H. Helmstaedt and G. Bailey).

The succeeding eight papers are field guides to specific areas and formations of the Yellowknife Supergroup including: anorthosite and sheeted dykes in the Chan Formation (W.A. Padgham); parts of the Crestaurum, Townsite and Yellowknife Bay formations (W.A. Padgham); the Banting Group (W.A. Padgham; G. Bailey); the West Mirage Islands (C. Relf); Clan Lake volcanic pile (E. Hurdle); granitoids and pegmatites (R.E. Meintzer and M.A. Wise) and structures in metasedimentary rocks (W.K. Fyson).

Generally these guides present informative and well-illustrated descriptions of stops that are clearly located on maps. The excellent "Guide to the Giant Section" of the Yellowknife Bay Formation (an extremely well-exposed area of volcanic rocks on the Giant Yellowknife Mine property) is the most detailed in the book and contains good documentation and interpretations of processes of lava flow, intrusion and deposition. The magnificent outcrops in this classic area cannot be overrated. The "Guide to the Yellowknife Townsite" is also well done and a pleasure to use when one has only a few hours "to kill" while in Yellowknife. Structures in metasediments seen in outcrops along highways, Yellowknife Bay and Prosperous Lake are concisely described and beautifully illustrated in detailed line drawings.

The paper on the Clan Lake complex is one of the better guides, presenting clear geological setting, well-described, -illustrated and -interpreted units, concluding with logical paleogeographic and paleovolcanological interpretations. Although this complex is not part of the immediate Yellowknife area, it is a significant example of a major felsic volcanic centre, not commonly associated with volcanic complexes in the southernmost part of the Slave Province.

The "Granitoid and Pegmatites" paper summarizes plutonic units as a background for the pegmatite localities to be described. Stops are well described in terms of mineralogical content and some chemistry, but there is almost no interpretation.

One omission in this section is a guide to the Jackson Lake Formation, a small unit but critical to the interpretation of the evolution of Yellowknife geology.

The guide papers are succeeded by a note on the Duck Lake Intrusive Sheet (W.A. Gibbins) and an account of the surficial geology of the Yellowknife area (L.B. Aspler). Gibbins's paper would have been better expanded and written as one of the "guides." Aspler's paper seems out of place in this part of the book and should have been included with the general geology papers at the beginning. This paper is most significant to people with geotechnical interests or to the non-geologist. It outlines glacial history and geology with

maps showing the distribution of sand, gravel, clay, peat and glacial till. It documents permafrost — its age, distribution, effect on building construction and associated engineering problems.

The book ends with five papers that focus on the economic geology of the area. The first, which synthesizes geochemical data related to gold deposits in Archean Rocks (R. Kerrich and W.S. Fyfe), is followed by four papers that outline geology of the Con (H.R. Bullis, V.V. Pratico and D.R. Webb), Giant Yellowknife (D.W.T. Lewis), Tom and Ptarmigan mines (J.A. Brophy).

Kerrich and Fyfe's paper is the most theoretically oriented paper in the book. It gives the conditions requisite for the origin, extraction and deposition of gold, then summarizes the geochemical characteristics of Archean gold deposits in Canada with special reference to the Slave and Superior provinces. Following a superb summary of geochemical data, interpretations and theories for observed element distributions, and models for origin of lead gold deposits, the authors state preference for a model whereby the greenstone-belt gold deposits formed during discharge of metamorphic and possibly magmatic hydrothermal fluids along shear zones at depth in a compressive, crustal regime. Major crustal structures act to focus hydrothermal discharge, generating the gold deposits.

Geology of the Con Mine is described in two papers that summarize the stratigraphy, complex structural deformation of ore bodies and localization of gold in quartz veins in three major shear zones. The one-page overview of the Giant Yellowknife Mine is disappointingly brief and not very informative. The paper on the Tom and Ptarmigan mines (examples of the occurrence of gold in quartz veins within highly deformed sediments of the Burwash Formation) presents little more than a road guide to the mine sites and brief descriptions of local stratigraphy and structural features.

Weaknesses of the book are mainly of an editorial nature. The title on the front cover is different from that on the inside title page. The format of the table of contents does not clearly reflect the essentially threefold divisions of the book: geological setting, field guides, and economic geology and mine descriptions. Figures are drafted in variable styles, quality and degree of reduction. Many figures show excellent balance, but some are reduced too small to be legible and others have been enlarged so that lines are unduly wide. Green is used on most line drawings. Although some diagrams make very effective use of colour, generally it does not enhance, clarify or provide focus for the diagrams. Commonly registration is inaccurate, resulting in double lines (green and black).

The book uses a novel numbering scheme for figures. Figures are numbered sequentially in the first two papers but, starting at the third paper, they seem to be numbered according to papers, yet the papers themselves are not numbered (e.g., the first figure in the third paper is Fig. 1-1). Furthermore the instances where figure numbers referred to in the text do not correspond to numbers on the figures are many. In one paper more than half of the references to figures are incorrect, in another all the figure numbers are different in the text from those on figures, and "stops" in the text are labelled differently from those on the guide map. One figure is erroneously reproduced twice in the book and has no number at all! Geologists familiar with the Yellowknife area can sort out these errors, but for the uninitiated, this confusing numbering scheme and the numerous errors are a frustrating annoyance. Numerous flaws occur in legends of maps. Some of these are listed on the extensive full page of errata, but many more are not reported. The book obviously has not undergone rigorous editing or even proofreading.

This well-documented and well-referenced book successfully fulfills its stated objective of providing a field guide to geology of the Yellowknife volcanic belt and its bordering rocks. Quality of reproduction is good: pleasing print and good photographs. The attractive covers in full colour show an aerial photo composite of the Giant Mine site and the West Bay fault on the front and a series of eight photos of structures and textures of volcanic and sedimentary rocks on the back.

This book is recommended to student and professional geologists, prospectors, geotechnical engineers and historians of the development of mining and exploration in the Yellowknife area. Since there is no attempt to simplify technical terms, the book is not aimed at the layperson with no previous background in geology. A future edition with the numerous minor flaws corrected would be a valuable, long-lasting guide and probably a best seller among Canadian geological books.

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#### ARCTIC IMPERATIVE: IS CANADA LOSING THE NORTH?

By JOHN HONDERICH. Toronto: University of Toronto Press, 1987.  
258 p. Hardbound. Cdn\$24.95.

Most Canadians assume their country's military posture to be somehow connected to the North. The DEW Line, that string of radar stations that is supposed to tell us when Russian bears take flight over the polar ice pack and head south, is for most Canadians as central to their image of the North as are snowshoes — and most will live out their lives very well thank you without much direct reference to either.

All that might now be changing — but not because snowshoes are likely to make new gains in footwear fashion. With the DEW Line becoming the North Warning System, with plans to establish a permanent military training base in the North, and with nuclear-powered submarines being sold to taxpayers on the basis of their under-ice capabilities, the military implications of the North are going to weigh more heavily on the minds of Canadians — or, at the very least, on their wallets. And it is this that makes John Honderich's *Arctic Imperative* so welcome.

Honderich writes out of an obvious respect for the North and its peoples, and out of an enthusiastic Canadian nationalism. He is most effective in describing current political and sovereignty disputes over the Northwest Passage. The book ranges rather widely from the Arctic to discuss a broad range of Canadian security concerns, including Canada's military presence in Europe and the role of NATO. It is divided into five sections, one each for sovereignty, security, NATO, arms control, and foreign policy. The five sections are prefaced by a general discussion of the growing strategic importance of the Arctic and the failure of Canadians to recognize this.

The latter he attributes to our "Mercator mindset." Traditional Mercator maps, says Honderich, depict the North as remote and imprecise, often blurring distinctions between water, ice, and land, and trailing off into obscurity with part of the arctic archipelago, particularly Ellesmere Island, often cut off entirely at the top of the page (p. 9). He charges that "the Arctic traditionally gets the short end of the stick" (p. 11) and urges Canadians to correct this historic indifference by coming "to grips with our true geography and our true place in the world. The challenges in the Arctic are real, as is the need to deal with them urgently. All that is needed now is the resolve" (p. 21).

The book is distinguished by a set of thoughtful and persuasive policy recommendations that should themselves contribute to the urgently needed national debate on the North. To assert Canadian sovereignty in the Arctic, particularly over the Northwest Passage, he recommends additional sovereignty air patrols by the Canadian armed forces, increased use and recognition of Inuit arctic rangers, Inuit land claim settlements that recognize long-standing Inuit use of the waters of the passage, and an up-graded navigation service to control all commercial traffic in the passage, among other