Quaternary palaeoecology in Canada, and indeed, for many other disciplines and areas as well. Only a person of Ritchie's capabilities could undertake a project such as the postglacial history of vegetation of this large and diverse area and successfully present such a comprehensive review. Prior to my reading this volume, if anyone had claimed that the postglacial vegetation of Canada could be documented in 151 pages, I would not have believed it. Although Ritchie apologizes for not being able to cover all aspects of the postglacial vegetation in detail, he has dealt with most topics at least to the degree that the interested reader can follow up on the subject guided by the many references cited.

Ritchie outlines at the beginning a threefold aim for the book, which he then proceeds to accomplish. The first aim, "to assemble information on the history of the plant cover of Canada for the latest part of the Quaternary — during and following the most recent major ice age," is accomplished by, if nothing else, the extensive bibliography. The second aim, "to search for patterns of vegetation change and to evaluate such alternative explanations of these changes as climatic factors, varied rates of species spread from Pleistocene refugia, biological factors that may have controlled the spread and abundance of species, soil and geomorphological factors, chance events, and other influences," is achieved to the extent to which the available data allow. A third aim, "to expose interesting, useful, and challenging problems in paleoecology that might be solved by imaginatively designed searches for new data or novel analyses of the existing record," is addressed by the number and variety of problems that are proposed and discussed.

The contents are arranged in eight chapters. The introduction acquaints the reader with the central thrust of the book by referring to glacial extent, ecological provinces and geographical range maps of important floristic elements, plus the terms and abbreviations used throughout the book.

Chapters 2 and 3 deal with the pertinent background information on the biogeographical setting and autecology and pollen representation, some knowledge of which is necessary, especially for readers not directly involved in palaeoecological studies. The sections on geology, physiography and surface materials are minimal, but the reader is referred to other authors for details. Bioclimates are dealt with somewhat more extensively, and the figure with climate diagrams surrounding the map depicting bioclimatic regions is a particularly useful and concise method of presenting data. Autecology of selected representative taxa and modern pollen rain spectra are also required information for both the specialist and the interested reader.

The following four chapters deal directly with the fossil record, beginning with the records at sites from full-glacial refugia south of the main ice sheets and in Beringia. The fossil record is primarily pollen stratigraphy, not simply because Ritchie is a palynologist, but because most of the data are palynological. Where available, Ritchie uses other types of data, such as plant macrofossil and beetle analyses, to augment the pollen results.

The record for eastern Canada is outlined in Chapter 5, with diagrams representative of various areas, followed by the vegetation reconstructions proposed by the authors involved. A breakdown into late glacial and Holocene time intervals and smaller geographical regions allows for a well-organized presentation.

A similar format is followed for the western interior (Chapter 6), but subdivision of this region is based on the modern forest-grassland transition, boreal forest and forest-tundra boundary areas. Descriptions of the Pacific-Cordilleran region (Chapter 7) revert to geographical areas of North and South Pacific and Cordilleran zones.

In the introduction to Chapter 8 on vegetation reconstruction and palaeoenvironments, Ritchie notes two questions that emerge from his review: (1) What reconstructions of past vegetation can be made and with what degrees of certainty? (2) What palaeoenvironmental changes can be inferred from the record? Answering such questions is the ultimate *raison d'être* for palaeoecologists, and this final chapter addresses these questions in discussions of the origins and history of the major Canadian vegetation regions: the eastern temperate forests, boreal forest, grasslands and parklands, Pacific-Cordilleran complex, and tundra (arctic). The roles of climate (including a brief review of the Milankovitch model), fire, pathogens and paludification as palaeoenvironmental controls on vegetation history are discussed. The section "Problems for the Future," although brief, raises important and significant points, and careful reading of this section will provide direction and themes for future studies. Ritchie's cautionary note at the end of this section that "the progress of palaeoecology remains dependent on the adequacy of its database" is worth emphasizing. As he points out, computers and numerical methods cannot replace the long and careful analyses required for a quality database. An appendix of sites used for modern pollen spectra, an extensive reference list and an index round out the book.

The quality of reproduction, especially the figures, is excellent. A few minor editing errors were noted, but these are too few to detract from the text. A small point concerning the term Champlain Sea on page 68 should be noted. Champlain Sea was the body of water that occupied the depressed Ottawa-St. Lawrence Valley above Quebec City following deglaciation. The submerged area of the St. Lawrence Estuary and Gulf of St. Lawrence below Quebec City is termed the Goldthwait Sea.

Ritchie states that "the book was written for a heterogeneous readership of fairly broad background," with his chief aim being "to interest ecologists, physical geographers, geologists, foresters, archaeologists, soil scientists, and historians." In my opinion, this has been accomplished, and this book should become a standard reference for all workers grouped together as Quaternarists. It will be a must for students of palaeoecology (despite the fairly high cost), and I have no doubt that it will provide more than just "something of interest" to "the small band of active palaeoecologists" in Canada.

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CONTEMPORARY INUIT DRAWINGS. By MARION E. JACKSON and JUDITH M. NASBY. Guelph, Ontario: Macdonald Steward Art Centre, 1987. 144 p., 12 colour inserts, 96 black and white reproductions. Softbound. Cdn$15.00.

This volume is a catalogue of an exhibition of drawings, 83 in number, by selected contemporary Canadian Inuit artists. Most of the drawings came from the Omark Collection of Inuit Art, though some were loaned by others. In 1987, the exhibit received the Corporate Award of Merit from the Ontario Association of Art Galleries. The drawings were selected from archival collections, of which Cape Dorset alone has 10,000 (Nasby, Introduction, p. 2).

Twelve drawings are illustrated in colour, representing eleven artists. Of the twelve drawings, seven are untitled, but the catalogue compilers provide an exegesis in parenthesis, such as "Standing Woman in Amautiq" or "Fishing Scene." Three illustrations are numbered by plate, the rest apparently by the number in the exhibit itself. The colour reproductions are followed by an introduction by Judith M. Nasby and two articles, "Contemporary Inuit Drawings: Reflections of an Art Historian," by Marion E. Jackson, and "Reflections of an Anthropologist. Inuit Drawings: The Graphics behind the Graphics," by Nelson H.H. Graburn. Beginning with p. 32, all objects in the exhibit are listed and illustrated in black and white, beginning with 3 carved (incised) ivory, bone, and antler objects (one of each) apparently intended to illustrate Inuit representational traditions in the flat used prior to the introduction in the late 1940s of drawing on paper. The artists are identified by gender — "male," "female" — and by age (birthdates when known are given). The accompanying captions contain information on the artist and thematic content and supplemented by the curators' instructions to the viewer how and what to see in any given drawing. Figures 2 and 3 illustrate the impact of an outsider's activity

on Inuit artistic activity, in this case the influence of the photographic work of Robert Flaherty; captions accompanying Figures 4 and 5 stress the role of Terry Ryan in introducing the modern drawing activity among the Canadian Inuit. In general, the captions are informative, but the interpretations of aesthetics I find annoying. I would have liked to make up my own mind about each representation and not to be told that one demonstrates an "energetic style," or if the "bulky body shapes give a 'sameness' to the animal figures. . ." or ". . . a rhythmic flow. . . ," etc.

I am an anthropologist and my critique of the catalogue and the exhibit it represents necessarily reflects my professional bias. Perhaps, if an art historian were reviewing the work, his/her judgment would have been very different from mine. Yet, I feel obliged to express my criticisms and the wish that in the future anthropological expertise were called on early on, in the planning stages when art historians deal with non-Western art, especially the art of small-scale societies recently impacted by massive culture contact with more complex civilizations.

The exhibition and the accompanying catalogue reflect the academic orientation of the persons who organized the exhibit: Nasby, director of the Art Centre; Marion Jackson, associate dean of the University of Michigan School of Art; and Evan Mauer, director of the University of Michigan Museum of Art, whose contribution is acknowledged in the preface.

This orientation is reflected, in my opinion, primarily in the stress on individual artists, on the appearance of signatures by individual artists on their work, and the placement of the signature. Also stressed is the stated object of the exhibition: ". . . to examine contemporary Inuit art over the entire thirty year period of its existence, thus allowing the critical approach to be developed and applied to an analysis of this previously unexplored medium" and to provide a "method by which viewers may gain insight" by explaining these selected works (Introduction by Nasby, p. 6). What bothers me, as an anthropologist, is that (a) the works were selected for "excellence" not by the Inuit artists or Inuit community (and thus the judgment of "excellence" is not of the Inuit but by outsiders applying criteria of the modern Western Euroamerican art world) and (b) the critical approach mentioned by Nasby in the introduction is also that of the modern Western art world.

The drawing production by the Inuit, as is well explained both in the introduction by Nasby and in the opening section of the lead article by Jackson, is a by-product of printmaking, introduced to the Inuit as a purely economic enterprise by "agents of change," the outsiders, notably James Houston in the 1950s. "Artistic advisors" continue their activities among the Inuit, as Jackson points out (p. 9). Drawings on which prints, widely distributed through a commercial network, were based were few, though many were produced by Inuit for the purpose. Lesser numbers were produced on invitation, were custom-made so to speak; still fewer were produced out of self-motivation. There is no doubt that some of the Inuit who began to produce drawings for the market (and even before, as Nasby points out, p. 1) also derived personal satisfaction in producing pictorial records or interpretations of their personal and community experiences. I find it unfortunate that in the selections (and interpretations of the selections), this kind of work is not clearly set apart from the works selected by the outsiders on the basis of abstract criteria for judging "art" — a concept that is not valid to this day to the rank and file of the Inuit. I also doubt that Inuit themselves, with the exception of those who undergo modern education in the arts at various Western educational institutions, would have referred to themselves or their peers as "prominent Arctic graphic artists." Prominent by whose standard? Of the art historian and critic who selects the work and encourages the individual to sign his/her name to the work? Of the buyer who channels the product to the art galleries in Toronto and Vancouver and sells it to the Western public on the strength of his and art critics' stated opinion, making a good profit in the process? I cannot help but wish that the viewer were told whose work the Inuit themselves consider important. But Jackson even speaks of "prominent Arctic graphic art communities," by which I assume she means the communities that make their living by production of "art" for sale. One wishes that Jackson speculated less about the significance of the Inuit drawing activity for History of Art as an ". . . extraordinary experiment — more amazing than any hypothetical conjecture about what might have occurred if the paleolithic hunters of Lascaux had been abruptly introduced to the technology and conventions of modern society and encouraged to draw their experiences on paper" — and much, much more how the Inuit themselves view this activity. Again, as an anthropologist, I think that the paleolithic artists of Europe did quite well by themselves, and the Inuit, too, are quite capable of directing their own destiny, artistic or otherwise, even when taking off from an introduction of new technology or media from the outside.

I am also not surprised that the style and content of drawings by older and younger Inuit differ. Art of any kind does not exist outside of the conditions of life and thought, dominating a particular period in a people's history. In this respect, one wishes that the organizers of the exhibit paid some attention to the reflections of the philosopher Ortega y Gassett on the development of Western European painting (see his collection of essays *Dehumanization of Art*, particularly the essay "On point of view in the arts," originally published 1948 and reprinted in paperback in 1968 and 1972 by Princeton University Press). The discussion of stylistic characteristics of the work of the older artists (which do reflect traditional conventions of graphic representations) would have been much enhanced had the author made some reference to the work of such pioneers in the study of Eskimo graphics as Himmelheber (Eskimokuenstler, recently translated into English) and Hoffman's 1897 *The Graphic Art of the Eskimos*.

Jackson's conclusions that the younger generation of Inuit artists "concern themselves more with matters of aesthetic expression than with accuracy and clarity of information" are, once again, a matter of judgment and interpretation and, as such, are open to challenge and debate. No doubt, Jackson's statements that these younger artists "grew to maturity with a wider sense of options because of their earlier and more profound contact with the outside world" and that "They not only gained a wider repertoire from which to draw their imagery, but they also attained a new understanding of the fact that there *are* options and that there are different ways to see and understand the world" has some validity. As an anthropologist, however, I question her statement that the older Inuit artists "drew unselfconsciously, unencumbered by the awareness that there are different ways of doing things" — that they did not make choices, as Jackson seems to suggest. Her conclusions that the value of the exhibit is, mainly, for the outside viewer "to broaden [their] appreciation for Inuit art" and her expressed hope that her interpretation of generational stylistic differences as representing a shift from "image as information" to "image as aesthetic expression" has general, cross-cultural, universal applicability which I find untenable. It represents a particular hypothetical view on the evolution of the art from concrete representation to abstraction, which has never been satisfactorily demonstrated to be valid. Moreover, this interpretation is not only ethnocentric, but also time-bound, grounded in our current concept of what art is all about.

I am much more appreciative of the essay by Nelson H.H. Graburn, "Reflections of an Anthropologist: Inuit Drawings: The Graphics behind the Graphics." Graburn addresses some of the points I have raised and much more. He discusses the dynamics of the interplay between the Inuit producers of drawings and the agents who represent the marketplace — the differences between the drawings produced primarily for the printmaking and those commissioned specially by individual buyers. The "spontaneity" of the drawing production is shown to reflect the Inuit interpretations of the outsiders' tastes and desires.

Graburn's article is of significant value in respect to ethnoaesthetics. He shows that there are differences in expression between those Inuit artists who engage both in sculpture and graphics and those who work exclusively in graphics (p. 23). He also examines the differences in style and content not only by age, as does Jackson, but also by gender and by the community of origin on the basis of clearly stated criteria: "for presence or absence" of 19 features derived from his studies of Eskimo art in general. His findings do not support Jackson's conclusion

about generational differences, but stress the differences by gender and region (especially between Baker Lake and Cape Dorset). Moreover, he finds that at Baker Lake the work of both men and women evidences great similarity, whereas at Cape Dorset gender differences are readily apparent. He points out that not all difference in the work of men and women can be accounted for by cultural inter-community differences and suggests that other factors must be examined if we are to understand the phenomenon. For example, he suggests that lack of observed significant differences by gender may be explained by the fact that both husband and wife engaged in artistic production, or by possible different conditions in various workshops (egalitarian in one, organized by gender elsewhere, to cite one of his examples). Other gender differences may be due to the "Freudian" factors (p. 25). In terms of content, Graburn sees ". . . a strong male emphasis . . . on naturalistic reality, including culturally shared mythology" (p. 26).

Graburn uses in his analysis Inuit criteria for judging a representation, such as *quak*, which indicates a static versus dynamic image. He also defines the "Inuit aesthetic canon *sulijuk*, which may be glossed as "truth, that which really exists, reality" (p. 26) and which "does not exclude shared or even individual mythological depictions." However, the concept of *sulijuk*, according to Graburn, might require the use of certain stylistic devices: ground line, three dimensional perspective, and correct ethnographic detail" (p. 26). Graburn writes: "My prior and recent research has confirmed that *sulijuk* is the strongest single aesthetic canon for Inuit artists and non-artists both in Nouveau-Quebec where it is very much in evidence, and in Baffin Island, where it is less so." Would that art historians and museum directors paid some heed to non-Western, native, aesthetic canon and stopped judging and interpreting artistic productions of non-Westerners in our modern, contemporary ways!

In conclusion, I can only state that I fully agree with Graburn that "Research on Canadian Inuit graphic art is at an early stage." Therefore, the exhibit and the accompanying catalogue must be viewed as a pioneering effort, an experiment, and should be welcomed as such. I cannot, however, fail to express my sincere hope that in the future both the organizers of similar efforts and the interpreters of Inuit artistic activities pay more attention to social context and ethnoaesthetics and less to current art history views on what constitutes "art" and "creativity."

The book is a good introduction to Canadian Inuit graphics but it has somewhat limited utility for the specialist.

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EDUCATION, RESEARCH, INFORMATION SYSTEMS AND THE NORTH. Edited by W. PETER ADAMS. Ottawa: Association of Canadian Universities for Northern Studies Association universitaire canadienne d'Etudes nordiques, 1987. Softbound. Cdn$27.50.

This publication is a report of the ACUNS annual meeting held in Yellowknife in April 1986. This is the second annual meeting ACUNS has held in the North, and the report was considered

> as an opportunity for a "mutual briefing" between its 35 member universities and the people of the North. The idea was that Northerners would be able to express their views on what the universities are doing and what they should be doing. At the same time, the universities would have an opportunity to make Northerners aware of their work in the North and their motives for undertaking that work [p. 3].

The report is one part of ACUN's contribution to the exchange.

The report consists of 82 papers, addresses, bibliographies, profiles of the member universities of ACUNS, and lists of library services.

Following an introduction and overview, there are major sections on education, research, higher education and training, teacher education, distance education, and information systems in the North. It concludes with a guide to the 35 universities that are members of ACUNS.

The report is an interesting and invaluable document for a number of reasons. It is a rich resource on research in the North in many forms, including institutions, personnel, and information storage. As much as possible, the personnel references are very specific, sometimes including phone numbers. This value is apparent both to those in the North and outside.

The northerners will have within easy access a listing of the institutions and some indication of the kinds of studies in each. Universities will be networking both among themselves and with the northern people, thus providing more complete and immediate means of sharing ideas and extending the information in any single institution.

The report will provide one of the most up-to-date resources for those from outside Canada who wish to study the North in more detail. It makes a major contribution in its provision of short reports from 14 institutions located in the North and explains and describes their understanding of their own domain. Such diverse institutions as the Metis Association of the Northwest Territories, the Northern Heritage Society, the Science Institute of the Northwest Territories, and Arctic College are among the 14.

An interesting aspect is the mix of the reports from both institutions and politicians. The politicians include the education minister from the N.W.T., the minister of Indian Affairs and Northern Development, the government House leader, Yukon, and spokespersons for the Dene, the Metis and the Inuit Tapirisat. This acknowledges that politics provides some public values base for all research and the researchers, educators, and politicians are brought together in this conference. The inclusion of a table outlining ethics in northern research is valuable.

A major issue raised and discussed by E. Bielawski is the gap between those who are researchers, academics, outsiders and those from within the culture being studied. The author raises theoretical implications for social science and concludes with an interesting hypothesis that "if we accept the broad evolutionary concept that generality is more adaptively successful than specifically, we might consider incorporating the richness of cross-cultural perceptions in the advancement of science" (p. 61).

Another major issue, but raised from the perspective of the people in the North, is the relative isolation of the southern researcher and the northern people. Some strong points are made by northerners on this issue, and the sounds have a long echo. Many of the northern papers not only present the general case but give examples as to how this gap can be lessened. For instance, in teacher education suggestions are made for research into learning style and curriculum adaptations. There is an open invitation to help.

Both of these issues are important material for anyone contemplating carrying out research in the North, but they are also fascinating for the challenge they provide.

The publication might have included an index as well as a table of contents, but with this small exception, I consider it an excellent document for anyone inside or outside the North who wishes to have a comprehensive resource and a start on some of the related issues.

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ESTIMATING MOOSE POPULATION PARAMETERS FROM AERIAL SURVEYS. By WILLIAM C. GASAWAY, STEPHEN D. DUBOIS, DANIEL J. REED, and SAMUEL J. HARBO. Fairbanks: Institute of Arctic Biology, University of Alaska, 1986. Biological Papers of the University of Alaska, No. 22. ix + 89 p., appendices. Softbound. Free; US$3 for postage and packing.

The aim of this handbook is to provide an instruction manual for the conduct of aerial surveys for moose in the open Boreal forest, and to