

and his own earlier description of the Port Clarence Collection (VanStone, 1976). These descriptions are cross-referenced to the 49 black and white photographic plates contained in the Appendix. The plates themselves represent 282 of the 684 catalogue entries or fully 40% of the extant collection. Overall, the quality of the photographs is good. In several instances, excellent line-drawings supplement the written descriptions and plates. Both the plates and line-drawings incorporate catalogue numbers allowing the reader to cross-check with the complete catalogue listing also included in the Appendix.

Missing from the descriptive chapter is any graphic summary of the collection as a whole. To get a grasp of the quantitative aspect of the collection the reader is forced to grapple with the raw data contained in the Appendix. A simple table representing the eleven use categories, the various classes of implements and their relative frequency of occurrence would have alleviated this problem.

In his third chapter VanStone focuses on the potential of the Bruce Collection for assessing the degree of influence of Euro-American contact on Alaskan Eskimo material culture. Following Oswalt (1972) he divides the Kotzebue Sound material into four categories, or "clusters of material objects" that reflect "the presence or absence of historical introductions in collections of Eskimo material culture and thus serve as a rough measure of technological change" (p.71). These categories include items of traditional Eskimo culture; Eskimo-derived forms manufactured on indigenous patterns from imported materials; Western-derived forms manufactured from local materials but modelling implements of foreign origin; and direct Western imports. The sizable number of Western-derived forms found in the Kotzebue Sound Collection leads VanStone to the conclusion that "the process of material culture change was already well advanced 50 years after the first sustained contact in western and northwestern Alaska" (p.73).

The author also attempts to assess the relative "technological complexity" of the Bruce Collection. Using Oswalt's (1976) concepts of "sub-sistants" and "technounits", Vanstone calculates an index of "complexity" which compares favourably with the results of a similar analysis conducted on the Port Clarence Collection but is significantly lower than the indexes computed for other eastern and central Eskimo groups, the Caribou Eskimo excepted (Oswalt, 1976). Comparable results are reported for a comparative analysis of ice-hunting harpoons alone.

Chapter Three is perhaps the least satisfactory part of this book. The problems that VanStone addresses assume that the sample of items contained in the Bruce Collection is representative

of nineteenth-century Kotzebue Sound Eskimo material culture. It is clear from VanStone's discussion of Bruce's presumed collecting methods, the lack of adequate documentation and the nature of the collection itself that the material described is far from representative. VanStone, however, is aware of these difficulties and forewarns the reader of the "definite limitations" of his approach (p.75).

VanStone is to be commended for his continuing efforts to publish little known but significant collections of ethnographic materials. It may be hoped that this excellent monograph will stimulate other institutions or individuals with access to important but unpublished collections to make their material public as well

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THE ARCHAEOLOGY OF CAPE NOME, ALASKA. By JOHN BOCKSTOCE, Philadelphia: The University Museum, 1979. Includes four appendices. \$14.00 U.S.

Just east of Nome, Alaska on the Seward Peninsula coast lies Cape Nome, a significant archaeological area with both beach ridge and midden deposits. Cape Nome sites include material from Denbigh Flint Complex-related, Norton, Birnirk, Cape Nome, and modern phases. *The Archaeology of Cape Nome, Alaska* is a traditional monograph that reports excavations by author John Bockstoce. Based on Bockstoce's doctoral dissertation work at Oxford, this monograph presents data that will interest all students of Alaskan prehistory.

Summarizing his work in the Preface, Bockstoce notes that although research over the past

40 years has told us a great deal about cultural sequences in the Bering Strait region, it has told us little about what caused these changes and what the effects of the changes were during different phases. Three events in particular interested Bockstoce: (1) the disappearance of Norton and Ipiutak from the western Alaska coast, (2) the appearance of Birnirk on the American side of Bering Strait, and (3) the post-Birnirk development of three basic economic patterns - general coastal hunting and fishing, large sea mammal hunting, and interior hunting and fishing. Bockstoce attempts to explain these events in terms of: (1) biological and climatological factors, (2) technological innovation, and (3) change in hunting strategy and organization.

Chapter I introduces the Bering Strait area. Bockstoce briefly summarizes the area's contact history, but devotes most of the chapter to a useful synopsis of previous archaeological work in the area. Chapter II focuses more closely on Cape Nome, the circumstances that led Bockstoce to choose that area for his work, and the issues that he wants to address. Bockstoce chose Cape Nome because it is located between Bering Strait and Norton Sound, two areas with different biotic and physical characteristics, so that Cape Nome's archaeological record should reflect human response to change in both areas. In excavating at Cape Nome, Bockstoce was asking three questions: (1) How was Norton adapted to local conditions? (2) How has Norton changed over time? (3) Why did it disappear around Bering Strait? The rest of the chapter describes Seward Peninsula in greater detail, discusses the structure of beach ridge sites making some interesting comparisons to Point Hope and Cape Krusenstern, and concludes with descriptions of flora, fauna, and ethnohistorically known settlement locations and house types.

Chapter III constitutes the bulk of the report. It begins with a discussion of the different deposits found at the Cape Nome sites and the field work conducted there between 1969 and 1976. Following an extremely brief discussion of analytical methods, the rest of the chapter describes the features, organic remains, dating, and artifacts for each phase. The descriptions are well done with appropriate tables, illustrations, and references to comparable material. Except for the faunal remains, which receive very cursory treatment, this section is the strongest part of the monograph.

Chapter IV reviews the findings and presents Bockstoce's conclusions. The author discusses each phase, shows how it differs from the others, and then presents a series of postulates based on his work. Very briefly, Bockstoce concludes that during the early part of the Norton phase between 400 and 100 B.C., people practiced an

economy focused on three resources: salmon, caribou, and small sea mammals. By the late part of the Norton phase, between 100 and 300 A.D., however, salmon probably were no longer available because cooling climatic conditions had pushed their spawning area farther south. When inland caribou resources also declined, an already stressed Norton culture disappeared from Cape Nome. Although Norton and Birnirk usually occupied different ecological settings, the position of Cape Nome between the two different areas meant that both groups might settle here. Birnirk people came to Cape Nome between 500 and 700 A.D. Despite the narrowed resource base, they were able to survive because they possessed specialized sea mammal hunting technology, particularly drag floats, that the Norton people did not have. Later, after 1000 A.D. when the resource base again broadened to include not only sea mammals, but also caribou, and in some areas, salmon, the Cape Nome people repopulated the area and used these resources. In some locations, the broadly-based economy supported large enough populations and sufficient surplus accumulated so that specialized, intensive activities such as whaling could be successful.

The monograph concludes with four appendices summarizing the geology of the Cape Nome-Safety Lagoon area (by David Hopkins), describing local raw material sources for lithic and ceramic manufacture, listing implements from the sites, and defining the terms used in the monograph. In all, Bockstoce's work is well-organized and clearly written. Although I found a few typographical errors and I would have preferred a simpler map style, in general the editing and typography are competent and the graphics are attractive and useful.

Bockstoce's monograph makes a valuable substantive contribution to Alaskan archaeology. If it had been written 20 or 30 years ago, some researchers undoubtedly would have viewed it as an outstanding piece of research. But from a 1980 perspective, it suffers badly from the Rip Van Winkle syndrome; the major recent theoretical and methodological developments in archaeology have had little impact on Bockstoce's work, and as a result, Bockstoce's research does not fulfill its potential. Instead of just presenting a series of interesting speculative postulates concerning events at Cape Nome, Bockstoce could have tested some of his hypotheses. In an era when funds are scarce, research in the North is very expensive, and development is rapidly advancing on vulnerable resources, researchers must make the most of their data. There are several reasons why the potential of the Cape Nome data is not realized; I would like to focus on two of them. Unfortunately, these problems are not unique to Bockstoce's work.

First, Bockstoce has no explicit theoretical framework for his research. As a result, he is left with a poor fit between the problems he'd like to solve and his data. Many have been caught in this bind; it often happens with doctoral dissertations. The site or set of data we've set out to investigate simply does not have the information to answer the question we set out to ask. Good research demands that we adjust the problem or the data so there is a good fit. A strong theoretical framework and a multistage research design provide a basis for reassessment as research progresses and are important assets in coping with such problems. Unfortunately Bockstoce's monograph shows no sign that he had either.

Bockstoce's implicit theoretical framework appears to be a traditional culture history approach. Good culture history is invaluable to modern archaeology; it provides an essential spatial-temporal framework. But there is much more to modern archaeology. Bockstoce clearly recognizes that there are interesting questions beyond those of culture history, but he lacks an adequate theoretical framework for dealing with them. For example, in Chapter II he asks: how was Norton adapted to local conditions and how did it change over time? He suspects that the answer lies in resource changes, particularly the loss of migratory salmon runs because of climatic change. Yet his implicit theoretical framework built on culture history does not provide him with appropriate variables for solving the problem. He needs instead a theoretical focus on the relationship between functional forms and the environment. Perhaps because his theory is implicit, its inadequacy is not readily evident.

A theoretical framework based on an ecological approach using the concept of subsistence-settlement system change would be much more appropriate. For example, such a framework would include environmental variables focusing more on climatic change. It would be valuable to know what kind of climatic change might have brought about the postulated change in salmon resources, and whether such changes occurred so their timing coincided with the changes in Norton. Yet Bockstoce makes only the briefest reference to the sizeable literature on climatic change.

Bockstoce also postulates that a decline in inland caribou resources may have been a key to Norton's ultimate disappearance from Cape Nome. It would be valuable to know more about the settlement pattern of the inland sites on the Seward Peninsula as well as their role in the economy. Working within a subsistence-

settlement system framework, Bockstoce would have been stimulated to take a more regional approach to his problems and to use data from his inland surveys mentioned in his monograph, but not described. Second, Bockstoce is looking at change over time in factors related to both culture history and adaptation with a classification that is ill-equipped to separate stylistic from functional forms and poorly constructed to measure change over time. Bockstoce classifies his finds using the functional/formal approach established by Giddings and Ford and based on ethnographic analogy. Yet form often has stylistic implications and a functional/formal approach is bound to confuse functional and stylistic attributes in the classification. No classification can effectively measure both at the same time; two classifications are clearly required.

Further, the assumption that similar forms have similar functions, an important assumption of ethnographic analogy, not only is impossible to test, but also has often proven erroneous. Ethnographic analogy also has additional problems; it requires the researcher to assume that the use of objects has not changed over time, yet it prevents the researcher from postulating a use for items not found in the ethnographic present. These assumptions are not appropriate for research addressing questions involving change. An approach to classification and functional analysis such as Thompson (1978) employs in her study of culture change in the Northwest Coast would have avoided these pitfalls. Used with a more appropriate theoretical framework to test Bockstoce's hypotheses, these methods would very likely have produced more interesting and valuable results.

In summary, Bockstoce's monograph makes a valuable addition to the data base for western Alaska, but because the research ignores recent theoretical and methodological advances in archaeology, it does not fulfill its potential for expanding our understanding of the area's prehistory.

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