know of the controversy over the accuracy of estimates of the windfield there, or of the many different methods used to estimate it. With the observational messiness minimized it does make a better story.

I suspect that workers already somewhat familiar with oceanography and meteorology will be the most appreciative of this book. Philander is sparing of references and has pared the explanatory material to the barest of minima in many places. Critical layers, for example, are defined in one sentence as energy absorbers and then employed as a *deus ex machina* to explain the failure of energy to propagate through the ocean. A few references to the literature on critical layers would have been helpful to anyone attempting to understand what is in fact a complex set of physical processes that can reflect and amplify as well as absorb. As it is, the book would make a good accompaniment to a more general textbook such as Gill's *Atmosphere-Ocean Dynamics* (Academic Press, 1976) and will surely remain both the beginner's bible and the expert's companion for many years.

CARL WUNSCH
Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA 02139

A Deep-Sea Quest

Gorda Ridge. A Seafloor Spreading Center in the United States' Exclusive Economic Zone. GREGORY R. MCMURRAY, Ed. Springer-Verlag, New York, 1990. xvi, 311 pp., illus. $89. From a symposium, Portland, OR, May 1987.

In 1983 the suggestion was made by the United States Geological Survey that the Gorda Ridge, located just off the shore of northern California, contained mineral resources of great value and near-term exploitability. There thus began a broadly based investigation of the ridge involving the collaboration of a large number of government and university agencies and individuals.

Quite early, the government, inspired by excessive optimism (and with some naiveté regarding the realities of deep-sea mining), floated the suggestion that lease bids would soon be requested. The expected response from industry never materialized, except in the form of free lectures about economic realities, lectures that still echo in the closing section of this book. One may thus ask at the outset what this book, three years after the symposium it derives from, has to say on this matter. The answer is that it is long on scientific discussion but very short on quantitative definition of the resources of the area. Nor does it attempt a reasonable analysis of the problems associated with the exploration and exploitation of deep-sea hydrothermal mineral deposits. Instead, the final chapter, while presenting many recommendations for further research, carefully dodges the issue of the real economic prospects of the area.

Once this bitter but expected pill has been swallowed, it must be said that the Gorda Ridge is of considerable scientific interest and that some of the contributions in this volume add a good deal to our understanding of the region itself and of slow-spreading mid-ocean ridges in general. In particular the chapter by Hart, Hoefs, and Pyle on multistage hydrothermal systems in the Blanco fracture zone, the discussion by Morton, Koski, Normark, and Ross of the massive sulfide deposits of the Escanaba trough and their distribution, and Koski's comparison of the Gorda sulfides with Beshi-type deposits in Japan are contributions of real value. On the other hand, Zierenberg's discussion of Red Sea brine deposits not only is out of place here but is little more than a term-paper–like summary, as is the chapter by Fisk and Howard on the geophysics of the Gorda Ridge.

Five chapters discuss technological aspects of deep-sea exploration for mineral resources: hydrographic and geochemical techniques for plume prospecting, acoustic imaging, various other standard geophysical methods, and an electric drill. They offer little that is not already widely known and are far too short to assist the uninitiated in evaluating the techniques dealt with. A sixth chapter on deep-sea mining by Cruickshank misses its mark; its level of treatment would have been marginal in a popular magazine.

Perhaps ironically, this reviewer, hardly competent to judge their quality, especially enjoyed the six chapters on benthic ecology, which seem to me to be among the most substantial contributions to knowledge of hydrothermal regions and associated deep-sea environments made by this volume. The first two, by Carey, Taghon, Stein, and Rona and by Carey alone, deal with the distribution of the benthic megafauna in hydrothermal areas and compare it to the epifauna of the adjacent abyssal plain. Especially interesting is a comparative paper by Juniper, Tunnicliffe, and Desbruyères on the biological features of the hot-spring complexes of the Northeast Pacific, East Pacific Rise, and Gulf of Aden, and another one by Van Dover and Hessler that compares the spatial variation in composition of the East Pacific Rise and Galàpagos areas. Two final papers in this section deal with the Gorda vent faunas themselves but are too short to satisfy. Alas, in this volume these six papers will hardly attract the attention they deserve.

If there is thus a good deal to be enjoyed in this volume, and enjoyed across a rather broad interdisciplinary range, a fair portion is either hardly more than a summary or of such low quality that it would not have been accepted by any reputable scientific journal. It is not unknown, of course, that such work finds a refuge in symposium volumes, but it is a pity that libraries must pay for them.

TJ. H. VAN ANDEL
Department of Earth Science, Cambridge University, Cambridge CB3 0HA, United Kingdom

The San Historicized

Land Filled with Flies. A Political Economy of the Kalahari. EDWIN N. WILMSEN. University of Chicago Press, Chicago, 1989. xviii, 402 pp., illus. $60; paper, $17.95.

In the *New York Times* for 27 March 1990, a front-page story was headed "Gold Miners Routed in Effort to Save Stone-Age People." The subjects are the Yanomamo, described by the *Times* as "the last major isolated tribe in the Americas" and by the anthropologist Napoleon Chagnon as "our contemporary ancestors." In the film *The Gods Must Be Crazy*, the Kalahari "Bushmen" are portrayed as only just emerging from isolation, bewildered and vulnerable before a modern world of complex technologies of aeroplanes and Coca-Cola bottles. The image of a pristine isolation has been almost as common in research on foragers as in the popular media. *Land Filled with Flies* is a sustained argument against such views. Wilmsen marshals an enormous quantity of historical, archival, archeological, ethnographic, and survey data on the Kalahari Zhu to show how far from the reality these images are, how they have their own historical provenance, how conventional perspectives on Kalahari foragers have been analytically distorting, and how they have proven politically pernicious for living groups like the Zhu.

Wilmsen mounts a convincing critique of approaches that have made the San, in the words of John Yellen, "a kind of narrow and opaque window to the Pleistocene." He reminds the reader that Richard Lee and Irven DeVore chose the Kalahari for the

now famous Harvard research project because in Lee's words, they "wanted to be close to the . . . environment occupied by early man." They considered—again as expressed by Lee in various publications—that "Bushmen exhibit an elementary form of economic life" and are "in one sense on the threshold of the Neolithic" once "stripped of the accretions and complications" of their contacts with other groups. As Lee and DeVore put it in the first major publication of the project, *Man the Hunter* (1968), in the Kalahari "the human condition was likely to be more clearly drawn . . . than among other kinds of societies." In her classic ethnography of the !Kung, Lorna Marshall had depicted them as "harmless people" involved in a world of "sharing, talking and giving." Lee likewise felt that the "lesson of the !Kung" was that a "truly communal life . . . a sharing way of life is not only possible but has actually existed" (p. 37).

Wilmsen locates these perceptions in a long history of analytical thought about other peoples and their relation to the "rise of man." In the 19th century writers interested in evolution posited a hunter or "savage" stage as the dawn of man, drawing on knowledge of contemporary groups of forager-hunters for their understanding. Though even then the impact on such groups of what Lubbock (1865) referred to as "external conditions" was recognized, these influences tended to be forgotten in the creation of "a savage, foraging stage of human existence." Another trend in 19th-century thought that contributed to the creation of living primitives was the sense of a lost age of innocence swept away by the advance of "civilization." The attempt by scholars to trace an "original or natural condition" (Tonnies) led them to "simple societies" such as the Australian Aborigines, a route that even Marx, despite his insistence on historical analysis, did not entirely avoid. In modern anthropology, these themes are to be found in evolutionary ecology and in views of anthropologists as engaged in "a puzzled search for what is diminished" by civilization (Stanley Diamond quoted by Wilmsen, p. 23).

There have been recent challenges to this model of hunter-gatherers as isolated remnants of the Paleolithic. In a 1989 article in *Current Anthropology*, for instance, Headland and Reid propose replacing the "isolate model" with an "interdependent model," according to which hunter-gatherer groups have been "in more or less continuous interaction with neighboring groups, often including state societies, for thousands of years." In a 1988 news article in *Science*, Roger Lewin, in summarizing the new approach, noted that "complexity . . . is now the term associated with preagricultural foraging peoples" and added that some of this revisionist view is based on "historical particularism," which emphasizes specific histories of specific groups rather than constructing a general model independent of time.

Wilmsen's earlier work has been drawn on by some of the authors espousing the "new" view of foragers. But here Wilmsen goes further. He insists not only on the "complexity" and "interdependence" now described by other researchers, not only on attention to the specific histories of particular groups (rather than seeing them as exemplars of evolutionary stages), but also on attention to processes of unequal incorporation into states. He points out that the emphasis on ecological and technical processes of subsistence has been at the cost of recognizing tensions, antagonisms, and inequalities between San and others and, more controversially, among San themselves.

The book is packed with illuminating discussion of historical records, especially for the 19th century. Although the growing body of archeological evidence so far allows only "tentative and speculative syntheses," current work suggests that "ceramic-making pastoralists were present in a very large portion . . . of southern Africa by about 2,000 years ago," including the Dobe-NyaeNyae area, home of the Zhu on the fringes of the Kalahari (p. 65). Linguistic analyses (for example by Barnard) also show that stockkeeping predated the entry of the Bantu, who came to dominate the area. By about A.D. 600 to 1000, "a regional differentiation of settlement organization" indicating socioeconomic differentiation was established in the eastern area of what is now Botswana. Although ironworking, agropastoralism, and widespread exchange had developed in the western areas of the Kalahari about the same time as in the east, "Bantu hegemony as it now exists was not established . . . until the mid-nineteenth century" (p. 75).

The fast-expanding Tswana states thrived on the boom in trade emanating from the Cape and fought over land, cattle, and especially, control of the trade goods of ivory, ostrich feathers, and furs. The San-speakers, and other groups not yet fully incorporated into the Tswana states, provided a large portion of these trade goods procured from the veld. At first, these groups were able to hold their own in bargaining with both Bantu and European traders, and they invested in cattle and other stock as well as enjoyed the new consumer goods of sugar, tea, and coffee. As the number of European traders increased and the scarce water sources and other resource areas became better known to outsiders, the San began to lose their bargaining edge. Many faced increasing coercion and dispossession at the hands of both Bantu and European groups.

The collapse of the 19th-century trade boom led to a precipitate emptying of the Kalahari. The once-flourishing trade routes now lay untraveled, and many of the animals and products of the veld were wiped out. Wilmsen argues that the shift from ivory and other veld goods to cattle as the primary source of wealth led to political changes within the Tswana states and to a further weakening of the San-speakers' position. Herding required fewer men than hunting to produce a similar level of value (p. 132). Some San became herders for the Tswana and Herero, a few went to the mines, and the rest were "relegated to the more inaccessible and difficult ecological zones of the Kalahari, falling deeper and deeper into foraging, which had become a condition of poverty." In this, they resemble the "professional primitives," the marginalized, poverty-stricken groups of Asian agrarian societies described by Fox in a 1969 paper cited by Headland and Reid. Thus the seeming isolation and poverty of the San and remoteness of the Kalahari are not pristine but "recent products of a process that unfolded over two centuries" (p. 157).

Though researchers have not all been blind to interactions between San and others, these interactions have not been systematically addressed, according to Wilmsen. The ecological model has led analysts to see not multiple interactions among groups with unequal access to resources but interaction between "more or less adjacent stages" of evolution (Lee 1979, quoted on p. 159). In rejecting the "ecologism" and "economism" of biological and ecological anthropology as well as of some structural Marxists, Wilmsen's interpretation turns crucially on the analysis of social relations, in particular the system of land tenure or the "networks of ownership relations." The chapter entitled "The ideology of person and place" is a fulcrum to the book's argument that not only have San-speaking groups been in continuous interaction with other groups, especially Khoi, Herero, and Tswana, but the "interaction" both is a product of and has produced similarities in social, cultural, economic, and political organization across these groups.

In past analyses of the San, the premise that they represent peoples at an early stage of evolutionary development has led, Wilmsen argues, to an emphasis on ecological dimensions and on the spatial distribution of populations (in the manner of plants or animals). Wilmsen seeks to restore kinship

and tenure relations to "that central logic . . . from which [they have] been analytically divorced by ecological and [evolutionary] Marxian" approaches (p. 168). Wilmsen's detailed analysis of kinship relations among Zhu (which will surely engross kinship specialists) greatly extends Lee's recognition of the importance of group-"owned" territories or *nqoresi*. Repeated marriages between classificatory cousins within circumscribed areas combined with bilateral kinship (tracing of descent and entitlements through both parents) leads to the Zhu's having "a descent coterie in which affines are simply recategorized kin." The stability in marriage patterns is paralleled (and reproduced socially) by long-term association of families (up to eight generations in the genealogies collected) with a particular area. The resulting "stability in space" contrasts fundamentally with views, such as Yellen's, of ecologically driven "random" movements of San in the environment. Detailed data collected by Wilmsen and his colleagues on production and consumption (stock, hunted game, wage work, dietary intake, and so on) show large differences among homesteads (clusters of related families). Significantly, those homesteads that are *nqorekausi* or "owners" of the land are the better off. Wilmsen's conclusion is that "Zhu society is and was . . . stratified" (p. 257). This is Wilmsen's most controversial argument and has already generated heated debate. (For a recent treatment see the review article by Jacqueline Solway and Richard Lee with attendant commentaries in *Current Anthropology*, April 1990.) The strength of Wilmsen's position is his historicizing of San social relations, the weakness is obscuring fundamental differences in patterns of political organization and of exchanges typical of ranked polities and those of non-state groups like the San.

The academic controversies over appropriate analytical approaches to hunter-gatherers that Wilmsen presents are shown also in the final chapter of the book, "What it means to be excluded," to be significant for present policy and political action in Botswana. The focus is the political construction and use of "ethnicity." Here Wilmsen adds to a discussion that has increasingly engaged anthropologists, historians, and others in recent years about the ways in which the exercise of power has in many places and times entailed the construction of difference and inequality in terms of "ethnic" distinction. The shift over several hundred years of the San from Barwa, meaning aboriginal inhabitants, to Bushmen and Basarwa, a marginal, subordinated category, has taken place as a consequence of the long history of white incursions, colonial overrule, and class formation in contemporary Botswana. Out of the myriad and shifting relations of San with other groups, "a monolithic 'Bushman' image" has been created. The colonial policy of indirect rule which reinforced and reified "tribal" affiliation and ethnic distinction, the work of anthropologists in their search for pristine populations, and the ongoing competition over land with Botswana have all, willy-nilly, fed this creation.

Today, the Zhu include a few families who can equal the Tswana in stock and wealth, but most have extremely low incomes, are subject to an accelerating process of discrimination and disadvantage, and manifest deprivation in poor physique and undernutrition. Against this meticulously documented picture of current deprivation, Wilmsen criticizes a "gradualist" policy directed to the San, who are referred to as Remote Area Dwellers in policy documents (like the label "Bushman," this term has its own history). The gradualist policy is premised on a cultural incapacity for change among the San, whereas, according to Wilmsen's arguments, San social relations are "compatible in essentials with those of Tswana." Only by recognition of their place in the same history as the Tswana, only by recognition that their kinship, marriage, and property relations play the same roles in allocating entitlements to valued resources, can more appropriate and fair policies be developed. Wilmsen hopes that his work will "help anthropologists, administrators, and the public" to move away from the "fascination with a fixed forager image" that causes San to be seen as stuck in the past, unable to move in step with other groups (p. 325).

It may do so. The detailed socioeconomic and other data on the Zhu, the wide range of historical and archeological sources drawn on, and the ethnohistorical analysis all provide fascinating substantiation of the main thesis of the book. But the more polemical points on the "end of ethnography," the parallels in kinship and property systems posited between San and Bantu, and the extent to which the history of the San over the past 200 years may be "read back" 1000 years will surely draw fire. The recent conclusion of Headland and Reid that in the new view Wilmsen's argument exemplifies "we see a theory finally coming of age" is probably over-sanguine, since "the significance of contact" between foragers and others is, as Wilmsen's book indicates, still in contention.

PAULINE PETERS
Harvard Institute for International Development, Cambridge, MA 02138

Adventure and Ethnography

A Victorian Earl in the Arctic. The Travels and Collections of the Fifth Earl of Lonsdale, 1888–89. SHEPARD KRECH III. University of Washington Press, Seattle, 1989. 207 pp., illus., + plates. $35.

That the Fifth Earl of Lonsdale would spend a year seeking adventure and hunting opportunities in the American Arctic was not so unusual for a gentleman of his time and station. Nor was it extraordinary that he returned with a small collection of ethnographic specimens that he donated to the British Museum in 1890. But certainly the past became exceptional—serendipitously, one might add—when Shepard Krech undertook analysis of the Lonsdale collection almost a century later.

At first glance the collection must have seemed rather uninteresting, especially if the researcher's goal was enhancement of ethnographic knowledge about the peoples of the American sub-Arctic and Arctic. In the words of Krech (p. 94), the collection consisted of "a variety of artifacts [which] was unsystematically obtained and unaccompanied by collection notes." Further investigation, however, revealed much more; Krech was able to locate Lonsdale's journal, letters written to several people while he was traveling, and numerous other miscellanea pertaining to the trip. Data from these sources have been integrated here with those derived from historical research, photographs (some taken by Lonsdale and his contemporaries, others of the ethnographic specimens), a detailed comparative study of the specimen types, and a historical sketch by J. V. Beckette outlining the somewhat scandalous circumstances that initially sent Lonsdale to the Arctic.

The format of *A Victorian Earl in the Arctic* deserves description because both the study's strengths and its weaknesses derive from the necessity of integrating these disparate data. On the one hand, the result is a richly textured and masterly depiction of a small incident from the past, a nexus between a slightly tarnished titled Englishman, constrained and guided by trappings of empire and destiny, and a native people who undoubtedly met his expectations of the "other," as many were encountered at the nadir of their experience with the Western world. The description of the earl's journey and the world he traveled through is as expressive as his diary and letters combined with Krech's considerable historical acumen can make it. The artifact photographs and the comparative descriptions provide a vivid picture, albeit scattered and scanty in coverage, for the researcher interested in the