An Outlook in Anthropology

Malinowski, Rivers, Benedict and Others. Essays on Culture and Personality. GEORGE W. STOCKING, JR., Ed. University of Wisconsin Press, Madison, 1987. viii, 259 pp., illus. $25. History of Anthropology, vol. 4.

Anthropology and psychology, particularly psychoanalysis, though seemingly complementary, have had an uneasy relationship. In the 1930s and '40s American anthropologists tried to marry the two fields in what came to be known as "culture and personality," but, owing to exaggerated claims and poor methodology (as well as to a change in sentiment), the enterprise fell into disfavor in the '50s and has not recovered its former status despite more rigorous approaches in ethnopsychiatry and cognitive studies.

In this volume George Stocking has gathered together eight papers that look at the development of the culture-and-personality school during its formative years. For the most part, the contributors focus on individual anthropologists: Stocking on Malinowski and his encounter with Freud; Jeremy MacClancy on one of the most unconventional of anthropologists, John Layard; William Manson on Abram Kardiner and his seminar at Columbia on anthropology and psychoanalysis; Walter Jackson on Melville Herskovits and his changing attitudes toward black American culture; Richard Handler on Edward Sapir and Ruth Benedict; Regna Darnell on Sapir; Virginia Yan-McLaughlin on Margaret Mead, Gregory Bateson, and the war effort; and James Boon on a somewhat bohemian gathering of anthropologists and artists in Bali. The contributors all attempt to situate their anthropologists in larger social contexts, but—Boon is perhaps the exception—they do not make explicit their historiographic assumptions. They are not, however, hagiographers, a disposition characteristic of the early phases of the history of science.

Modern anthropology developed during the interwar years. With Malinowski's return from the Trobriand Islands, the extended field trip became the ideal of anthropological research, indeed the hallmark of the discipline. Not only were many of the discipline's categories given more rigorous definition than they had had in earlier ethnographic accounts and in the speculations of Frazer and others, but its historicism, its theories of unilineal evolution and cultural diffusion, gave way to more synchronic, empirical approaches that were shared by the other social and behavioral sciences. Freud figured significantly in the discipline's self-definition. Before turning a hostile eye to psychoanalysis, Kroeber flirted with it. Malinowski, somewhat naïvely perhaps, suggested a revision of the Oedipal complex, one that recognized the influence of such social factors as kinship and lineage organization, but he was immediately squelched by the psychoanalytic establishment. Kardiner proceeded more cautiously, always within the confines of Freudian analysis, and elaborated the adaptive mechanisms of psychic (ego) organization, while Sapir collaborated with Harry Stack Sullivan, who, like the other cultural revisionists, recognized the role of society in the development of the individual's personality. Though Mead and Bateson discussed Jung's *Psychological Types* during their Tchambuli days, Jung had in fact very little influence on academic anthropology. Layard, who was analyzed by Jung, did attempt in a confused way to employ Jungian categories in his interpretation of the Malekula people of the New Hebrides (Vanuatu). Mead's attitude toward psychoanalysis seems always to have been ambivalent.

Although it is possible to interpret the interest in culture and personality as "a development of the internal discourse of the discipline," its concepts were at the time, as Stocking observes, of wider concern. It was a period in which the "spurious" nature of Western civilization was proclaimed and in which many anthropologists, and others as well, sought somewhat romantically if not to escape to, then to find other solutions in, the more exotic corners of the world. It was also a period in which the battle between racial and cultural determinists was being waged. Franz Boas's two conflicting positions—the universalist/assimilationist and the particularist/pluralist—seem to have set the parameters in which the culture-and-personality anthropologists fought the racialists. On the one hand, they denied the importance of race and predicted the eventual assimilation of diverse ethnic and racial groups; on the other hand, they emphasized the uniqueness of every culture and advocated some sort of cultural pluralism. With the exception of Sapir—anthropology's one genius—who saw clearly the dangers of reifying culture, anthropologists like Benedict, Herskovits, Kardiner, and Mead all tended to treat culture and personality as things. The cultural—basic and model—personalities they posited risked becoming rhetorical substitutes for racial stereotypes, but, as Stocking reminds us, the premises, and therefore the consequences, of such generality were different. Certainly unlike their followers in the '50s who succumbed to the myth of a purely objective (and therefore politically and morally disengaged) anthropology, the American anthropologists of the interwar years, as treated in this volume at least, were largely committed to the American liberal-democratic tradition and saw their discipline as providing not only a critique of their society but a means for improving it.

What is striking about the contributions in this volume is how little attention is given to the people with whom the anthropologists did fieldwork. We learn about their friendships—love affairs, even—academic politics, and intellectual (read Western) influences, but we learn nothing about their relationship to their informants and their informants' influence upon them. Is this absence the result of the contributors' bias—their particular understanding of their "historical" project? Or is it the result of the ethnographic relationship itself, where the informant remains precisely an informant—a giver of data to be fashioned both descriptively and theoretically by the anthropologists in categories that are valorized in his or her own society?

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Aquatic Studies

Limnology in Australia. P. DE DECKKER and W. D. WILLIAMS, Eds. Junk, Dordrecht, 1986 (U.S. distributor, Kluwer Academic, Hingham, MA). xiv, 671 pp., illus. $115. Monographiae Biologicae, vol. 61.

Limnology in Australia was written to commemorate the 25th year of the Australian Society for Limnology. The excitement of investigating previously unexplored habitats and the intrigue of limnological problems are amply demonstrated in this volume with its 40 contributions. The goal of the society was to produce a volume of essays emphasizing areas of limnology in which Australians have had the most impact that would be pertinent to the wider limnological community wanting to learn about Australian inland waters or would be of global concern. As a result, some of the essays examine flora and fauna peculiar to Australia's inland waters, others examine developments in ecological theory, some are tutori-

al, and some are highly speculative.

The aridity of the Australian continent, as well as its great age and resultant well-weathered catchments, makes its limnology distinctive. High turbidities are common in inland Australian water bodies, for when the infrequent rains do come, fine-grained sediments are swept into the water bodies and remain in suspension for long periods. Turbidity affects the functioning of aquatic systems in many ways, a topic that is interspersed throughout the volume. The influence of suspended particulates on transport and availability of heavy metals, nutrients, and organic compounds is discussed in Hart and McKelvie's contribution on chemical limnology, McComb and Lukatelich's on estuaries, and Cullen's on nutrient management. The measurement of the optical properties of inland waters, including scattering due to suspended particles, is fully described by Kirk, who also presents a summary of the data available to characterize Australian inland waters optically.

Over half of Australia is drained by intermittent rivers and streams; this abundance places Australian limnologists in a superb position to study the ecology of temporary streams. Boulton and Suter compare results from intermittent streams in Australia and overseas, Lake and Barmuta review the literature to evaluate current ecological theories relevant to streams, and Bunn discusses the source and fate of organic matter in Australian streams. Two features set the Australian streams apart from north temperate streams where most stream ecology has been done. First, many Australian streams are not in forested areas, and organic matter derived from production in the stream may be greater than that derived from allochthonous sources. Second, many of the forests are dominated by eucalyptus; not only do these trees drop their leaves in the summer during periods of low stream flow, their leaves have high concentrations of polyphenolic compounds that are not palatable to invertebrates and inhibit microbial colonization. Leaching and subsequent colonization by microbes require several months, and there is a long delay until the organic material is in a form suitable for ingestion by invertebrates.

Australia has the lowest yearly rainfall of all the inhabited countries and proportionally the highest rates of evapotranspiration. Saline lakes form in endorheic basins, and the billabongs of the floodplains and the saline lakes periodically dry up. These water bodies are excellent sites for studies of physiological adaptations of organisms to fluctuating environments and of the role of disturbance in shaping community structure. Discussion of the tolerance of organisms to harsh or fluctuating environments is included in five papers, but there is only one paper on billabongs, and the only paper directly devoted to saline lakes is a scholarly justification, based on historical precedent, for the inclusion of saline lakes under the heading limnology. This paper does not even refer to Williams's recent review of Australian lakes. The chemical characteristics of saline lakes, which are far more plentiful than freshwater lakes in Australia, are presented in Hart and McKelvie's paper on chemical limnology. Bould describes the microbial communities at the sediment-water interface, but taxonomic information on other organisms inhabiting salt lakes is scattered throughout the volume.

The low rainfall or fluctuations in the timing of rainfall have allowed a number of unusual water bodies to form. These include the mound springs of the Great Artesian Basin that are believed to have been refugia during pronounced hydrological oscillations of the last 400,000 years, lakes perched on sand dunes, which in terms of cycling of organic matter are intermediate between headwater streams and lakes, and a group of meromictic lakes in Tasmania whose initial exploration and ongoing demise are reported by Tyler and whose highly stratified microbiota is described superlatively by Croome.

Ecosystem studies are underrepresented in this volume, and their results on the pathways and rates of cycling of the elements are essential for understanding the ecology of water bodies and for developing management strategies. That the Australian limnological community perceives an urgent need for management is evident, for a quarter of the entries in this volume appear under that heading. In only a few papers, however, are the complex interactions that determine community structure and biomass examined. Bunn uses the data available from a few study sites to trace the fate of organic matter in Australian streams; McComb and Lukatelich analyze species composition and primary productivity in terms of availability of nutrients and light, periodic changes in salinity, and sediment-nutrient interactions; and Geddes contrasts the zooplankton communities in four farm ponds that were similar except that one contained fish.

The physics of the aquatic environment is an oft-neglected aspect of limnology, and a knowledge of circulation patterns and mixing rates is essential for understanding lakes as ecosystems and for water quality management. This volume has two contributions on this subject. J. A. Davis's review of boundary layer theory, vortices in wakes, and flow measurements is especially relevant to stream ecologists since many benthic invertebrates can take advantage of velocity gradients near the boundary layer to reduce stress on their bodies, and some create vortices to concentrate food. Little research has been done on flow around invertebrates, and as Hynes notes, the field is ripe for experimentation and measurement. Davis summarizes the work she did on morphological adaptations of waterpennies to the surrounding flow. Imberger's group in western Australia is doing the most comprehensive research in physical limnology of any research group today, and in this volume Parker and Imberger provide a detailed analysis of horizontal circulation caused by differential heating and wind stress on the surface of a reservoir. Because nutrients and pollutants are supplied to the nearshore portions of lakes by streams or overland flow, horizontal circulation induced by thermal gradients is likely to be quite important for rapidly reducing gradients in these solutes, especially in small- and moderate-sized water bodies in which the wind has not set up persistent circulation patterns. It would have been useful if the authors had calculated the rate at which this mechanism transports dissolved species; this type of calculation is one of the required steps in integrating physical and chemical limnology for a better understanding of ecosystems as a whole.

Oblique aerial view of Lake Fidler, the last of three meromictic lakes in a pristine region adjacent to the Gordon River, Tasmania. Upstream damming of the river altered the complex hydrography responsible for the meromixis. [Photograph by P. A. Tyler, from *Limnology in Australia*]

The quality of the figures and the clarity of the text are high. It is unfortunate that no map of the continent was provided for those unfamiliar with its geographical features and that no chapter was included to provide a hydrological and geographical perspective, given Australia's extremes in climate—its northern tip is like Bengal, the southernmost region is like Norway, but the greatest expanse is comparable to the Sahara Desert. Despite these shortcomings, this is a valuable book for students who require an introduction to various aspects of limnology and for researchers interested in data from Australian inland waters and advances in ecological theory derived from examination of Australia's many distinctive habitats.

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Northern Glacial Chronology

Quaternary Glaciations in the Northern Hemisphere. Report of the International Geological Correlation Programme, Project 24. V. ŠIBRAVA, D. Q. BOWEN, and G. M. RICHMOND, Eds. Pergamon, New York, 1986. x, 514 pp., illus., + loose charts and tables. Boxed, $110. *Quaternary Science Reviews*, vol. 5.

This large book and the accompanying collection of large charts and tables are the result of a massive international effort to summarize the stratigraphy and chronology of Quaternary glacial events throughout the Northern Hemisphere. For the United States 15 papers of variable length and detail summarize the features region by region, including Alaska and Hawaii. One paper is concerned with Mexico, four with Canada, 19 with Europe, four with the U.S.S.R., one with Japan, and three with China. Compiled by leading investigators in each region, the volume brings together most of the recent research on Quaternary glaciations in the various areas, and the several summary chapters attempt syntheses and correlations with the marine stratigraphic record. The book is published as volume 5 of the journal *Quaternary Science Reviews*, but in a much larger format.

Whereas recent review volumes have been concerned largely with the Late Wisconsin, the present book deals with the entire Quaternary. In the introductory chapter Richmond and Fullerton recognize the almost indecipherable complexity of the early and middle Pleistocene glaciations of the midcontinent and propose the elimination of the long-standing terms "Nebraskan" and "Kansan" in favor of the all-inclusive term "pre-Illinoian." A rationale for this major revision is presented in the chapter on the Central Plains by Hallberg. When the Pearlette ash, once the anchor for correlation of early glacial events in the Kansas area, was discovered to represent three ashes derived from a Yellowstone Plateau source with potassium-argon (K-Ar) dates of 0.61 million, 1.27 million, and 2.01 million years, the glacial chronology for the older Pleistocene fell apart. Paleomagnetic measurements, fission-track dating, recognition of multiple paleosols, deep drilling, and other stratigraphic techniques have revealed the complexity but have not deciphered it. Even the Illinoian till itself, as described in the chapter by Johnson on the Lake Michigan lobe, is considered to represent at least two major glacial fluctuations. The demonstration that the marine stratigraphy recorded many more than four major Quaternary glaciations has certainly been an incentive to reexamine the continental glacial record.

The term "Sangamon interglaciation" is used in a restricted sense to designate the interval of maximum warmth between the Illinoian and the Wisconsin glaciation and is correlated with stage 5e of the marine sequence; the term "Eowisconsin" is introduced for the incipient intervals of cooling (marine stages 5d through 5a) before the Early Wisconsin. It is recognized that the Sangamon soil itself is time-transgressive in both its lower and its upper boundaries: it continued to form in Illinois until buried by the Middle Wisconsin till.

Ever since the formalization of stratigraphic nomenclature in Quaternary geology, and with the introduction of radiocarbon dating, it has been mandatory for glacial geologists to establish synchroneity of regional events before correlation can be justified. This advisedly conservative approach has resulted in the presentation of local stratigraphic terminologies, so that it is difficult for one to obtain a broad historical picture of the Laurentide ice sheet and its fluctuations without remembering dozens of names. For example, Fullerton lists almost 70 named tills for the area from Indiana east to New Jersey, with more than 100 references. The myriad of names for each of the eight U.S. Laurentide ice-sheet areas treated in the book is put in chronological context in a series of very large but rather simply designed and easily understood charts, on which glacial formations, loess units, paleosols, volcanic ashes, and the important stratigraphic units are diagrammatically shown, along with many radiocarbon dates that allow the chronological control to be evaluated. The result is an impressive display of the glacial history as currently understood. Maps within the text provide a picture of the course of Late Wisconsin deglaciation for certain areas, but no overall glacial map of moraines and other features is provided—an almost impossible task in view of the remaining uncertainties in correlation from one area to another. Thus the colored "East of the Rockies" map of 1959 (Glacial Map of the United States East of the Rocky Mountains, published by the Geological Society of America) remains the only available wall map for the Laurentide ice sheet in the United States.

Separate chapters and correlation charts are provided for the Rocky Mountains, the Pacific Northwest, the Sierra Nevada, Alaska, and Hawaii, followed by a synthesis and comparison with other areas. In the Yellowstone Plateau the numerous volcanics associated with glacial features and dated by K-Ar provide the chronological control for events predating the radiocarbon range—so that even the Eowisconsin is divided by Richmond into early, middle, and late. The glacial history is also described by Richmond one by one for 22 other mountain areas in the Rocky Mountains, Colorado Plateaus, and Great Basin.

The summary chapters that conclude the U.S. section of the book, by Richmond and Fullerton, offer a chronology of dated glaciations: Pliocene Alpine glaciation, more than 1,650,000 years ago; early Pleistocene, between 1,650,000 and 788,000 years ago (taken to be the date of the Matuyama/Brunhes paleomagnetic reversal); middle Pleistocene, 788,000 to 132,000 years ago; Sangamon (restricted), 132,000 to 122,000 years ago; Eowisconsin, 122,000 to 79,000 years ago; Wisconsin, 79,000 to 65,000 years ago; middle Wisconsin, 65,000 to 35,000 years ago; and late Wisconsin, 35,000 to 10,000 years ago.

This chronology includes 11 glacial episodes (mostly documented in the Rocky Mountains with K-Ar dates) that match 11 marine oxygen-isotope "cold" stages during the last 900,000 years. The correlation chart shows that the Laurentide ice-sheet chronology has insufficient control to equal this match, because of the lack of radiometric dates as well as the paucity of exposed stratigraphic sections with paleosols and other materials indicating nonglacial conditions.

The synthesis also shows that the last glacial maximum for the Laurentide ice sheet occurred between 22,000 and 21,000 years ago, that for Alpine glaciers about 22,000 years ago, and that for the Cordilleran ice sheet about 15,000 years ago. The ice-volume maximum for North American ice appears to have predated the isotopic ice-volume maximum in ocean cores