

## BOOK REVIEWS

**Man and His Foods: Studies in the Ethnobotany of Nutrition — Contemporary, Primitive, and Prehistoric Non-European Diets.** General editor, C. Earle Smith, Jr. The University of Alabama Press, University, Alabama, 1973, 131 pp., photographs, tables, index, botanical glossary, bibliographies, \$6.50 (cloth).

Food is the goal of human subsistence behavior. While ritual and religion sustain people's minds, it is the subsistence system that feeds their bodies. Mental manipulations are difficult to document, but the successes and failures of subsistence systems appear rather clearly as the food that people eat — or lack.

The papers in this book were originally presented as a symposium at the Eleventh International Botanical Congress in 1969. Each contribution is a detailed look at human dietary patterns (contemporary and prehistoric) and despite the uneven quality and coverage there are no failures, just varying degrees of success. At the least, the papers offer interesting information. At their best, they indicate both the promises and the pitfalls of current research into human food consumption.

In his introduction, editor C. Earle Smith, Jr., asks "How much do we truly know about the nutrition of human beings who do not eat the diet common among peoples of European extraction?" (p. vii). The answer, unfortunately, is "distressingly little." For many years, ethnographers confined themselves to simply listing what the people they studied ate, and how they raised or caught it. The foods listed were the ones most visible, most frequent, or most unpalatable to the investigator. From this limited information, it was difficult to assess how well fed various populations were.

In the 1960s, several major studies, most notably those of Lee (1968) and Rappaport (1967), measured the subsistence production of entire human populations, and the prevailing view of these groups as people engaged in a daily fight for dietary sufficiency was radically altered. The !Kung Bushmen were getting along quite well, thank you . . . and on a 20-hour work week!

With these outlines drawn, attention has now shifted to more detailed examinations of diets for their caloric, general protein, and specific amino acid

content as well as seasonality. The volume's paper by Aubrey Williams is such an attempt, and it is both provocative in its findings and flawed in its methods.

Williams surveyed diets in three Mexican villages during three field seasons, but always during the same 3 months. This seasonal bias has plagued studies of community nutrition, most of which do not continue throughout an entire year. Although it can be asserted that seasonal differences are minor, this needs to be established by data, not by fiat.

Williams used three methods in collecting 130 daily diets from individuals, and he admits quite candidly that "each [method] encountered difficulties." The difficulties are familiar to those who have collected nutritional data in the field: if you use one informant for a prolonged period, you wind up with a very small sample of people, and the informant usually finds that being followed constantly becomes more of a nuisance than a novelty after a few days. Asking schoolchildren to list what they've eaten the day before has the normal hazards of recall information compounded by the eclectic dietary habits of the young. Recall data from adults attending a government health clinic are more reliable, but such a sample still lacks the statistical validity that can come only from a sample properly drawn at random from the entire population.

Williams estimates the mean caloric intake as 1433 calories per person per day, which is about one-half the amount called for in international standards for people of a similar size and level of activity. Similar discrepancies have now been reported for a large number of groups, and the time has come to stop dismissing the findings as being the offspring of flawed methods. "Obviously," Williams writes, "something is amiss. The people studied did plow, sew, talk, cut wood, run, and walk" (p. 63). There are a lot of indigenous groups who are plowing, cutting wood, and existing on one-half or less of the calories once thought necessary, and the explanation may well lie with biological adaptation to chronic low levels of caloric intake. These data suggest a major new area of research for the future.

An equally provocative contribution is the paper by N. H. Nickerson, N. H. Rowe, and E. A. Richter showing the extensive knowledge that the North Alaskan Eskimos have of the plant resources in their frozen ecosystem. As with many other populations, the hunting portion of the Eskimo "hunting and gathering" regimen gets most of the attention in the literature, yet this paper shows that gathering makes a significant contribution to the Eskimo diet. This contribution, however, is decreasing as a result of acculturation, a theme that is currently being repeated in many places.

Other papers in this volume include an examination of prehistoric Mexican dietary patterns (E. O. Callen), amino acid complementarity as a factor in *Phaseolus* domestication, and a brief look at the ethnobotany of Oceania (Jacques Barrau).

As a global food shortage looms ever larger, these papers may serve as a reminder of the necessity to examine more closely the capability of local ecosystems to support the human populations within their boundaries. Along with the Green Revolution is coming the revelation that populations dependent on non-indigenous resources stand reduced probabilities of survival. Editor Smith is quite correct in his assertion that "Ethnobotany of nutrition is the germ of a concept that must play an ever increasing role in the interpretation of man's existence" (p. vii). Those who stalk the wild asparagus close to home may yet be the ones most likely to survive.

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**Development on a Human Scale: Potentials for Ecologically Guided Growth in Northern New Mexico.** By Peter van Dresser. Praeger Publishers, New York, 1973, 134 pp., tables, figures, \$10.50 (cloth).

This book is both a plea and a plan. It is a plea to stop the process of metropolitanization and to create greater regional self-sufficiency, dispersed urbanism, and "humanly scaled communities functioning close to the land and its life cycles." This is to be accomplished by watershed-based ecological development planning, in this case in the northern New Mexico uplands region.

The author organizes his plan around four regional potentials: "a full complement of region-supplying primary industries," "land- and skill-intensive agriculture and husbandry," "deep functional involvement of the community in soil and biotic conservation," and "enriched village-community economic, social and cultural life" (pp. 35-40). While recognizing the need to modify social policies and institutions, the plan is not a process to achieve these potentials but is a projection of what could be if a "bioeconomic society" were to evolve in the region. Little attention, for instance, is given to how the northern New Mexico uplands region can realistically attain regional autonomy when it contains New Mexico's state capital, 35% of the land is owned or held in trust by the federal

government, its watershed boundaries crosscut the political boundaries of five counties, two states, and several Indian reservations, and the present economy is based on inputs of governmental subsidies and tourists and is dependent on exports of forest products, livestock, and crops.

The arguments of the book are not helped by van Dresser's pipe-dream projections (pp. 84-94) of an average annual 8% growth in primary revenues between 1960 and 1985 from the ecological development planning of the region's forestry, mining, manufacturing, tourism, and agricultural enterprises. These projections are not necessary to his argument for establishing upland watershed communities and his damning of the process of metropolitanization. Nor are they fully explained, and this indicates a superficial approach in which benefits will be somehow accrued without consideration of social and environmental costs.

The author's basic unit for planning and creating regional ecological development is watershed-based communities. Van Dresser makes an important contribution in reviving this as an ecological foundation for communities. The notion of watersheds as planning units for the western United States was advanced by John Wesley Powell (1890: 113-114) but has long been ignored. Possibly van Dresser, a resident and planner living in the northern New Mexico uplands, can implement some of the ideas proposed. The results then might be evaluated against other community forms and planning formats.

His book, however, is repetitious and lacking in important details. The data are old, being 1950 and 1960 vintage, and they are inconsistently used. Important background points are not footnoted, and the reader is frequently faced with statements of the sort, "The considerations here are much the same as those discussed in the preceding section under the same heading" (p. 56).

Those sympathetic with the book's philosophic plea will find little specific detail about how a watershed-based ecological development plan is formulated or implemented. Rather, van Dresser presents projections of what might be if the ideals of regional self-sufficiency, dispersed urbanism, and humanly scaled communities were adopted. Those who question the book's philosophy will find that the data do little to convince them as to the merit of ecological development planning.

## REFERENCE

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**Village Life in South India: Cultural Design and Environmental Variation.** By Alan R. Beals. Aldine Publishing Company, Chicago, 1974, 189 pp., maps, photographs, bibliography, index, \$7.50 (cloth), \$2.95 (paper).

It is particularly fortunate that Alan R. Beals was asked to write a book on South Indian village life for the series edited by Walter Goldschmidt, *Worlds of Man: Studies in Cultural Ecology*. Beals has spent nearly 25 years investigating cultural change and community variation in Mysore State, including 4 years living in the villages he uses as examples in this book. He is perhaps better equipped than any other scholar to write a general description of South Indian village life.

Books in this series are intended for use as supplementary texts in introductory courses in anthropology and, where appropriate, for cultural anthropology generally. In keeping with an introductory text, the book contains no footnotes, and references are limited to a bibliography of 15 key items pertaining to villages and urban places in Andhra Pradesh and Tamilnadu, as well as in Mysore. The book also is a welcome addition to the literature on life in an Indian region, particularly as it takes an integrative ecological approach. The use of the ecological perspective permits more effective integration of the range of information about Indian villages and villagers than is usual in books and papers following a systematic or case-study approach. There is little question that the use of ecological theory helps make sense of the sets of interactions that characterize the complex peasant society of South India.

Beals divides his treatment into an introduction and 11 chapters. In the introduction, he describes South India and introduces the reader to the three villages that form the basis for his observations. We are told that the book deals with "village ecology," the study of the complex system of relationships that is formed when a village is established in a particular environment. In Chapter One, Beals describes the basic ideas that South Indian villagers use in coming to terms with the world around them. Emphasis is placed on the concepts of *dharma* and *karma*, which contribute to the creation of a world view of nature and humanity as a single entity in which all aspects of nature and humanity unite to play their proper roles. Beals stresses the importance of South Indian world view because he sees almost every aspect of village ecology as an interaction between ideal or dharmic patterns and the unique environment of each community.

Chapter Two deals with the ways in which the physical and social structure of the village derives from world view, tempered by local circumstances. In Chapters Three and Four, agricultural ecology is outlined from the perspective of world view and traditional technology. Chapter Five deals with techniques of population regulation that have traditionally operated to maintain appropriate man-land ratios. In Chapters Six through Nine, Beals proceeds to the relationships among villages. Chapter Six and Seven deal with marriage, economic exchanges, and the influence of hierarchies of caste and social ranking, linkages

that play an important role in influencing and regulating village population and agricultural production. Chapter Eight deals with the role of government in regulating the economic and political relationships in villages, and among villages, towns, and cities. Chapter Nine is concerned with religious institutions and rituals, whose function can be seen as not so much regulating the ecosystem directly as providing a flexible set of options that can compensate for problems arising in the operations of regional ecological and social systems. Chapter Ten describes the new sets of relationships arising from modernization, and how these have been coped with in Mysore. A final chapter combines these varied aspects and themes of South Indian life in a description of the "seamless web" of relationships that Beals claims have preserved this successful adaptation of man for many centuries.

The book presents a compelling and holistic description of life in a South Indian region. A major strength is that it presents a basic comprehensible and nontechnical description of what life is like in a South Indian village, and how the village interacts with the world outside. The village is viewed as a system within a larger system, a point that has been made only too infrequently about the Indian village (Kessinger, 1974: 25). Through the use of the ecological perspective, Beals demonstrates that the idea of the village as an economically self-sufficient and politically viable unit is untenable in Mysore, just as it seems to be elsewhere in India. A further point of strength, to this reviewer at least, is the use of world view, especially the image of unity, harmony, and right action that is dharma. In his emphasis of world view, Beals places himself squarely in that group believing that the study of cultural ecology should derive from ethnographic description ordered according to the principles by which one's informants interpret their environment and make behavioral decisions (Frake, 1962). Of necessity, Beals has been selective, but he is fortunate that the South Indian world view provides detailed instructions concerning almost every aspect of relationships among human beings and between human beings and environment. He makes excellent use of these instructions to produce a synthesis that may well provide a model for studies that stress the importance of cognitive structuring.

Perhaps the most disappointing part of the book is the section in Chapter Two on village plans, where we are given little indication of how thought and reality interact to establish the physical pattern of the village. Similarly, in the chapter on agricultural technology, the richness and variety of the agro-ecosystem of individual villages are disguised by an approach which emphasizes individual crops. In all fairness, this is compensated for in Chapter Four, which does treat the diversity in the relationships between villages and the agricultural lands. Nonetheless, one is left with the overall impression that the strength of the book lies in the human dimension of the ecological system rather than the agricultural or biophysical,

Some readers may be disturbed by the emphasis given in the book to stability, to the longstanding self-equilibrating relationship among human beings, grain crops, and cattle. The reader is left with the impression that the South Indian village represents an adaptation that has remained essentially unchanged for a millennia or two, and that until recently the only type of feedback operating was of an essentially negative or deviation-dampening type. However, Beals is not unaware of change, and in fact emphasizes the flexibility that can exist within tradition, in a manner similar to that suggested by Johnson (1972). However, one wonders about the "timeless perspective" of relationships between man and environment, when recent studies have questioned the view of the unchanging village, particularly after 1800 (Kessinger, 1974; Morris, 1966). Perhaps an ecological framework that opted for a slowly evolving system, always open to outside influences, with both negative and positive feedback operating, would be more realistic.

This is a well-written book. It offers an integrated view of South Indian life and demonstrates that the Indian viewpoint is both systems oriented and ecological in its formulation. It represents the kind of synthesis that only a scholar who truly understands his material can produce.

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**Coastal Deserts: Their Natural and Human Environments.** Edited by David H. K. Amiran and Andrew W. Wilson. The University of Arizona Press, Tucson, 1973, 207 pp., maps, graphs, charts, photographs, bibliographies, index, \$13.50 (cloth).

This volume is the sixth and latest in a series on arid lands published by the University of Arizona Press. It consists of a collection of 24 articles

discussing the locations and problems of coastal deserts around the world. The volume's papers cover a wide range of topics. There are four main parts: General Considerations, Latin American Deserts, The Old World Deserts, and Australia Deserts.

The editors participated in a symposium on coastal deserts held in Lima, Peru, in March and April 1967. The discussions during the symposium, and the work resulting from it, led to the preparation and publication of this volume. Some of the chapters in the book evolved from the papers presented at Lima; other chapters were prepared especially for it. In the preface of the volume, four changes are presented related to the potential for development of coastal deserts. These four include increasing population pressure which has led people to look more closely at sparsely populated arid lands, increasing availability of water, progress in transportation technology, and significant mineral discoveries. Although these four topics could have been the theme for the book, only one or two of the papers deal directly with the above changes.

The book actually represents a hodgepodge of topics about coastal deserts and is poorly focused. Four of the papers deal with the climates of desert coasts, past and present. Two papers are concerned with the causes of aridity. Several of the chapters discuss economic developments for particular coastal regions, and one or two deal with unusual topics such as offshore desert islands as centers for development.

Although the papers cover a wide areal range of topics, most contribute knowledge of an environment that has been largely ignored. For example, Chapter Sixteen deals with the fishmeal industry of Iquique, Chile, a growing new industry developed since the early 1960s, and Chapter Eighteen is a two-page account of the semiarid coastal region of northeastern Brazil which provides information about the rainfall, vegetation, and economy not readily available in journals.

However, a number of other subjects could have been covered, and several coastal desert regions are only briefly discussed. Baja California is left out entirely, a serious omission considering the recent changes taking place there. The Mexican government has completed paving the road from Tijuana to La Paz. Now Americans, mainly Californians, are streaming south to the beaches and resorts on both the Pacific and Gulf sides of the peninsula. Large planned resorts are already being developed at San Felipe and Cabo San Lucas. Increasing human activity along the coast and in the desert has already caused drastic environmental change. The pearl industry at La Paz has been destroyed by pollution, and there are greatly reduced catches of shrimp in the Gulf of California. Certainly, this rapidly changing region should not have been left out of a volume on coastal deserts. Perhaps more than in any other locale, it dramatically illustrates the elements of change presented in the preface. Similarly, little is said about the desert coasts of Patagonia, Somalia, Saudi Arabia, Iran, Pakistan, and



India. Pakistan, for instance, has large development schemes for the ports of Pasni, Gwadar, and Omara along the Makran coast. There is already regular plane service to these ports.

Several of the volume's papers, such as Gilbert White's "The Changing Role of Water in Arid Lands," are quite general, while other papers, such as David Amiran's section on "Eilat: Seaside Town in the Desert of Israel," go into considerable depth. A few of the papers are well illustrated with numerous photographs and maps; others appear to have been hastily compiled for the volume. Leonard W. Bowden's chapter on "Remote Sensing of the World's Arid Lands" has seven space photographs and a detailed land use map of the Imperial Valley. This paper is one of the more factual, up-to-date accounts of new research on arid lands, although the Imperial Valley clearly is not a coastal desert. The other extreme is the chapter on the "Crisis of the Saharan Oases" by Jean Despois; it mentions a number of changes but lacks maps and photographs and appears to be but a summary of what could be expanded into a more informative chapter, especially in light of recent events in the Sahel.

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