

R. E. Johannes, *Words of the Lagoon: Fishing and Marine Lore in the Palau District of Micronesia*. Berkeley, Los Angeles, and London: University of California Press, 1981. Pp. xiv, 245, illustrations, appendices, glossaries, bibliography, index. \$24.95.

There is much to admire in this book, and you need not be a fisherman to do so. The author, a marine biologist, perceived that the most knowledgeable individuals about fish were those who sought them and whose understanding stemmed from this consuming pursuit. In particular, he was interested in the understanding of fish and fish behavior by the traditional fishermen of the Pacific who have for centuries preyed upon their quarry with spear, trap, net, hook, and poison. He knew, too, that the old men who possessed this lore--this product of scores of years of practical experience--were dying out. And their sons and grandsons were not enthusiastic about traditional fishing practices. Moreover, nobody was asking the old men to share what they knew. Johannes decided to ask.

He chose as the site of his investigation the Palau Islands of Micronesia, an archipelago of nearly 350 islands and islets that stretches roughly north and south between 7 and 8 degrees north of the equator. The reefs and lagoons that surround it possess one of the richest and most diverse marine environments in the world. Equally appealing was the fact that Palauan fishermen have long been recognized as exceptional, perhaps the most knowledgeable in all of Micronesia.

In the recent past a number of bridges have been built between disciplines so as to better understand certain phenomena. Johannes concluded that students of ethnobiology in Oceania had for the most part laid their emphasis upon terrestrial ecology, ignoring the rich potential of the study of tropical marine ecosystems. It was time, he decided, to heed the

urging of Charles Nordhoff who two generations ago made the point that the knowledge of native fishermen should be plumbed by Western investigators. Nordhoff was talking about Tahiti, but his point was equally valid for Palau where the profusion of marine organisms and environments is truly remarkable. It is estimated, for example, that there are about a thousand fish species in Palauan waters. Johannes points out that this is several hundred more than have been recorded along the entire Arctic, Atlantic, and Pacific coasts of Canada.

In 1974, when Johannes arrived in Palau to conduct his research, more than sixty percent of the population of the Palau district lived in the urban center of Koror. As is true in so many other Pacific communities, people placed greater reliance on imported food than on that produced locally. Now, seven years later, the trend continues. Nearby waters are overfished, employed individuals have limited time to fish, boats are in short supply, and, more important, fishing is not thought of as a prestige occupation. Consequently, most people rely on canned mackerel from Japan. The author elaborates on this theme in a brief epilogue.

In the Pacific of today, he says, knowledge about fishing is disappearing. So is the knowledge, he adds, that is related to farming, hunting, medicine, and navigation. This is because the younger members of society are simply not interested. To them, it is no longer useful knowledge. Johannes believes this attitude could have disastrous effects on the islands and their people.

The continued and growing reliance on imported food, energy, and technology constitutes a threat to island welfare. Island market economies that are heavily dependent upon foreign investment capital, subsidies from metropolitan countries, and tourism may not be able to survive the changes in the international climate that some believe are inevitable. The islanders are not in charge of their own destiny as once was true when they were self-sufficient. To regain this state of affairs, traditional knowledge cannot be lost. Johannes does not see his book as insurance against future in which economic depression in the world would force a return to older island values and exploitive practices. He points out that the retention of the vast body of lore connected with any significant feature of culture like fishing needs to be transmitted from generation to generation through enculturative processes. He is probably right. But what his book can do is help convince some members of the younger generation that there is a cultural life preserver at hand if they will but grasp it before all of the knowledgeable elders are gone.

Johannes collected material for this book over a period of sixteen months. He settled in the traditional community of Ngeremlengui on the

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west coast of the island of Babeldaob. There he encountered a master fisherman named Ngiraklang, a man of eighty years, who had consciously set out early in life to be what he became. The old man's knowledge was broadly recognized by others throughout Palau.

From Ngeremlengui the author traveled widely in the District, asking questions of more than sixty fishermen besides Ngiraklang. He double-checked answers, observed fish and fishermen, tried out techniques himself. He even carried out some laboratory work on certain species upon which he also reports.

At one point Johannes went to Tobi, one of several small islands southwest of Palau where the people have a language and culture different from those of Palau. They, too, have a long association with the sea and its denizens. The book includes a chapter on fishing in the South West Islands, co-authored by P. W. Black, an anthropologist who has studied fishing in Tobi. Johannes later speaks of the area again in a chapter about ocean currents and in another devoted to fishhooks. One of the two glossaries offered is of Tobian words, the other of Palauan.

Johannes' style is deliberately non-technical, a shift from his usual treatment. He wanted to reach a broader audience and recognized that the technical jargon of most scientists makes their writing "nearly incomprehensible to all but colleagues." He is correct in this. Fortunately, much of what he says will interest other professionals as well as lay readers.

In addition to those mentioned above, the book has chapters on Palauan fishing methods, the rhythms of fish and fishermen, seabirds as fishfinders, the decline of the traditional conservation ethic, improving fisheries, and native names for fishes.

After a short section of photographs of fishing scenes and paraphernalia, there is a delightful chapter entitled "The Arboreal Octopus." If you doubt that octopuses climb trees or attack sharks, you should read this section. It also explains about bleary-eyed fish, blood as a tranquilizer, vacuum-like sharks, poison-breathing sea snakes, spitting fish, fish-killing rain, eel-killing fish, acrobatic swimming as an aid to birthing, and "mobbing" by tuna who kill collectively.

There is an appendix on fish reproduction, spawning, seasonal migrations, and good fishing days. And a short one devoted to crustaceans. Still a third deals with Tobian fishhooks. It has many simple line drawings that aid the reader greatly.

This is a valuable book for marine biologists, anthropologists, and local people. It grew out of a deep conviction that a valuable source of knowl-

edge was both unnoticed and unexploited and that the time to tap it was overdue. Johannes has made his point and well.

A number of years ago Marston Bates remarked that for the most part fish do not mind being watched. Evidently neither do fishermen. And Bob Johannes is a good watcher of both.

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