

- SARMIENTO, SERGIO. 1991. Movimiento indio y modernización. Cuadernos Agrarios 2:90-113.
- TALLER DE TRADICION ORAL DEL CEPEC and PIERRE BEAUCAGE. 1987. Catégories pratiques et taxonomies. Notes sur les classifications et les pratiques botaniques des Nahuas (Sierra Norte de Puebla, Mexique). Recherches Amérindiennes au Québec 16 (4):17-36.
- . 1988. Maseualxiujpajmej, Kuesalan, Puebla/Plantas medicinales indígenas. Cuetzalan, Puebla. Desarrollo Integral de la Familia (DIF), Puebla.
- . 1990. Le bestiaire magique. Caractérisation du monde animal par les Maseuals (Nahuats) de la Sierra Norte de Puebla. Recherches Amérindiennes au Québec 20 (3-4):3-18.
- . 1996. La bonne montagne et l'eau malfaisante. Toponymie et pratiques environnementales chez les Nahuas de basse montagne (Sierra Norte de Puebla, Mexique). Anthropologie et Sociétés (in press).
- THOMSON, GUY P.C. 1991. Agrarian Conflict in the Municipality of Cuetzalan (Sierra de Puebla): The Rise and Fall of Palagustin Dieguillo, 1861-1894. Hispanic American Historical Review 71:205-258.
- TOLEDO, VICTOR. 1985. La crisis ecológica. Pp. 27-51 in México Ante la Crisis, Pablo González Casanova and Héctor Aguilar Camín (editors). Siglo XXI, México, D.F.
- . 1992. What is ethnoecology? Origins, scope and implications of a rising discipline. Etnoecológica 1: 5-22.
- TARRIO, MARÍA, CRISTINA STEPHEN, and LUCIANO CONCHEIRO. 1995. La modernización en crisis: Análisis de la evolución de los principales productos agroalimentarios — Un balance de la política salinista para el campo. Cuadernos Agrarios 11-12:27-44.
- TULET, JEAN-CHRISTIAN. 1993. Les succès du café "organico" de la coopérative ISMAN (Chiapas, Mexique). Pp.75-80 in Les Cafécultures Mexicaines: La Force de la Tradition, les Risques de la Décomposition, Odile Hoffmann and Bertrand Sallée (editors). Géodoc No 39; Série Moca No 3. Université de Toulouse-Le Mirail, Toulouse.
- VELAZQUEZ, EMILIA and LUISA PARÉ. 1993. Hacia la construcción de una estrategia de desarrollo sustentable en la Sierra de Santa Marta, Veracruz. Cuadernos Agrarios 7:118-125.

BOOK REVIEW

Hunting the Wren: Transformation of Bird to Symbol. Elizabeth Atwood Lawrence. Knoxville: University of Tennessee Press, 1997. Pp. xx, 234. Illus., index. ISBN 0 87049-960-2 (cloth).

One of the strangest customs in the annals of ethnozoology is the Hunting of the Wren. Throughout most of the Celtic core areas of Europe — the British Isles, France, and probably neighboring areas (data is poor) — there was once a custom of hunting a wren (*Troglodytes troglodytes*, the "winter wren" in American English) shortly after Christmas. In the British Isles, the hunt was traditionally on St. Stephen's Day (December 26), the ceremonial day of the first Christian martyr and the day on which the British exchange their Christmas gifts. Accompanying songs referred to the wren as the "King of Birds." It was killed and brought home — often borne by two or more strong men, on a huge pole, as though it were a monster animal. Its meat or feathers were then distributed for good luck, at least in some versions of the practice.

Several folktales give accounts of why the wren is the "King of Birds," but they have rather an *ad hoc* quality. Many independent observers have come to the same conclusion: the real reason (or at least one real reason) for the wren's royal title is the fact that it sings an amazingly long and beautiful song throughout the year, even in the worst winter storms. Significantly, the wren is a "power bird" in Haida mythology too, and this reviewer (unaware of the earlier literature) reinvented the same explanation after hearing the wren's song rise clear and sweet over the howling wind and lashing rain of Haida Gwaai southwesters.

Countless variants of the hunt take place. It appears likely that the original form is the one in which meat is shared for luck. The cult is clearly associated with Celtic religion, being tightly linked with surviving Celtic culture. Lawrence airs sympathetically several theories that link it with the mysterious Druids.

Much of this book is devoted to explanations of the wren hunt. Great numbers of folklorists, ethnologists, and psychologists have speculated on the custom. Solar-cultists, survivals-hunters, symbolists, and interpreters of all stripes have utilized their ingenuity. The Freudians, of course, weighed in with truly creative sexual interpretations. For all these explanations, there is not one shred of evidence; they can be described only as flights of fancy. Every would-be decoder has taken bits and pieces of custom out of context and used them in a highly selective fashion to support a theory that, to the other decoders, seems preposterous. This book is thus a sobering read for those who would interpret culture. Not only scientists, but humanistic scholars as well, must look seriously at evidence, if they wish to contribute to something more than the wearisome history of human folly.

Lawrence is properly cautious. She invokes E.O. Wilson's hypothesis of biophilia to explain human interest in so insignificant an animal, and then works upward from the actual traits of the wren. Not only its song, but also its hole-nesting habit, its skulking ways, its dull color, and its rather weak flight are relevant to its folkloric image. She shows how these traits are observed, transformed, and symbolically used in various forms of the wren hunt. There is much left to explain, but, with the wren hunt rapidly disappearing, we will probably never know its secrets.

This book is valuable to ethnobiologists for several reasons. First, it reminds us what an incredible amount of religious and symbolic lore accumulates around animals, even in "civilized" and "rational" Europe. Second, it serves as a cautionary note about what can and cannot be explained, and how wild are the ideas of some who thought they were being "scientific." In fact, this book's greatest value may be as a sort of museum of fantasies in the name of "theory." Third, it is an excellent and sympathetic portrait of both bird and believers. Lawrence is a cautious, thorough scholar, recording with style and with detachment this strange cult and its even stranger scholarly career.

E. N. Anderson
Department of Anthropology
University of California
Riverside, CA 92521

BOOK REVIEWS

The Animal World of the Pharaohs. Patrick F. Houlihan. London: Thames and Hudson, 1996. Pp. xv, 245. Copiously illustrated in B & W and color. Index. ISBN 0-500 01731-X (hardcover).

Here is yet another book that is close to essential reading for ethnobiologists, but is well outside the normal ethnobiology citation universe and therefore might be missed.

Patrick Houlihan provides a valuable, up-to-date, and accurate overview of Ancient Egyptian knowledge and use of animals. He covers the entire 3000-year run of Egyptian civilization, in a work that is as much illustration as text, so the treatment is at a rather introductory level. It is none-the-less important for that.

Ancient Egypt is famous for its religious regard for animals. Houlihan begins his book with this theme. He is careful to point out that the animals were not literally worshipped; they were revered as emblematic of gods, and sometimes as demonstrating some of the qualities of those gods. Reverence did reach amazing levels, however. One temple alone mummified at least four million ibises. Others mummified countless cats, crocodiles, cattle, and other fauna. These were sacrificed; pets, by contrast, were apparently not sacrificed when their masters died, as they often were in early China.

The Egyptian fondness for animals was not purely an abstract, cultish matter. Egyptians delighted in hunting and fishing; lords and ladies are shown in these activities. Egyptians not only kept pets, but named and loved their dogs and cats. Many officials and court members had themselves painted with their pets beside them. The pets are shown in highly naturalistic form, and seem well cared for, often being adorned with lovely collars. Not only dogs and cats, but also baboons, green monkeys, mongooses, birds, and other fauna were kept. Some pharaohs had full-scale zoos. The Egyptians also had their animal tales, and a whole chapter on "Animals in Humor and Wit" (pp 209-217) is found herein.

Of course, Houlihan eventually gets to mere utility, and discusses the value of cattle, donkeys, and so on in the domestic economy. He contradicts some hoary myths; those baboons picking figs in trees were, he believes, pets, rather than trained harvesters like the coconut-picking monkeys of southeast Asia. Cheetahs too seem more likely to have been display animals than trained hunters.

Ancient Egyptian artists were superb. No one since has made better paintings of some of the birds and fishes of Egypt. Thanks to this, one can recognize these creatures, and perhaps the most valuable ethnobiological aspect of this book is Houlihan's careful identification of mammals and of the birds that were previously lumped as "ducks" or "geese" or the like. He identifies the species. His identifications seem correct, except for a "Bittern" on Plate V that is actually a Black-crowned Night Heron. Fish are less easy to call, but he has done an excellent job with them.

There has been much recent debate about the degree to which Ancient Egypt was an "African" civilization. Houlihan stays strictly away from this issue, but my impression is that the animal world of the pharaohs was a quite African one.

(By contrast, the domesticated plants were almost all derived from the Near East.) Of course, most of the animals were African; but even Near Eastern animals like the dog and sheep were integrated into an African world. The complex religious symbolism and the cosmology behind it seem primarily African, though, of course, not without influences from elsewhere. Also African is the intense, complex emotional involvement with the animal world, from religion to pet-keeping. Certainly the treatment of cattle seems close to that of the Nuer and other Sudanic groups. These (or, rather, their ancestors) no doubt were much influenced by their distant northern neighbor; but did the influence flow only one way? I doubt it.

The book is primarily an art book — one would call it a “coffee table” if the text weren’t so good and so ethnobiologically sophisticated. The plates are superb art, superbly reproduced. Bird lovers may be the most pleased.

For a dog lover, however, there is one picture that is worth the price of the book. Figure 57 (pg 80) is a rough sketch, but obviously by a master artist. It is from the coffin of one Khuw, of the Twelfth Dynasty. Khuw is leading his dog Menyupu (“He is a Shepherd” — probably a name, not just a job description). Menyupu is a beautiful, rather basenji-like dog, in splendid condition, with a fine collar and leash. The artist has perfectly captured Menyupu’s loving, trusting gaze as he follows his master into whatever eternity art and devotion can give.

E. N. Anderson
Department of Anthropology
University of California
Riverside, CA 92521

Wild Men in the Looking Glass: The Mythic Origins of European Otherness.

Roger Bartra. Translated by Carl Berrisford. Ann Arbor: University of Michigan Press, 1994. US\$49.50. Pp. 232. Illus. ISBN 0-472-10477-2 (hardcover).

The Artificial Savage. Roger Bartra. Translated by Christopher Follett. Ann Arbor: University of Michigan Press, 1997. US\$47.50. Illus. ISBN 0-472-104577 (hardcover).

Few things are more interesting or significant to ethnobiologists than the human tendency to people the world with imaginary beasts. Often it is the very people who impress us with their incredible and minutely detailed knowledge of the environment who have the richest store of beliefs in nonexistent wildlife. Europe has at least its share of unreal animals, and among the most interesting of them is the “wild man,” the *Homo sylvestris*. Long ignored by anthropologists, this individual has at last found a chronicler.

These books are, in effect, a single two-volume monograph on the “wild man” or “savage” in European tradition. The European “wild man” — usually male, though wild women and whole families are reported — was a mythical creature, virtually identical to the “sasquatch” and “bigfoot” of North America. He was usually portrayed as huge, hairy, club-wielding, and antisocial. Wild folk were usually considered nonlinguistic. Some wild folk did have large societies, even armies, but usually they lived in family groups. They were usually fierce, rude, and unmanly, but sometimes they had “natural” virtues of kindness and sympathy.

(By contrast, the domesticated plants were almost all derived from the Near East.) Of course, most of the animals were African; but even Near Eastern animals like the dog and sheep were integrated into an African world. The complex religious symbolism and the cosmology behind it seem primarily African, though, of course, not without influences from elsewhere. Also African is the intense, complex emotional involvement with the animal world, from religion to pet-keeping. Certainly the treatment of cattle seems close to that of the Nuer and other Sudanic groups. These (or, rather, their ancestors) no doubt were much influenced by their distant northern neighbor; but did the influence flow only one way? I doubt it.

The book is primarily an art book — one would call it a “coffee table” if the text weren’t so good and so ethnobiologically sophisticated. The plates are superb art, superbly reproduced. Bird lovers may be the most pleased.

For a dog lover, however, there is one picture that is worth the price of the book. Figure 57 (pg 80) is a rough sketch, but obviously by a master artist. It is from the coffin of one Khuw, of the Twelfth Dynasty. Khuw is leading his dog Menyupu (“He is a Shepherd” — probably a name, not just a job description). Menyupu is a beautiful, rather basenji-like dog, in splendid condition, with a fine collar and leash. The artist has perfectly captured Menyupu’s loving, trusting gaze as he follows his master into whatever eternity art and devotion can give.

E. N. Anderson
Department of Anthropology
University of California
Riverside, CA 92521

Wild Men in the Looking Glass: The Mythic Origins of European Otherness.

Roger Bartra. Translated by Carl Berrisford. Ann Arbor: University of Michigan Press, 1994. US\$49.50. Pp. 232. Illus. ISBN 0-472-10477-2 (hardcover).

The Artificial Savage. Roger Bartra. Translated by Christopher Follett. Ann Arbor: University of Michigan Press, 1997. US\$47.50. Illus. ISBN 0-472-104577 (hardcover).

Few things are more interesting or significant to ethnobiologists than the human tendency to people the world with imaginary beasts. Often it is the very people who impress us with their incredible and minutely detailed knowledge of the environment who have the richest store of beliefs in nonexistent wildlife. Europe has at least its share of unreal animals, and among the most interesting of them is the “wild man,” the *Homo sylvestris*. Long ignored by anthropologists, this individual has at last found a chronicler.

These books are, in effect, a single two-volume monograph on the “wild man” or “savage” in European tradition. The European “wild man” — usually male, though wild women and whole families are reported — was a mythical creature, virtually identical to the “sasquatch” and “bigfoot” of North America. He was usually portrayed as huge, hairy, club-wielding, and antisocial. Wild folk were usually considered nonlinguistic. Some wild folk did have large societies, even armies, but usually they lived in family groups. They were usually fierce, rude, and unmanly, but sometimes they had “natural” virtues of kindness and sympathy.

Belief in wild men goes back at least to the dawn of literature; *Enkidu* in the *Epic of Gilgamesh* fits all the stereotypes. The Greek and Roman writers treated extensively wild men (among the satyrs, fauns, nymphs, and other strange creatures of the forest). Stories of wild men flourished especially in the medieval and renaissance periods. Folk legend and travel narrative provided accounts and pictures. More sophisticated authors such as Spenser and Hans Sachs used the wild man ironically or poetically, to comment on conventional society. (The Flintstones and Alley Oop, are, in a sense, descendants of this tradition; "Natural Man" has been displaced to the remote, dinosaur-inhabited past, and stories about him have been displaced to the child level.)

The Age of Discovery pushed wild men out of Europe. At first the Native Americans were regarded as "savages" in the classic European sense. It was not real Indians, but "savages," that John Locke was contemplating when he used "America" as an example of humanity in a state of "nature." Later, the "savage" was displaced to even less known shores: Africa and Australia. Finally, in the 20th century, the "savage" was shown not to exist — though a few diehard adventurers still seek the sasquatch of northwest American, the *yeti* of Tibet, the *yeh-jen* of China, and the hairy giant of the Brazilian Amazon. (*Yeh-jen* stories in China have sometimes led primatologists to isolated populations of the golden langur, a large, furry monkey that occasionally walks erect.)

Wild men were considered to be humans in their natural state. Apparently the mythmakers assumed that humans existed in a wild form, just as dogs, cattle, and pigs did. The wild man was to social man as wolves are to dogs, aurochs to cattle, and wild boars to pigs. Humanity without the blessings of civil society would be fierce, cruel, and rapacious; would have no codes to regulate sex and violence; and would have no language, no arts, no shelter, nor hierarchy. But such humans might have rudimentary social instincts.

The Age of Discovery disproved the more wild and naive accounts of this kind, and introduced people to real apes, who had been a least some of the inspiration of the early stories. Nicolaas Tulp described an orang-utan under the name *Homo sylvestris* (which is, in fact, a literal translation of "orang-utan"). Non-human apes and human "savages" were differentiated. By the mid-16th century, knowledge had progressed to the point where the Catholic Church could rule that America's indigenes were human, not animals.

The second volume focuses on the latter-day writers, farther from the forest, who used the wild man as a takeoff point for philosophy: Hobbes, Locke, Rousseau, Defoe, Shakespeare (think of Caliban), and so on. Bartra does not go into detail on the obvious carry-over from these authors into classic ethnography. Nor does he discuss the non-European wild men (such as the *yeti*). Perhaps a third volume will treat these issues. It soon becomes quite obvious to any reader who knows 19th-century anthropology — Tylor, Morgan, and the rest — that their "savages" were Hobbes' and Locke's wild men, not actual humans. Adam Kuper, in his important history of early anthropology, *The Invention of Primitive Society* (Routledge, New York, 1988), asked where early ethnologists got their highly detailed, wholly unrealistic concept of the "savage." Now we know.

Indeed, we still have this "artificial savage" very much with us in the writings of sociobiologists and others who have no experience with actual indigenous

peoples. Economists and political scientists often simply assume the accuracy of Hobbes' classic description of savage life as "solitary, poore, nasty, brutish and short" (Thomas Hobbes, *Leviathan*, Dutton, New York, 1950 [orig. 1657], pg 104).

Bartra's scholarship is superb, and he has missed very few items of importance. Perhaps the most significant is his failure to note that Rousseau's famous "noble savage" was not wholly imaginary; Rousseau was aware of the chimpanzee and was doing his best to describe its way of life (see Rousseau, *The First and Second Discourses Together with the Replies to Critics*, and *Essay on the Origin of Languages*, ed. and trans. by Victor Gourevitch; Harper and Row, New York, 1986, pg 215 — a note in the *Second Discourse* which originally appeared in 1750). Indeed, recent writings on the chimp do make it seem very much like Rousseau's powerful, rough, but sociable wild man (see e.g., Frans de Waal, *Good Natured*; Harvard University Press, Cambridge, 1996).

This pair of books is essential reading for anyone interested in imaginary beasts, or in the history of social science (not just anthropology). In fact, I would rank it as the most important new contribution to the history of social science to come along in a decade. It completely transforms our understanding of the foundations of the social science enterprise. Hobbes, Locke, Rousseau, Tylor, and indeed, much of the European intellectual community, appear not as cool logicians, nor yet as builders of stereotypes, but as typical people — talking from the cultural positions they knew. They grew up with accounts of the wild man, and these accounts colored their views of humanity.

E. N. Anderson
 Department of Anthropology
 University of California
 Riverside, CA 92521

Myths and Tales of the White Mountain Apache. Grenville Goodwin. Tucson, Arizona: The University of Arizona Press, 1994. \$16.95 (paper). Pp. xxix; 223. ISBN 0-8165-1451-8.

In this reprint of the original 1939 publication, Grenville Goodwin, in collaboration with Apache translators and storytellers, brings the reader into the world of the White Mountain Apache through their own oral history. He does this through a series of stories (57 to be exact) recounting the history of the Apache people as seen through the eyes of select tribal elders. Goodwin informally groups the stories according to their subject matter, beginning with the creation of the Apache world and moving through stories about cultural figures, stories about religious figures (*gaan*), and Coyote stories, which are usually moral tales told to children.

Prior to the stories themselves, Goodwin provides a basic introduction to Apache history, culture, and society. Although somewhat dry, this preface is thorough and well worth reading. By including the names and backgrounds of his Apache collaborators, as well as the background of the stories and the proper etiquette for story-telling, Goodwin was clearly ahead of his time (to do so was an uncommon practice among social scientists of the 1930s).

peoples. Economists and political scientists often simply assume the accuracy of Hobbes' classic description of savage life as "solitary, poore, nasty, brutish and short" (Thomas Hobbes, *Leviathan*, Dutton, New York, 1950 [orig. 1657], pg 104).

Bartra's scholarship is superb, and he has missed very few items of importance. Perhaps the most significant is his failure to note that Rousseau's famous "noble savage" was not wholly imaginary; Rousseau was aware of the chimpanzee and was doing his best to describe its way of life (see Rousseau, *The First and Second Discourses Together with the Replies to Critics*, and *Essay on the Origin of Languages*, ed. and trans. by Victor Gourevitch; Harper and Row, New York, 1986, pg 215 — a note in the *Second Discourse* which originally appeared in 1750). Indeed, recent writings on the chimp do make it seem very much like Rousseau's powerful, rough, but sociable wild man (see e.g., Frans de Waal, *Good Natured*; Harvard University Press, Cambridge, 1996).

This pair of books is essential reading for anyone interested in imaginary beasts, or in the history of social science (not just anthropology). In fact, I would rank it as the most important new contribution to the history of social science to come along in a decade. It completely transforms our understanding of the foundations of the social science enterprise. Hobbes, Locke, Rousseau, Tylor, and indeed, much of the European intellectual community, appear not as cool logicians, nor yet as builders of stereotypes, but as typical people — talking from the cultural positions they knew. They grew up with accounts of the wild man, and these accounts colored their views of humanity.

E. N. Anderson
Department of Anthropology
University of California
Riverside, CA 92521

Myths and Tales of the White Mountain Apache. Grenville Goodwin. Tucson, Arizona: The University of Arizona Press, 1994. \$16.95 (paper). Pp. xxix; 223. ISBN 0-8165-1451-8.

In this reprint of the original 1939 publication, Grenville Goodwin, in collaboration with Apache translators and storytellers, brings the reader into the world of the White Mountain Apache through their own oral history. He does this through a series of stories (57 to be exact) recounting the history of the Apache people as seen through the eyes of select tribal elders. Goodwin informally groups the stories according to their subject matter, beginning with the creation of the Apache world and moving through stories about cultural figures, stories about religious figures (*gaan*), and Coyote stories, which are usually moral tales told to children.

Prior to the stories themselves, Goodwin provides a basic introduction to Apache history, culture, and society. Although somewhat dry, this preface is thorough and well worth reading. By including the names and backgrounds of his Apache collaborators, as well as the background of the stories and the proper etiquette for story-telling, Goodwin was clearly ahead of his time (to do so was an uncommon practice among social scientists of the 1930s).

New in this edition are a preface by White Mountain Apache Tribal Chairman Ronnie Lupe; a forward by Elizabeth A. Brandt, Bonnie Lavender-Lewis, and Philip J. Greenfeld; and a key to written Apache by Brandt and Greenfeld. The preface by Lupe is important because it shows the support of the White Mountain Apache tribe for this publication, something often neglected. For those interested in linguistics, the key to written Apache points out changes which have occurred in this language since the time Goodwin originally did his research in the 1930s.

A major point brought out in the forward by Brandt, Lavender-Lewis, and Greenfeld is that the term "myth," while used in the book's title, is a poor one because it is easily misunderstood. Some readers may see this term and assume that the stories contained within are not true. To the Apache people, however, these stories are history and should not be seen as anything less. For example, the sixth account given by Goodwin is entitled "Emergence" and deals with the Red Ant People who traveled from under the earth to the surface to populate the earth. Along with Badger and Porcupine, these were the first people on earth. Birds, and then humans, came to the earth later. This story could be construed as a "myth" which is untrue or as an historical account of the beginnings of the earth. To truly understand its meaning to the Apache, one must not automatically assume the former.

As for these stories themselves, we feel that it is not our place to critique or criticize their authenticity or validity. These stories represent one version of White Mountain Apache oral history. Although other White Mountain Apache may have a different interpretation of this history, it is best left for them to interpret, not us.

After experimenting with reading the stories silently and then aloud, we strongly recommend the latter. Not only is this how they were meant to be heard, we found that we understood them better in doing so. In addition, keep in mind that the stories were originally told in Apache and that the English translation may not flow as smoothly as the original.

For those who would like to learn about the White Mountain Apache and the Fort Apache Reservation area, *Myths and Tales of the White Mountain Apache* is a good introduction to the foundations of Apache culture: religion, kinship, and subsistence. For readers who are already familiar with the people and/or the area, it supplies a more in-depth understanding of both. Overall, this book provides valuable insights into the Apache world from an Apache point of view and is well worth the read.

Christine Makosky
Department of Anthropology
Arizona State University
Tempe, AZ 85287-2402

Sean Michael Daley
American Indian Studies Program
University of Arizona
Tucson, AZ 85721

Elaine Joyal
Department of Life Sciences
Arizona State University West
Phoenix, AZ 85069-7100

Local Knowledge and Agricultural Decision Making in the Philippines: Class, Gender, and Resistance. Virginia D. Nazarea-Sandoval. Ithaca and London: Cornell University Press. 1995. Pp. xiii; 226. ISBN 0-8014-2801-7.

This is a book of rich ethnographic detail set in a clear theoretical and historical context. The work focuses on the rural community of Kabaritan in the northern Philippine island of Luzon. Modern Kabaritan is a diverse collection of peasant landholders, tenant farmers, and landless laborers. Each of these socio-economic categories employs varied strategies for making a living in the increasingly crowded lands of the area, struggling to meet household production targets by taking what advantage they can of opportunities for diversification. The proximity of urban markets; improvements in regional infrastructure, agriculture, and aquaculture; and land reforms have given differential advantage to some people over others.

Drawing on ecological models of the cognized environment and on decision making theory, Nazarea-Sandoval outlines a specific model of agricultural decision making. Cognitive processes enshrined in cognized models constrain choices, as do environmental factors. Beyond this, local factors of the history of the development of the local community have led to the emergence of distinct, locally recognized socio-economic categories in the population.

Nazarea-Sandoval argues that cultural constructs of local reality are not equally distributed in the community; there are distinctive patterns in distribution that are referable to gender and socio-economic status, or "class." The important contribution of this book to ethnobiology and ecology is the careful presentation of ethnographic illustration of the importance of attending to micro-level variation in the distribution of environmental knowledge and its impact on human decision making in relation to exploitation of the environment.

Following an outline of the theoretical orientation and research methodology, Nazarea-Sandoval provides a detailed account of the geographic, demographic, and historical setting of Kabaritan. Of particular note for the theoretical orientation of the book is a fine-grained discussion of the social organization of ownership of productive resources and the organization of labor. The principal material of the analysis is contained in Chapters 4 to 6. Chapter 4 on "Operational Reality: Opportunities and Constraints" examines the environmental circumstances at large and the varied adaptive strategies available to households depending upon socio-economic opportunities. The local economy of Kabaritan is essentially one of small scale wet-rice production and fishing. In recent years, some households have moved into conversion of rice-fields into ponds for raising tilapia fish fingerlings. Limitations on capital reserves, land holdings, and available labor generally constrain households to make choices between rice or aquaculture as the primary source of household income, but as is common in other peasant communities, there are strong pressures to diversify into other forms of marginal production, including production of vegetables and cut flowers for urban markets. Wage labor has become increasingly prevalent in the community, with many households of middle and upper socio-economic strata hiring landless laborers.

Chapter 5, "Cognized Models: Ethnoagronomy and Ethnogastronomy" provides careful documentation of the variable cognitive prominence given to agronomic and dietary factors of subsistence. Of particular interest is Nazarea-

Sandoval's analysis of the different cognitive images of land-use options and gastronomic evaluations of different crops and rice varieties according to the gender and socio-economic status of informants.

Chapter 6, "Decision Making as Interface" examines the process of choice in allocation of resources at the intersection between environmental constraints (the operational reality) and the cognized models of actors as these vary across socio-economic categories and gender. The distribution of tasks in the agricultural and fish-raising calendar show marked patterns according to both gender and socio-economic status.

This book is the result of meticulous fieldwork. Methodologically, much emphasis is placed upon data obtained from a sample of 12 households representing three socio economic strata of the community. While the qualitative and quantitative data are impressive, I am left wondering whether the sample size is sufficient to sustain some of the conclusions about the patterns of distribution of knowledge and adaptive strategies.

Nonetheless, the detailed ethnographic material presented by Nazarea-Sandoval amply supports her general point that not only is there differential access to resources — a point well established in peasant studies — but that knowledge pertaining to the organization of production and consumption is similarly unevenly distributed. Of course, this is not to say that certain sectors of the local community are "less informed" than others (although this may be the case in respect to formal education), but rather that there are local variants of folk knowledge. While this has long been acknowledged in ethnobiology, one of the major contributions of this book is the demonstration of the situation in the context of practical decision making in subsistence.

The text is well-written and augmented by clear diagrams, figures, tables, and photographs. Production is of a high standard as one would expect from this press, although 17 pages of critical material were missing from Chapter 6 of the review copy!

This book is recommended for those interested in the interface between ethnobiology, ecology, and rural development.

Christopher J. Healey
Northern Territory University
Darwin, Australia

COMPACT DISK REVIEW

Secwepemc Kus (We are the Shuswap). Secwepemc Cultural Education Society. 1994. Secwepemc Cultural Education Society, 355 Yellowhead Highway, Kamloops, British Columbia, Canada V2H 1H1. Tel: (250) 828-9779.

Plantas Medicinales de México: Usos y Remedios Tradicionales (Medicinal Plants of Mexico: Uses and Traditional Remedies). Centro de Tecnología, Electrónica e Infomática (CETEL). 1996. Camino Real a Xochimilco No. 60, Tepepan, Xochimilco, México, D.F. 16020. Tel: 420-59-59.

Secwepemc Kus (We are the Shuswap): This Macintosh-based CD is produced

Sandoval's analysis of the different cognitive images of land-use options and gastronomic evaluations of different crops and rice varieties according to the gender and socio-economic status of informants.

Chapter 6, "Decision Making as Interface" examines the process of choice in allocation of resources at the intersection between environmental constraints (the operational reality) and the cognized models of actors as these vary across socio-economic categories and gender. The distribution of tasks in the agricultural and fish-raising calendar show marked patterns according to both gender and socio-economic status.

This book is the result of meticulous fieldwork. Methodologically, much emphasis is placed upon data obtained from a sample of 12 households representing three socio economic strata of the community. While the qualitative and quantitative data are impressive, I am left wondering whether the sample size is sufficient to sustain some of the conclusions about the patterns of distribution of knowledge and adaptive strategies.

Nonetheless, the detailed ethnographic material presented by Nazarea-Sandoval amply supports her general point that not only is there differential access to resources — a point well established in peasant studies — but that knowledge pertaining to the organization of production and consumption is similarly unevenly distributed. Of course, this is not to say that certain sectors of the local community are "less informed" than others (although this may be the case in respect to formal education), but rather that there are local variants of folk knowledge. While this has long been acknowledged in ethnobiology, one of the major contributions of this book is the demonstration of the situation in the context of practical decision making in subsistence.

The text is well-written and augmented by clear diagrams, figures, tables, and photographs. Production is of a high standard as one would expect from this press, although 17 pages of critical material were missing from Chapter 6 of the review copy!

This book is recommended for those interested in the interface between ethnobiology, ecology, and rural development.

Christopher J. Healey
Northern Territory University
Darwin, Australia

COMPACT DISK REVIEW

Secwepemc Kus (We are the Shuswap). Secwepemc Cultural Education Society. 1994. Secwepemc Cultural Education Society, 355 Yellowhead Highway, Kamloops, British Columbia, Canada V2H 1H1. Tel: (250) 828-9779.

Plantas Medicinales de México: Usos y Remedios Tradicionales (Medicinal Plants of Mexico: Uses and Traditional Remedies). Centro de Tecnología, Electrónica e Infomática (CETEL). 1996. Camino Real a Xochimilco No. 60, Tepepan, Xochimilco, México, D.F. 16020. Tel: 420-59-59.

Secwepemc Kus (We are the Shuswap): This Macintosh-based CD is produced

and published by the Secwepemc peoples of British Columbia, Canada, and presents a segment of their ethnobotanical world from their perspective. Upon opening the CD, the viewer is presented with a narrated slide show that briefly introduces the Secwepemc people and the local environment and then proceeds through a twenty-minute tour of spring, summer, and fall, emphasizing the important plants — primarily edible — available at each time of the year. In addition to the slide show, there is a database with additional information on each of the plants, including their Secwepemc name, English name(s), and scientific name, and a brief description of the plant and how it is utilized.

The interface to this disk is clean, intuitive, and easy to navigate; the photography and layout are very good. The slide show can be interrupted at any time by pressing "Return," which puts the viewer into the first page of the database. Navigating from here is as simple as clicking on either plant names, pictures, or one of the icons to return to the slide show, credits, or plants by season. I would like to have seen more information on the culture, history, and ecological context of the Secwepemc, and, of course, more plants would definitely be good. While the 23 plants included are well treated, this can be only a sampling of the plants available and used by the Secwepemc.

Plantas Medicinales de México: Usos y Remedios Tradicionales: This IBM-compatible PC disk is an elaboration of the book *Tes Curativos de México* (Linares, Bye, Penafil 1990) and, though it is not without problems, is a fine example of the dynamic opportunities available through multimedia. Upon opening the disk, there is a series of full-page graphics on the various organizations that participated in production, then a slide of various medicinal plants and two flag icons: Mexico and U.S. Choosing one opens the program in one or the other language — an important option. The following screen begins the true access to the material on the disk. The user has a number of options available at this point, some more obvious than others. For example, by clicking on the word "Use," the following screen presents a series of short video clips on uses of plants in Mexico, as well as pictures of male or female forms which, by clicking on a particular region, brings up illnesses and treatments characteristic of that area. It is here that the primary drawback to this CD appears. None of the computers on which I tried this disk had the necessary system software installed to play the audio portion of the videos. The videos themselves ran and are interesting (though grainy), but the audio could not be accessed, severely limiting the value of the videos and the CD. In order to listen to the audio, it is necessary to go into the system files and add the sound drivers ("Waveplay") to handle the format on the disk. For one used to computers and comfortable with their organization, this is not a major chore, but for the average user, it presents a potentially insurmountable obstacle to full use of the disk. Nothing about this requirement is noted in the otherwise useful instructions. CDs ought to be "plug and play"; that is, one should simply drop them into the player and go.

With the exception of this severe limitation, this is a remarkable disk, packed with information which can be accessed in a variety of places. The superb hypertext links allow one to access information about plants through the scientific or common name, through the medicinal uses of the plants, or through a "Card File" that allows systematic exploration of the included plants. All terms that are not obvi-

ous are highlighted in color. Clicking on these highlighted terms produces a definition (red) or a citation (blue). The descriptions of the plants and their uses are detailed, accurate, and accompanied by beautiful photographs taken in a variety of contexts. Pressing on the "Mixed With" icon gets a listing of the plants or materials generally mixed with this plant in medicinal preparations. Each of these are also hypertext linked to their associated data. Finally, the "Help" icon provides a page of definitions for each of the icons. I would recommend an initial visit here because the meaning of some icons is not immediately obvious.

These two compact disks (CDs) represent an important and interesting departure from the usual approaches to recording ethnobotanical information. While printed formats continue to be the primary method of recording traditional plant knowledge, the rapid emergence of electronic publishing ("multimedia") represents a significant new orientation that has the potential to more accurately reflect the perspectives of those peoples and communities most knowledgeable about the plants. The technology of multimedia provides the opportunity to present information in a fashion distinctly different from the essentially linear format imposed by written language. Conceptually, there are no limits to the way in which the material can be organized. By using a variety of materials — photos, text, sound recordings, video — hyperlinked according to the designer's orientation, it is possible to present the material in essentially any format, structure, or style desired.

The opportunities provided by multimedia technology, such as CDs, are especially exciting at this time, when many indigenous peoples are striving to preserve ethnobotanical knowledge. For example, many communities are establishing or enhancing gardens, often as houseyard gardens or as community-organized and maintained gardens, featuring those plants considered most significant to the preservation of knowledge of traditional plant use. While these are important efforts, they necessarily involve removing plants from their environmental context and planting and maintaining those species in garden settings. The removal of a culturally significant plant from its "natural" habitat, may in turn, lead to the loss of knowledge regarding the ecology of that plant. Fortunately, the dynamic format and massive information storage capacities of electronic publishing provide the opportunity to include a wide range of knowledge about individual plants and their associations which are not as easily captured in a printed format. This base of information can serve as an archive and elaboration of knowledge on the plants in the garden, as well as on a wider range of plants and their associations than can be reasonably maintained in a garden. Independent of presentation formats, many databases now will support images, text, and sounds as part of the database, allowing for powerful and innovative archival and education projects.

The World Wide Web is becoming increasingly important as a medium in which to store and display ethnobotanical knowledge, particularly information on medicinal plants (see, for example, Michael Moore's medicinal plant home page). However, there are some major structural limitations to the Web that reduce its value: it is expensive to develop and maintain a site and it is expensive to access the Web due to computer costs and connect charges. Consequently, the Web is largely unavailable in many parts of the world lacking adequate phone lines, computers, and technical expertise. At present, then, CDs represent an important new

medium for permanent storage and distribution of ethnobotanical material that can be managed and controlled by local populations. New technologies in CD design, such as Digital Versatile Disk (DVD), will greatly enhance the storage capacity of CDs, further improving their utility. Furthermore, CDs are portable, accessible, and relatively inexpensive to produce and purchase and so can be the electronic equivalent of the locally published books so widespread in the developing world.

With the increasing accessibility of multimedia, ethnobiologists should be collecting data with this possibility in mind. Whether the effort is directed to CDs or to the World Wide Web is not really the issue. What is important, I believe, is that all collectors should be thinking about these multimedia approaches in their research activities, gathering not only the usual information (names, uses, preparations, administrations, etc.), but also detailed narratives about the ecological context of the plants (audio recorded where possible), detailed photographic and/or video documentation of plant use, and ecological and use contexts.

In short, the use of these new data archiving and presentation methods permit not only a broader and deeper recording of traditional knowledge, but also recordings that better reflect indigenous conceptions of the environment and its resources.

Pioneering conceptual work by researchers such as Virginia Sandoval (1990), William Balée (1994), Eugene Hunn (1990), Brent and Elois Ann Berlin (1996), Thomas Smith (1996), and others on dynamic, indigenously-oriented preservation of knowledge has come a major step closer to reality in these two CDs. I personally am excited by the prospects represented here and look forward to other efforts. The prices on both are attractive (less than US\$30), making them as accessible as many books with similar information. As of this writing, neither disk is distributed in the United States and must be ordered directly from the producers.

LITERATURE CITED

- BALÉE, WILLIAM. 1994. *Footprints of the Forest: Ka'apor Ethnobotany: The Historical Ecology of Plant Utilization by an Amazonian People*. Columbia University Press, New York.
- BERLIN, ELOIS ANN BERLIN AND BRENT BERLIN. 1996. *Medical Ethnobiology of the Highland Maya of Chiapas, Mexico: The Gastrointestinal Diseases*. Princeton University Press, Princeton.
- HUNN, EUGENE. 1990. *Nch'i-wána, "The Big River": Mid-Columbia Indians and their Land*. University of Washington Press, Seattle.
- MOORE, MICHAEL. 1997. <http://rt66.com/hrbmoore/HOMEPAGE/HomePage.html>
- SANDOVAL, VIRGINIA D. 1990. *Ethnoagronomy and ethnogastronomy: On indigenous typology and use of biological resources*. Paper presented at the 2nd International Congress of Ethnobiology, Kunming, China.
- SMITH, THOMAS A. 1996. *1996 Project Report. IEEE Multimedia*. See also web site at: <http://www.meer.net/~tgas> for a full discussion of his work.

John Brett
Department of Anthropology
University of Colorado at Denver
Denver, CO 80204