

consequence of the gopher's mythic role in "birthing" the Pima's clan ancestors. This is but a single example of the rich complex of conceptual linkages that inform traditional Pima peoples relationships with animals, a conceptual system that is simultaneously scientific in its empirical grounding and "mythic."

My criticism of Rea's book is limited to a few editorial quibbles. For example, Appendix D describes the phonological conventions used in writing Piman words but fails to explain the "d" with subscripted period (a retroflex "d"?). A brief account of how Piman plurals and other compound names are formed would have been helpful also. In several instances, issues or concepts are referred to before they are properly introduced into the discussion, which can be misleading. Finally, a wider context for certain topics would have added depth to the analysis. For example, the emphasis on respect for animals is widely implicated in animistic religious perspectives.

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The Retreat of the Elephants: An Environmental History of China. Mark Elvin. 2004. Yale University Press, New Haven, Connecticut. Pp. xxviii + 564. \$39.95 (cloth). ISBN 0-300-10111-2.

This monumental work is essential for anyone interested in China's environment. The book is not an environmental history; it is a collection of brilliant and detailed essays. Some deal with deforestation and hydraulics. Three are detailed accounts of particular regions—one in the heartland, one on the southern frontier, and one on the northern. Three more give elite views of the environment: classic poetry, the "moral meteorology" of the Yongzheng Emperor (r. 1723-1736), and the observations of Xie Zhaozhe, a sixteenth- to seventeenth-century scholar whose eye was almost scientific. Elvin concentrates on extensive interpretive translations of primary sources, mostly materials never before translated, and frequently hard to find even for Sinologists.

One essential point made in the text involves the quality of Chinese observation of environments. Elvin quotes many sources showing full awareness of the consequences of deforestation. Unfortunately, such perceptions did not stop the process. He asks how such an excellent observer as Xie could maintain he actually saw dragons, in a storm at sea. My fishermen friends in Hong Kong also saw them, under the same circumstances. Looking into torrential rains, flashing lightning, and roiling clouds, from a wildly pitching boat, one can see almost anything one expects or fears to see.

Elvin contrasts Chinese science, or proto-science, with western science. China never created the idea of the fact as a "publicly recorded and accessible statement about an *observable* aspect of the world, set in the context of a *systematic evaluation* of the evidence. . ." (p. 388; his italics), and, more, that the Chinese never had "[t]he idea of *the program*" involving "systematic and cumulative" ways of "setting out to learn *more* of the truth" (pp. 388-389; again, his italics) through consultation, publication, and mutual collaboration. These ideas appeared with the western invention of modern science in the seventeenth century.

The work has few errors of fact or interpretation. He misidentifies an obscure bird as a "marabou," a tropical African stork never found anywhere near China (p. 308); the bird was probably a dark-feathered crane.

His translations are detailed and well written, but can at times be over interpretive. Consider the following lines from a famous poem by Tao Yuanming:

Having picked, for tipping, chrysanthemums from beneath the eastern hedge, I gaze wistfully at the southern hills, distant and changeless forever. The aethers from off the mountains reach a perfect balance at sunset. And, as they wing back toward their homes, the birds keep each other company (p. 333).

Arthur Waley's more literal translation says:

I pluck chrysanthemums under the eastern hedge,
Then gaze long at the distant summer hills.
The mountain air is fresh at dusk of day;
The flying birds two by two return (Waley 1946:105).

Note that Elvin has added a great deal—including the Victorian words "tipping" and "aethers," which perpetuate the unfortunate tradition of using nineteenth-century missionary English for translating Chinese poetry.

The book is sparing and cautious in coming to conclusions. China became so closely cultivated and so over-managed that the tiniest mistake could cause a huge disaster. For centuries, western observers have been drawing contradictory conclusions from this fact. China has virtually eliminated its forests, its large fauna, its freshwater fish, and above all its flexibility. On the other hand, it has supported a vast population, and has done so with style and tremendous productivity—though the rich appropriated much of it and left bare subsistence as the lot of the rest. Elvin is from the "glass half empty" school. This is reflected in the title: elephants, not people, are the measure, and their progressive extermination from most of China says quite enough about Chinese environmental management. Yet one might be impressed by the fact that there are still a few elephants in China, in spite of a million years of steadily increasing human impact on their numbers. In the New World, a handful of human hunters (along with climate change) seem to have finished off the pachyderms in about 1/1000 that amount of time.

Elvin covers deforestation in detail, but only briefly covers the monumental soil-managing operation that allowed China to feed itself. Elvin is not, however, totally unfair to the Chinese. He points out that most of the environmental damage took place in the last few centuries. He says this is because of population pressure, with help from corruption and over-bureaucratization. For reasons un-

stated, he does not say what many others do say: that environmental decline was also due to the steady shift toward totalitarian government, with attendant over-centralization and discouraging of local flexibility and local management.

One can see how much worse things could get from what has happened in the last 50 years: Communist China's assault on the environment has almost totally emptied the ecological glass, producing major eco-catastrophes like the floods of 1998, and guaranteeing far worse ones in the near future.

Elvin's final conclusion is that the environment was shaped by "the massive effects of the pursuit of power and profit" rather than by ideology or consciousness. This follows from his detailed consideration of elite attitudes and values, and the lack of impact that the more environmentalist of these had on anything on the ground. He does not consider the actual management strategies of the farmers, woodsmen, fisherfolk, hunters, and others who actually shaped the environment. He touches on the rack-renting and corruption that forced the mass of the people to overdrive the system against their better judgment, but he does not go into detail on how this destroyed sound management. This is because he confines his attention to detailed written records. The ordinary people left few of these. The wealth of anthropological and agronomic data available from the twentieth century shows a somewhat different picture: a world of people desperate to maintain their system by using everything with maximal efficiency, and, when possible, maximal sustainability. The question, then, is not whether profit or elite ideology was what mattered, but what kind of profit-making strategy was invoked. Ideology and religion played a powerful role, by making people consider long-term and wide-flung issues, rather than solely the short-term and narrow ones.

Elvin cites rather little of the recent literature on environmental history. By taking a traditional approach, based closely on detailed study of primary sources, he avoids the unfortunate tendency of some environmental historians to neglect ecological realities and focus only on "representations." However, he also misses the chance to discuss in detail the recent work on environmental and agricultural history by a number of brilliant scholars. Sometimes Elvin can even seem a bit out of date, as when he uses outmoded concepts like "superstition" or irrelevant judgments like "pseudo-science." (China had no modern science; it could thus have no "pseudo-science.")

This book is essential for anyone who does attempt the monumental task of writing a real environmental history of China. But it is not that history. That millennial work, when it comes, will have to pay more attention to successes—food supply, landscape management, recycling, tree conservation, fish farming, city planning, gardening, plant and animal breeding, ethnobiology, and above all sustainable management—but also to some of the "bads" that Elvin does not cover in enough detail: disease, lack of sanitation, malnutrition, social injustice, tyranny and over-centralization, gender bias and its environmental consequences, lawlessness and violence, and related ills.

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Medicinal Plants of the World. An Illustrated Scientific Guide to Important Medicinal Plants and Their Uses. Ben-Erik Van Wyk and Michael Wink. 2004. Timber Press, Portland, Oregon. Pp. 480 + photos, figures, appendices, index. \$39.95 (hardcover). ISBN 0-88192-602-7.

This book is a good reference for anyone interested in medicinal plants, especially those plants which are commercially or historically important in Europe. Van Wyk and Wink's book differs from other similar texts in that it is more of an economic botany book than just another "herb" book. The medicinal plants examined are used as herbs and botanicals, vitamins and minerals, functional foods, homeopathic products, and other nutraceuticals. The authors include both largely unprocessed whole herbs and those which are sources for medically important chemical extracts. The book's title, *Medicinal Plants of the World*, is not completely accurate, but the subtitle, *An Illustrated Scientific Guide to Important Medicinal Plants and Their Uses*, is very apt. One of the greatest strengths of the book is that it does include all of the plants from the German Commission E monographs, the ESCOP monographs of the European Community, and the medicinal plants monograph series of the World Health Organization. In addition, the regulatory status of each plant is coded (e.g., Commission E, WHO) to let the reader quickly know where to look for more detailed information.

The book includes an introductory section, detailed entries of 320 medicinal plant species, a chapter on health disorders and medicinal plants, and an overview of secondary metabolites of plants. Appendices include a very comprehensive and user-friendly "Quick guide to commercialised medicinal plants" that includes more than 900 species, a glossary, a list of references for further reading, and an excellent general index. For ease of use, the plants are alphabetically arranged by genus.

The introductory sections do a good job of capturing the "world" focus. They begin with an explanation of "rational herb use in antiquity" (p. 8), and continue with respectful, concise, and informative summary descriptions of the major herbal healing systems. This is one of the few books of its kind to give separate attention to traditional medicine from Africa, North Africa and the Middle East; Central and South America; and Australia and Southeast Asia. Short descriptions also cover more recent systems of healing and their origins, including aromatherapy, homeopathy, anthroposophical remedies and Bach flower remedies.

The content of the main section (pp. 27-350) has a distinctly European focus, but that is probably due to the authors' desire to include all of the plants regulated in Europe. The entries are packed with information. For 320 species, there are as many as four color photographs; a short description; and entries on origin, parts used, therapeutic category, uses and properties, preparation and dosage, active ingredients, pharmacological effects, warnings, notes, and regulatory status. The Latin name with authority, family, and common names in English, several European languages, and occasionally Chinese, Sanskrit, and other languages are giv-