Indians during the last 13,000 years" (p. 39). 

Ergo, these artifacts must be Paleolithic tools. The problem, of course, is that the products of early-stage lithic reduction, particularly in a toolstone-rich area such as southeastern Oregon, must necessarily look rather crude (and therefore "Paleolithic-like"), regardless of their time or place. The rarity of formed flake tools like projectile points (the author admits these are found occasionally at some of these sites, but he dismisses them as "... probably superimposed later than the time of the Paleolithic culture" [p. 43]) is not at all surprising since Dr. Tyler was probably not the first to collect from these places. Indeed, the places where he found projectile points maybe entirely vacant of them now.

One of the principal impressions left by this book was surprise that someone as well educated as Dr. Tyler could have an imagination so unconstrained by the dictates of scientific reasoning. Two more examples of this tendency should suffice. Anticipating the objection by archaeologists that his sites are largely the product of lithic reduction activities, the author counters: "It is a concept that is contrary to the simple approach that a person intending to make a tool from a rock would finish the product once he started the production" (p. 64). This is a typically unsupported assertion, and contrary to both common experience and ethnographic testimony. Another example of the author's imaginativeness occurs in the context of his description of very large flaked stone items that he interprets as tools used in the hand (but which may also be bifacial cores, or, in some cases, naturally flaked slabs): "If used to process animals, both the people who use them and the animals must have been very large" (p. 82). Are there no reasonable alternatives to a Pliocene race of giants?

It would truly take a volume at least as large as Dr. Tyler's to list and explain the many shortcomings and errors found in *Earliest Man*. Beyond the problems already mentioned, I found the book to be poorly organized and written somewhat clumsily in a tedious and pedantic style. Though the photographs are excellent (and might offer a good example to many professionals who have not done so well), the drawings and maps are very amateurish. The author can be forgiven for having a poor command of lithic terminology and of the archaeological and geologic literature, but his use of supporting references is woefully inadequate. Inaccurate assertions of supposed fact are commonplace, as are clearly unfounded interpretations of flake scars and other forms of attrition on specimens.

The value of this book is chiefly as an example of its genre, though it is not nearly as well done as works by I. Velikovsky, E. Von Daniken, A. Landsburg, and J. Goodman. Its major archaeological contribution may be to call attention to prehistoric sites in the Malheur and Owyhee river areas, where organized research has barely begun.


Reviewed by:

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Walter Ebeling, Professor Emeritus of Entomology at UCLA, took on a truly monumental task: a delineation of the known plants and animals used as food and/or fiber in arid North America, including portions of
Mexico. The result is a very worthwhile reference work containing information on 1,332 plant taxa, 361 of which are illustrated, plus a variety of mammals, reptiles, birds, and insects. Fortunately, a good index is included.

Chapter 1, "The First Americans," includes a brief overview of the peopling of the New World and a discussion of the biota of the High Plains and bordering mountains. Insects as a food resource are also examined, a refreshing view given the general lack of consideration of these animals by most writers (but see, for example, Fowler and Walter [1985]).

The subsequent chapters treat specific geographic regions. Each chapter begins with a discussion of vegetation and climate. Next, prehistory is considered, specifically as it relates to archaeological evidence of foods and fibers. Resources identified as having been used in the region are then described in some detail. There is a redundancy in this organization, since many species are discussed in several different chapters, but this is a minor detraction. Ebeling spends the great majority of his effort on plant resources, giving only limited consideration to faunal resources. This disproportionate treatment is unfortunate, but a full treatment of fauna would have greatly increased the length of the book.

Chapter 2 treats the Great Basin. Most of the discussion of prehistoric material is based on the excavations at Danger and Hogup caves, which are considered in detail. Ebeling then discusses the resources used by Great Basin peoples in historic times. He includes discussions on insects and game (mammals, reptiles, fish, and birds), but the majority of the chapter is devoted to plants.

Owens Valley is discussed in Chapter 3. Although technically a part of the Great Basin, Owens Valley is examined separately due "to the manner in which irrigated agriculture developed in the valley" (p. 136). Plant resources are considered in detail and some attention is given faunal resources, most notably insects. Aboriginal agriculture (including the plant species used) is also discussed.

California, the subject of Chapter 4, is divided into three areas (Central Valley, south coast, and southeast desert) so that the diversity of resources could be best evaluated. For the Central Valley, Ebeling uses the Yokuts as his major reference point, although other groups are mentioned as well. The Chumash and the Luiseno are used for the south coast, and the Cahuilla for the southeast desert. Faunal resources are considered in greater detail in this chapter and attention is given ocean fish, sea mammals, waterfowl, and other animals.

Chapter 5 focuses on the Lower Colorado River basin. This area was inhabited by groups that relied in part on agriculture. Consideration is given both wild and domesticated resources and a brief discussion of aboriginal agricultural practices is included.

The U.S. Southwest is discussed in Chapter 6. Ebeling begins by reviewing the principal wild plants of the region and then provides a detailed discussion on the Mogollon, Anasazi, and Hohokam, primarily as related to agriculture. The Hopi, especially their agricultural system, are also discussed. A detailed examination of the resources (mostly domesticates) used by the Pima completes the chapter.

Mexico is the subject of Chapter 7, the longest in the book. The first part of the chapter, aside from a brief section on insects, discusses the plant remains found at sites in the Tehuacan Valley, their possible origins, and the origin of Mexican agriculture. The Mexica (Aztec) (and their subsistence system) are considered at some length as are the ethnographic Tarahumara and Seri.
Chapter 8 presents Ebeling’s historical perspective. He views the New World as having been at a disadvantage in domesticates when compared to the Old World, especially with domesticated animals. This appears overly simplistic. Domesticated camelids and guinea pigs, which Ebeling considers to be of limited value (compared to Old World species), were actually very important in South America. His comparison of the development of agriculture between the New and Old worlds is also simplistic.

The last portion of the book consists of an appendix which lists all of the taxa discussed and identifies where and how each taxa was used. The glossary and extensive index are also valuable.

There are a number of minor problems with the book. First, a few works cited in the text are not included in the references, hardly surprising given the extent of the manuscript and the number of references included. Second, some of the quotations included in the text are either misquoted or incomplete. One in particular (on p. 25) was taken from Bodenheimer (1951; original from Chittenton and Richardson [1905:1033]) without being checked. As it turns out, Bodenheimer erred in his quotation, and the error is perpetuated by Ebeling; also perpetuated is the probable erroneous identification of the “Shoshoco” as Assiniboine instead of Northern Shoshoni. Third, a number of animals are misidentified. Ebeling correctly identifies Bison as bison and not buffalo, but then uses antelope and pronghorn almost interchangeably (but they have mostly different page entries in the index, as if they were different animals). Jackrabbits (Lepus spp.) are grouped with rabbits rather than identified as hares. While in common usage, these identifications are not biologically correct and the errors should not continue to be perpetuated in this type of reference work.

These are minor, perhaps picky, points to be sure, but they force the reader to double-check such details to insure their accuracy. Unfortunately, Ebeling usually does not provide the page numbers in the text for the sources of his information (not even for quotations), making such checking difficult.

In spite of these small problems, the book is highly recommended. Ebeling’s effort was remarkable, and his Handbook should be a standard reference in the library of any scholar interested in ethnobotany, arid-lands adaptations, or the native cultures of North America. The quality of the printing and binding are excellent. Hopefully, a future paperback will have a lower price.

REFERENCES

Bodenheimer, Friedrich S.

Chittenton, Hiram, and Alfred T. Richardson

Fowler, Catherine S., and Nancy Peterson Walter