Court at El Tajín. Although maguey-covered mountains are explicitly shown in the two middle panels from the South Ball Court, I am not convinced of Wilkerson's view that pulque is a major subject in these scenes. Independent studies by Jean-Claude Delhalle and Albert Lukx and myself suggest that these middle scenes portray an early version of the Aztec myth describing the creation of people from the remains of the fish-men stolen from the underworld. Rather than great vats of pulque, as Wilkerson suggests, the pools in these scenes probably constitute watery entrances to the underworld. In their study of Maya ball courts, Schele and Freidel provide epigraphic and iconographic evidence that the courts were considered cave-like entrances to the watery underworld. Their essay contains a number of vivid and probably correct perceptions of the Maya ball court. Thus they suggest that the court was considered much like a cleft fertile mountain and note that the three famous ball-court markers from Copán are actually cave-like windows providing views into the underworld. Cohodas also describes the symbolism of the Classic Maya ball game; however, I find much of his argument tenuous and unconvincing. Although Cohodas argues that two major Maya deities known as God L and God N both represent the rubber ball and the setting sun, the corroborating evidence is wanting.

The most intriguing and far-reaching iconographic argument is that presented by Gillespie. Adopting a structuralist approach, she argues that a major ceremonial theme of the ball game was not simply human decapitation but dismemberment, a ritual act that she compares to creation and the delineation of time and the seasons. Gillespie further notes that the identification of decapitation and dismemberment with the ball game is not limited to Mesoamerica but appears in the "rolling head" motif found in native mythology from Alaska to Chile. The striking similarities found in these accounts suggest that many symbolic aspects of the Mesoamerican ball game are extremely ancient and may well antedate the development of complex Mesoamerican civilization.

This collection of essays emphasizes gecgraphical rather than temporal context. Although Susanna Ekholm and others note the presence of ball-player figurines among the Olmec, there is no detailed discussion of the ball game in Early and Middle Formative Mesoamerica. This is unfortunate, since this body of material is of crucial relevance for understanding the origins of later ball-game themes. For example, Tenochtitlán Monument 1 of San Lorenzo, widely cited as a mythical scene of jaguar and human copulation, actually depicts a belted ballplayer atop

a bound captive. In other words, the identification of captive sacrifice with the ball game was probably present among the Early Formative Olmec. Furthermore, does the appearance of ball-game figures at San Lorenzo, Tlatilco, Las Bocas, El Opeño, and other Early Formative sites indicate the first occurrence of the ball game, or does this game have its roots in the earlier Archaic period? The Archaic structure excavated at Gheo Shih, dating to approximately the 5th millennium B.C., is probably a simple openended ball court, much like examples illustrated in the essay by Kelley. It is interesting that this feature has often been cited as a "dance plaza," an interpretation that has also been given to the obvious ball courts of the Hohokam.

Aside from the Archaic and Early Formative origins of the ball game, other worthy topics unexplored in this volume are the ball game in the southeastern border of Mesoamerica, Aztec accounts of the game, and representations of the ball game in the Mixtec and Borgia groups of codices. I mention this only to indicate the complexity and richness of this topic. Rather than being the last word on the ball game, this volume constitutes an important addition to a long list of works, many yet to come. *Karl A. Taube*

Department of Anthropology, University of California, Riverside, CA 92521–0418

A Craft in Antiquity

Prehistoric Textiles. The Development of Cloth in the Neolithic and Bronze Ages, with Special Reference to the Aegean. E. J. W. BARBER. Princeton University Press, Princeton, NJ, 1991. xxxii, 471 pp., illus. \$69.50.

It is ironic that in a discipline concerned with analyzing material remains to resurrect the daily fabric of the past one item that is usually overlooked is fabric in the more tangible sense of the term, that is, textiles. Rare in occurrence and usually grungy when found, textiles have been a poor cousin within archeology, meriting a brief mention and then obscurity at the back of an excavation report. Prehistoric Textiles should change all that and catapult textiles and their accompanying spindles, spindle whorls, and loom weights to the same prominence enjoyed by ceramics and epigraphic material. Packed full of useful and intriguing information like the probable Paleolithic (Old Stone Age) origins of spinning and the facts that thread-making preceded basketry and that felt was a relatively

SCIENCE • VOL. 256 • 15 MAY 1992



Wooden spindle and clay whorl manufactured during the Late Neolithic of Switzerland. "North of the Mediterranean, representations of spinning are so rare before the Iron Age that we are exclusively dependent on evidence from the spindles themselves." [From *Prehistoric Textiles*; after Staub, 1864]



"Diagram of the closing border of linen Cloth 5, from Schaffis, Switzerland. The warp ends of the main cloth [upper portion] have been used in pairs as weft for a band-warp set up at right angles to the original warp; ca. 3000 B.C." [From *Prehistoric Textiles*; E. Vogt, 1937]

1. 11 11

"Diagram of netted 'embroidery' built out from the edge of a woman's woolen blouse from Skrydstrup, Denmark; late 2nd millenium B.C." [From *Prehistoric Textiles*; Broholm and Hald, 1939]

late material (it had to wait for the development of the wool sheep as opposed to the hair sheep, about the fourth millennium B.C.), the volume is also remarkably well written. This conjunction of virtues advances archeological understanding of textiles—and their social and cultural implications—a giant step.

Prehistoric Textiles is also distinctive for being easy to use. It is divided into two main sections, well illustrated with drawings and photographs, followed by a coda, appendixes, bibliography, and index. Part 1 is basically factual, surveying textile data in the Mediterranean basin, Egypt, and Europe from the Paleolithic to the early Iron Age. Part 2 presents a series of free-standing essays that interpret and at times speculate upon the factual data presented earlier. Using the detailed table of contents, a reader who is interested in loom weights can easily find basic information on their chronology and distribution in an early chapter, then go to a later chapter for a demonstration of how to extract an astonishing amount of ethnic information from these hitherto lowly items, and then find tabular data and references in an appendix. Some of the other stimulating topics that can be traced in this manner concern the influence of wool on weaving, the primacy of flax as the earliest woven fiber (antedating even ceramics and metallurgy), and gender roles in the production of cloth.

In addition to its use as a survey of ancient textiles in Europe and the Mediterranean lands, *Prehistoric Textiles* is important as a model for scholars working on the other crafts of antiquity such as jewelry or ivory-carving. It is now not sufficient merely to chart the changes in a craft, one must also look to see why those changes occurred. This "why" may be related to more than just a change in technique, as in the case of the appearance of woolen twill (modern tweed) in northern Europe, which



"Design on vase from Sopron (Odenburg), Hungary, showing women spinning and weaving while being entertained." [From *Prehistoric Textiles*; Naturhistorisches Museum, Vienna]



"Theban papyrus of the Book of the Dead (18th Dynasty), showing the growing of flax. The flax has been sown close together to force it to grow tall and straight, for better linen fiber." [From *Prehistoric Textiles*; courtesy of Trustees of the British Museum]

indicates the arrival of wool sheep—with their attendant people—from regions to the east where twill was woven much earlier. In other words, the study of crafts in antiquity may be one way to retrieve at least part of the history of people who did not leave a written record.

A chapter entitled "Women's work" considers the predominantly female textile producers, those who labored in the workshop-based, flax-using Egyptian industry with its ground loom and those in the palace-based Mycenean industry that featured wool woven on a warp-weighted loom. Male names and figures do appear in both industries, but they are a distinct minority in both. In Egypt in particular, male weavers appeared in the Eighteenth Dynasty along with the upright tapestry loom, an imported device used to produce luxurious bands and borders like those seen on the tunic of Tutankhamen. It would seem that prestigious new technology was the province of men, while the women continued to weave the more mundane fabrics. The author also makes the nice distinction between the drudgery of weaving as a slave and the production of elegant, elite textiles like that woven by Homer's Penelope, where pride of craftsmanship and the beauty of the product ennobled the weaver.

Other people whose importance to "Western" culture is more clearly shown through their textiles are exemplified by the weavers of the Caucasus and the steppes to the east. Their labors and migrations may be responsible for not only the development of twill and the invention of felt but also the spread of silk into Europe.

In addition to its historical insights, *Prehistoric Textiles* has the further virtue of joining solid archeological and linguistic understanding with a practical knowledge of the art of weaving. Few archeologists and historians possess this combination, which is essential if we are to understand both the textiles and the weavers who produced them. The authority of this text comes from

SCIENCE • VOL. 256 • 15 MAY 1992

the hand as well as the head. The result of this happy union is a distinguished work that educates the reader and exalts the ancient weavers, a praiseworthy accomplishment.

> **Trudy S. Kawami** 424 16th Street, Brooklyn, NY 11215

An Ethnography Completed

The Tlingit Indians. GEORGE THORNTON EMMONS. Edited with additions by Frederica de Laguna and a biography by Jean Low. University of Washington Press, Seattle, and American Museum of Natural History, New York, 1991. xl, 488 pp., illus. \$60.

In recent months, whenever colleagues in the field have met or spoken, the first question has almost always been, "Have you seen Freddy's new book on Emmons?" The word that almost always follows is "monumental," and rightly so. This longawaited work is monumental in many respects, and it represents the achievements of two remarkable scholars: George Thornton Emmons and Frederica de Laguna.

Emmons, a native of Baltimore, first traveled to Alaska in 1882 as an officer in the U.S. Navy. As his first assignment, he resolved a dispute in a Tlingit village, and in the process became acquainted with its chief. This encounter sparked what became Emmons's lifelong passion for the lifeways and material culture of the Tlingit Indians. For the next 63 years, Emmons studied the Tlingits' customs and language and collected vast numbers of their artifacts, which he then sold to the American Museum of Natural History, the Smithsonian, and several other major U.S. museums. Emmons also published reports and articles on Tlingit culture and compiled a massive archive of unpublished material. In the early 1900s