

**Bread, Ovens and Hearths of the Past: Archaeology and Baking Traditions of Agriculture Civilizations in Europe and the Near East (Pain, fours, et foyers des temps passés: archéologie et traditions boulangères des peuples agriculteurs d'Europe et du Proche Orient).** Assembled by Kai Fechner and Marianne Mesnil. 2002. *Civilisations* vol. 49 (1, 2). Université Libre de Bruxelles, Brussels. Pp. 400. € 29.75. ISBN 2-87263-180-1

Bread has played a critical role in the diet since the Neolithic, yet studies of bread have been largely neglected until the last decade. In October 1995, scholars from a variety of disciplines met for a workshop on "Bread, Ovens, and Hearths of the Past" in Treignes, Belgium (Université Libre de Bruxelles). Their various perspectives on bread and baking in Europe and the Near East are presented in this collection of nineteen papers.

In the first paper, an overview of bread in archaeology, Samuel points out that, although bread does not preserve well, a remarkable number of loaves has been recovered. Since the first find in the 1860s, hundreds have been found in cemeteries. Währen, a pioneer of bread studies to whom the volume is dedicated, describes ritual breads from Germany and Switzerland including 300 from tombs and funerary urns. Hanson discusses 150 carbonized loaves from Swedish cemeteries. Bread is also found at settlement sites, as attested by Lannoy and colleagues, who document more than 50 bread fragments from France. Monah reports on pieces of about five loaves from settlement sites in Eastern and Central Europe.

Since bread has received little attention, there are no standard analytical procedures for its study, as there are for other artifacts. But Lannoy et al. help establish a methodology with their study of French specimens. They offer the most detailed approach in this volume, one that ranges from macroscopic to microscopic, and even molecular levels. Among the many diagnostic macroscopic features they list is crumb porosity, necessary for identifying leavened breads. With microscopic analysis of starch grains they identify a bread's cereal components. But they are not successful in determining components by examining monosaccharide and fatty acid composition. McClaren and Evans, on the other hand, show that cereal components can be identified using infrared (IR) analysis complemented with other techniques, such as gas chromatography.

As in the case of any artifact, many factors have to be considered in order to understand bread's social, economic, and symbolic significance. Samuel points out the importance of sample context and form of preservation (carbonization or desiccation), as well as sample size, recovery methods, and spatial distribution. A funerary context, for example, indicates a special food that may offer no information about everyday bread. It may, however, provide clues to social and religious behavior. Hanson shows that the distribution of Swedish cemetery loaves reflects social status. Unfortunately, we can draw only limited understandings of beliefs from the archaeological remains. In his paper, Währen describes breads and bread paraphernalia in contexts that are obviously ritual/religious, such as a miniature bakery on the lid of a funerary urn, but can only speculate on their meaning. Mesnil and Popova's ethnoarchaeological paper may offer some insights with their survey of cereal and bread offerings used in the funerary rites of Balkan orthodox Christian communities. Ethnographic analogies may be invalid, though, and Samuel of-

fers advice on using them. Another source of insight for some periods is written documents and art. Limet, for example, uses iconography and economic documents to crack open a window into ancient Sumerian and Babylonian foods, breads, and ovens which should be useful to archaeologists working in the ancient Near East.

The second half of the volume focuses on combustion devices. Muldur-Heymans describes the use and manufacture of clay ovens in traditional Syrian villages—a useful introduction to the archaeological hearths and ovens discussed in other papers. Prevost-Dermarker surveys combustion devices found at Neolithic and Bronze Age Aegean sites. Poole discusses those from Iron Age sites in England. Stassiková-Stukoská documents ovens at a Slovakian site dating from the early Neolithic and Middle Ages, while Ruttkay describes early medieval ovens from southwestern Slovakian sites.

Two of the papers lead the way in analytical studies of hearths. Gascó offers a vocabulary and systematic method for study, including detailed descriptions of all aspects of construction as well as factors affecting hearth construction and use. His paper covers the functional constraints of hearths, such as air movements, ergonomic issues, and concerns about fire in wooden structures, among others. Fechner and colleagues present a detailed study of burnt surfaces in Belgian sites entailing a variety of analytical techniques and experimental firing. Their goal is to create diagnostic traits that could be used to identify the temperature, duration, and other aspects of fire activity in hearths at archaeological sites. As a counterpoint to the material studies, Mesnil and Popova show that the seemingly utilitarian oven may also have religious significance. They describe rituals involved in the manufacture of small portable clay ovens used in southeastern Europe.

Several papers do not deal specifically with bread or ovens but offer relevant information. Valamoti surveys the cereals in Neolithic and Bronze Age sites of northern Greece. Monah and Monah present archaeobotanical evidence for cereals in Eastern Europe. Their paper and several others dealing with this area are especially valuable for western readers; they offer a glimpse into a region that has been published mainly in Romanian and Slavic languages. Van Mol briefly describes how spelt was processed and used in Belgium in recent times.

While the volume has much to offer, a variety of technical flaws are sometimes distracting, such as typographical errors and a few poorly translated English phrases. Occasionally the references are incomplete and there is no key for the abbreviations used. This is unfortunate since the papers collectively offer a vast bibliography.

Overall this is a useful and inspiring volume. Anyone who reads it is less likely to overlook a chunk of charred porous material, or give short shrift to a burned area. In this text archaeologists describe models for analyzing bread and combustion devices and the languages for describing them. In addition, the information in this volume, such as the finding that ancient bakers were highly skilled and sophisticated, should only stimulate interest and more work. Finally, the papers allude to related topics, such as fuels and the baking properties of grains, which will probably be an impetus for further research.

Wilma Wetterstrom  
Botanical Museum  
Harvard University  
Cambridge, MA 02138