

ful it will be. Medvedev's account makes it clear that for Soviet agriculture there is no way back. Nor is it obvious to the current leaders, caught as they are in a maze of constraints, which way is forward.

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## Archeological Reconstruction

**Production and Exchange of Stone Tools.** Prehistoric Obsidian in the Aegean. ROBIN TORRENCE. Cambridge University Press, New York, 1986. xiv, 256 pp., illus. \$44.50. New Studies in Archaeology.

One goal of archeology today is the development of "middle-range theories" or interpretative methodologies for reconstructing past cultural behavior. The main objective of this volume is the formulation of middle-range theory to link archeological data with specific kinds of economic exchange. The volume is a stimulating piece of research that (i) identifies the behavioral correlates of exchange, (ii) discusses how to recognize and measure this behavior from archeological residues, and (iii) provides a test case using Neolithic and Bronze Age data from the European Aegean.

Most attempts to reconstruct prehistoric exchange networks have focused on consumption levels and the frequency with which items move over space. Though this regional approach has been fairly successful, it presents the problem that different forms of distribution (such as direct barter, gift prestations, balanced reciprocity, and direct procurement) can produce identical distributions of archeological materials. Torrence questions the regional approach and proposes that exchange also be examined from the perspective of how production systems are organized to meet resource demands.

Torrence believes that production provides an indirect measure of the volume of exchange. Levels of craft specialization, technical skill, resource ownership, and division of labor are ways the production systems respond to demand. As exchange increases, societies will adopt more expedient, standardized and cost-efficient means of production. The author uses the production and exchange of stone tools to develop quantitative and qualitative measures that archeologists can use to evaluate levels of economic interaction. Stone tools are an important component of archeological assemblages the world over, and the methodology developed here will be useful to archeologists working in many cultural settings.

Mesoamerican archeologists will find the volume particularly useful because the author examines critically many assumptions and approaches used in that area.

The measures for examining exchange from a production perspective are developed in an orderly and scientific way. A review of the literature on reconstructing exchange relationships provides a backdrop against which to contrast the production approach. The behavioral factors linking production to exchange are then developed in a chapter reviewing the ethnographic aspects of stone tool production. The specific methodology for the production approach is developed with reference to Aegean obsidian exchange during the Neolithic and the Bronze Age. The author examines obsidian exchange from three different perspectives. First, the regional perspective is used to examine how efficient procurement networks moved obsidian over space. Second, habitation sites are examined to evaluate whether production was carried out by full- or part-time craft specialists within a commercial economy. Finally, mining and quarrying activities at the Melos obsidian source are examined for what they indicate about the intensity, efficiency, and specialization of commercial exploitation.

The conclusions reached are at variance with traditional interpretations of Aegean obsidian exchange. The author finds little evidence for either commercial or entrepreneurial procurement of obsidian at any level of the economy. Mining at the Melos obsidian quarries appears to have been sporadic and was not monopolized by any particular group. Attempts to measure standardization of production demonstrate that there is little variation in the morphology and efficiency of tools produced in workshops as opposed to domestic locales. Production efficiency as measured by error rates, platform preparation, and tool dimensions in Bronze Age sites is similar to what the author presents for part-time and nonspecialized knappers in New Guinea and Ethiopia. The author concludes that the data do not support the existence of Bronze Age commercial workshops throughout the Aegean. Rather, stone tool procurement, production, and exchange were carried out on the basis of efforts by part-time specialists within a multifaceted economy involving long-distance maritime exchange.

The book provides a useful model for the development of middle-range theory on exchange. It is not surprising that the author used obsidian, which has been the focus of numerous economic studies. The challenge for other archeologists is to achieve the same level of sophistication using ceramic, ground stone, or other artifact categories.

Although there will be difficulties, this volume provides a valuable example of how this work might proceed.

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## The Role of GABA

**Neurotrophic Activity of GABA During Development.** DIANNA A. REDBURN and ARNE SCHOUSBOE, Eds. Liss, New York, 1987. xii, 277 pp., illus. \$66. Neurology and Neurobiology, vol. 32. Based on a symposium, Mexico City, July 1986.

The development of the vertebrate central nervous system is an exceedingly complex process. It involves many cell cycles, terminal division, and cellular differentiation or death, as well as cell migration and sustained maintenance of the phenotype in the context of intricate neuronal and glial circuits. Elucidation of the cellular and molecular bases underlying this dynamic period of growth has attracted an increasing number of neurobiologists and will continue to engage many generations of scientists.

This book is a brief and relatively eclectic collection of papers derived from a meeting on the neurotransmitter gamma-aminobutyric acid (GABA) and its trophic role in the vertebrate CNS. The material is arranged in nine chapters by 19 investigators, most of whom have studied the possibility that GABA not only acts as a transmitter mediating rapid forms of intercellular communication at central synapses in the adult but also has potential functions during the development and differentiation of the CNS. Some of the chapters are extensive attempts to review the vast literature relevant to GABA in CNS tissue, whereas others are revised versions of previously published observations with descriptions of new or confirmatory experiments added. Most of the contributions necessarily conclude on speculative notes since real understanding in this area is limited. Enough has been discovered to warrant this initial report.

The detection of GABA-containing cell bodies and fiber tracts in various regions of the embryonic and early postnatal CNS, the presence of specific binding and uptake reactions involving GABA and GABAmimetics with embryonic CNS membranes and cells, and the pharmacological effects of GABA and GABAmimetics on the cellular properties of cultured embryonic neurons, all of which are covered in this book, support the premise that GABA plays a role, as yet undefined, in CNS development. This volume is not only a quite readable account of