BOOK REVIEWS

R. Michael Stewart, Kurt W. Carr, and Paul A. Raber, editors. *The Nature and Pace of Change in American Indian Cultures: Pennsylvania, 4000 to 3000 BP*. Recent Research in Pennsylvania Archaeology 4 (University Park: Penn State Press, 2016). Pp. 143, Paper. $24.95.

The region now known as Pennsylvania has been occupied by humans for at least 11,000 years—it boggles the mind to think about it. As the population gradually increased through time, the mode of settlement and subsistence changed as people developed cultural means to cope with ever-increasing competition for limited food resources. These changes are most apparent when viewed from the extreme ends of this continuum. During the earliest times, small groups of highly mobile people occupied large territories in which they hunted and gathered naturally occurring foods. By the time of European contact, relatively large populations resided in fortified villages and relied heavily on corn-based agriculture for sustenance. The papers in this volume focus on the interval between 4,000 to 3,000 years Before Present (BP), during which the transformation between these two extremes occurred at an accelerated rate. Archaeologists aptly refer to this time between the tail end of the hunter-gatherer (Archaic) period and the beginning of the horticultural (Woodland) period as the Transitional Period. Most contributors to this volume accept the premise that the rapid changes occurred as a result of natural population growth in conjunction with detrimental climatic and environmental change.

Humans are unique, for they, more than any other mammal, can alter the carrying capacity of their environment. As populations increase in size and the amount of food resources per capita decrease, humans are capable of

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mitigating the pressures caused by group competition by manipulating the ways in which they acquire, process, preserve, and store food, and by forming more complex systems of social organization.

As alluded to above, prior to circa 4,000 BP, Native Americans in Pennsylvania subsisted by hunting, fishing, and collecting a wide variety of edible plants. Tools used by these early groups were fashioned of stone, bone, and wood. Food preparation and storage containers were leather, wood, or woven-plant materials. As populations grew, and as food resources became scarce, groups adapted to their environment by developing technological and social mechanisms for acquiring sufficient food. There are several examples of this. People began using new (or previously underutilized) foods that were often more labor-intensive to acquire and/or process (such as seeds and roots). They developed methods of plant husbandry and modified hunting and food-processing methods to encompass new types of tools, traps, and fishing gear. Improved methods of food preservation and storage, such as drying, smoking, and caching surplus in in-ground pits, above-ground silos, or in waterproof containers, also came about.

Social mechanisms developed that supported intergroup cooperation, such as ritualized or institutionalized trade and feasting, and reinforced a greater degree of mutually beneficial interdependence as a buffer against future food shortages. The practice of long-distance trade during the Transitional Period is evidenced by the wide distribution of quarried tool-stone materials (such as rhyolite from Adams County, jasper from Berks and Lehigh counties, and steatite from the greater Philadelphia region). A greater reliance on cooperative food acquisition during this time is suggested by the ubiquity of extremely large platforms of fire-cracked rock (FCR) near rivers, possibly used to cook and/or dry large quantities of diadromous fish for ritualized feasting and as a source of preserved protein for later community-wide consumption. Perhaps the most important technological development occurring during the Transitional Period was the appearance of containers carved from soapstone (steatite) and, later, made of fired clay. Though relatively heavy and fragile, these kinds of containers allowed for more efficient cooking and longer-term storage of food surpluses.

These topics and others are explored in the papers presented in this volume. In the introduction and following a brief summary of each of the seven chapters, R. Michael Stewart reviews trends occurring during the Transitional Period and raises a series of questions offering a framework for future research. Thus, the latter half of the introduction serves as a fitting conclusion as a whole and is worth revisiting after subsequent chapters have been studied.

In the first chapter, geomorphologist Frank Vento presents compelling evidence supporting the theory that the climate of the Transitional Period was significantly different than the one of the preceding Late Archaic and succeeding Early Woodland periods. Data suggests this interval, known as the Sub-Boreal climatic episode, was significantly warmer and dryer than preceding and succeeding times. These conditions resulted in lowering the water table; the drying of many headwater streams and wetlands; increased incising of smaller streams; replacement of moisture-loving hemlock with more drought-tolerant species such as hickory; and overall reduction of ground cover. Added to the overall xeric conditions was an uptick in the frequency of cyclonic storms, causing extensive erosion, the lateral migration of smaller streams, and the relatively rapid deposition of water-transported soils on the floodplains and terraces of larger streams and rivers.

In the second chapter Robert Wall summarizes archaeological data corresponding to the dawn of the Transitional Period. Basing most of his discussion on remains recovered from three stratified sites along the Susquehanna River, Wall describes the appearance of numerous traits, such as the intensive use of riverine landforms, the appearance of large FCR platforms, and evidence for increased long-distance trade of nonlocal tool stone—all of which became more prevalent as the Transitional Period progressed. Kurt Carr, in chapter 3, uses specific examples from archaeological sites to illustrate changes occurring in the Susquehanna and Delaware valleys during the Transitional. Period. He argues that the patterns observed reflect adaptations people made in response to pressures caused by population growth and exacerbated by environmental change. Next, Patricia Miller, through the analysis of data from more than a dozen stratified sites along the Susquehanna River, provides detailed analysis of long-distance trade and exchange of rhyolite and steatite within its drainage. Joseph Blondino then focuses on the twilight years of the Transitional in the Upper Delaware Valley. He offers evidence for the Sub-Boreal climatic interval in the Delaware River drainage and also data suggesting the intensive use of small, resource-rich wetlands in eastern Pennsylvania.

In chapter 6 Heather Wholey examines trends in population density within central and eastern Pennsylvania during the Transitional Period as suggested by her analysis of tabulated data maintained by the State Historic Preservation Office in Harrisburg. Finally, Roger Moeller explores relationships between the appearance of large FCR platforms, the apparent heightened reliance on fish, and the appearance of steatite bowls and pottery. He discusses what this trio of traits might signify when considered in terms of population growth and the increased importance of food storage during this time interval.

Although not quite as comprehensive as the title suggests (e.g., it does not discuss the region drained by the Ohio River, covering the western third of the state), the volume provides important, up-to-date insights into this fascinating period of Pennsylvania's prehistory and offers a sound foundation on which new research can be based. This work should be of interest not only to professional archaeologists, but also to historians, teachers, and students who are interested in the pre-Columbian occupation of the Middle Atlantic region. Although nonarchaeologists may need to Google some unfamiliar terms, this should not present a serious challenge to those who choose to delve into this intriguing subject.

This volume is the fourth in a series entitled Recent Research in Pennsylvania Archaeology edited by Raber, all of which are derived from symposia organized by the Pennsylvania Archaeological Council (PAC)—a professional association devoted to promoting archaeological research in the state. The three previous volumes, currently distributed by Penn State Press on behalf of the Pennsylvania Historical and Museum Commission, include volume 1, *The Archaic Period in Pennsylvania: Hunters and Gatherers of the Early and Middle Holocene*, edited by Raber, Miller, and Sarah Neusius; volume 2, *Ice Age Peoples of Pennsylvania*, edited by Carr and James Adovasio; and volume 3, *Foragers and Farmers of the Early and Middle Woodland Periods in Pennsylvania*, edited by Raber and Verna Cowin. Two additional volumes are currently in the works: the first focuses on the Susquehannock, the tribe dominating the Susquehanna Valley from AD 1550–1670; while the second is based on a 2016 PAC symposium entitled *Lithic Quarries in Pennsylvania: The Archaeology of Tool Stone Procurement*. I can't wait.

GARY F. COPPOCK
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F. Douglas Scutchfield and Paul Evans Holbrook Jr., eds. *The Letters of Thomas Merton and Victor and Carolyn Hammer: Ad Majorem Dei Gloriam* (Lexington: University Press of Kentucky, 2014). Pp. vii, 333. Appendices, notes, index. Hardback, $40.00.

"A man knows when he has found his vocation when he stops thinking about how to live and begins to live." This inspiration comes from and describes well Thomas Merton—prolific writer, Trappist monk, and mystic. Born in