

BOOK REVIEWS

A Transition Examined

The Origins of Agriculture. An International Perspective. C. WESLEY COWAN and PATTY JO WATSON, Eds. Smithsonian Institution Press, Washington, DC, 1992. xvi, 224 pp., illus. \$49.95; paper, \$19.95. Smithsonian Series in Archaeological Inquiry. Based on a symposium, Los Angeles, 1985.

In a recent list of suggested causes for the origins of agriculture, beginning with Aliens and ending with Zoological Diversity, 38 different hypotheses vie to explain how people have shifted from a foraging lifestyle to one of food producing. No surprise, then, that the subject of agricultural origins, arguably one of the most significant transitions in human biological and social development, consumes the research efforts of a veritable coven of archeologists, botanists, agronomists, ethnographers, geneticists, and geographers. But it is archeologists and archeobotanists who have produced *The Origins of Agriculture*, incorporating ideas stemming from many disciplines. Overwhelmingly, the archeological record of plant domestication and crop dispersal dominates the treatment.

Each chapter offers a current overview of the origins of agriculture or its introduction in a particular region of the world. The manner of coverage is uniform, with the same kinds of information reviewed in every chapter—a history of investigation, major theoretical approaches, regional chronologies and archeologies, a summary of archeobotanical data (often supplemented with comprehensive tables), and an assessment of regional research needs. Thus the volume offers a broad synthesis of current information reviewed by regional experts, and its format easily allows the inter-regional comparisons essential for examining common themes in the transition to agriculture worldwide. No single-authored volume could hope to cover so much so evenly.

But the “International Perspective” of the subtitle refers not to the diversity of scholarship and research traditions represented (almost all the authors are North Americans) but to the geographic scope of the contributions. With chapters on East Asia, the Near East, Africa, Europe, eastern North America, the Desert Borderlands of North America, Mesoamerica and Central America, and South America, *Origins*

is nearly comprehensive but for the inexcusable omission of Oceania, where farmers domesticated and dispersed significant staple crops, including taro (*Colocasia esculenta*), breadfruit (*Artocarpus altilis*), sugarcane (*Saccharum officinarum*), bananas (*Musa* spp.), and coconuts (*Cocos nucifera*). Tropical Southeast Asia likewise receives no treatment, perhaps because tubers (such as yams), whose cultivation probably preceded the spread of rice cultivation, preserve so poorly in archeological deposits in the humid tropics. Yet Douglas Yen (Australian National University and Honolulu), Patrick Kirch (University of California, Berkeley), and Jonathan Hather (Kew Gardens, London), among others, have painstakingly recovered and delineated a pattern of agricultural origins and dispersals that spans the Pacific and constitutes one of the best records of agricultural development available today.

The compendium offers several refreshingly new insights. Although the editors duly note the intriguing “chronology of agricultural origins” (all agricultural societies developed during the last 10,000 of humanity’s 100,000 years on Earth), they wisely conclude it “unlikely that a single model [of agricultural origins] will be satisfactory for all of the times and places represented” even in this volume. By contrast most researchers, in their long-standing efforts to explain agriculture’s independent emergence in a few primary contexts, have sought universal theoretical explanations based less on local and regional data than on physical or behavioral characteristics shared by all regions and organisms where agriculture arose. This approach has led to sophisticated processual explanations of how domestication and the reproduction of agricultural societies occur. But of equal interest is why domestication occurred in certain places at certain times and why these conditions were not replicated elsewhere. From this perspective, agricultural origins are prehistoric *histories*. Particular circumstances and variables influencing a shift from foraging to food-producing in one part of the world may not converge in exactly the same way elsewhere. The many origins of agriculture may indeed have common features, but to discover them archeologists must first articulate each case in its own terms. We desperately need the archeobotanical data presented in this book,

for only a deductive approach based on data (the physical remains of early agricultural societies) will truly test the numerous general hypotheses of how domestication occurred.

Significantly, these regional scenarios for domestication and agricultural dispersals do reveal several trends not previously recognized or accorded great emphasis. Bruce Smith’s narrative of prehistoric plant husbandry in eastern North America, where “the annual reoccupation and reuse of specific floodplain locations through the growing season represented the initial emergence of continually disturbed ‘anthropogenic’ habitats in the interior river valleys” describes a “domestilocality” very like the locations of the first agricultural sites in the Near East—for example, Jericho on an alluvial fan prone to sheet-wash and Tell Aswad at the margins of a vernal expanding lake. Joyce White (University of Pennsylvania) has elsewhere described a similar seasonally wet and disturbed environment where rice may have been domesticated in Southeast Asia. Jack Harlan suggests that “sowing seeds or transplanting seedlings in the moist soil as the waters recede [beside] playa lakes of the Sahara that rose during the rains and sank in the dry season” would have characterized the first African agriculture. Thus, in several widely separated cases, the disturbed habitats and supplemental water available after seasonal flooding appear to have provided appropriate environments for human manipulation of plants.

Although many other areas—East Asia and Mexico, for example—lack definitive archeological evidence of ecological niches filled by the first domesticates, an emerging association between domestication and seasonal flooding does begin to dispel a pervasive assumption about the development of agriculture. Archeologists have too frequently supposed that shifting cultivation techniques on rain-fed soils characterized the earliest agricultural systems. This idea has been largely borrowed from the first stage of Ester Boserup’s well-known model, developed in the tropics, of population growth, labor intensification, and changing agricultural technology in developing agricultural systems. In some cases, such as the Near East, the earliest agricultural sites appear to be associated with regional environmental zones such as the broad-leaf evergreen forest in which swidden agriculture could have taken place. Such an association makes it all the more difficult to recognize specific local characteristics that made farming possible at specific early sites. A recognition of “domestilocality” and consequent reevaluation of models of early shifting cultivation introduce one of the most significant themes raised in this book, the development and spread of agriculture after domestication.



Vignettes: Highs and Lows

The factual correction of error may be the most sublime event in intellectual life, the ultimate sign of our necessary obedience to a larger reality and our inability to construct the world according to our desires. For science, in particular, factual correction holds a specially revered place for two reasons: first, because we define the enterprise as learning more and more about an external reality; second, because we know in our hearts that we can be as stubborn and resistant to change as petty bureaucrats and fundamentalist preachers—and undeniable factual correction therefore becomes a kind of salvation from our own emotional transgressions against a shared ideal.

—Stephen Jay Gould, in *Eight Little Piggies: Reflections in Natural History* (Norton)

Polygraph subjects . . . have developed a set of techniques . . . to "beat" lie detector tests. . . . [One] technique is to use some substance prior to the test to mask one's responses. Typewriter correction fluid such as White-Out is believed by some to be effective for this purpose. . . . Subjects have been known to paint their fingertips with it to thwart the galvanic skin response measure—surely a ruse that would not be difficult to detect. Alternatively, the subject can drink it. One individual who was told by a friend that he could beat the test with correction fluid "drank five bottles of White-Out, threw up during the pretest interview, and confessed."

—F. Allan Hanson, in *Testing Testing: Social Consequences of the Examined Life* (University of California Press), quoting Eloise Keeler

Early agricultural development should be an integral part of the study of agricultural origins, and with chapters devoted exclusively to areas in which the most enduring crops were introduced rather than indigenous (Europe, Desert Borderlands of North America), this volume notably addresses development. The most interesting and challenging issue in the transition from foraging to farming is why agriculture took hold and why agricultural cultures and societies spread across the globe. As Minnis argues, "The introduction of crops themselves cannot be the sole catalyst for the transition to intensive agriculture." Perhaps our best archeological studies of this process come from Europe, where Dennell cites "three different types of interactions between foragers and farmers," colonization, symbiosis, and resource acquisition and modification without a shift to farming. The inclusion of a chapter on Oceania would have provided a particularly telling contrast to the European case, for islands minimize the effects of exogenous influences on agricultural societies, allowing archeologists to trace the first introductions of crops, the development of agricultural systems, human population growth, and the outmigration of groups seeking new agricultural land.

The Origins of Agriculture differs significantly from other recent works on the subject in its dedication to the role of archeological plant remains in elucidating

the events of interest. Indeed, it might have been named "The Origins of Plant Agriculture," but never "The Origins of Agricultural Systems." The origins of animal husbandry and the integration of domesticated animals into farming economies receive deserved treatment in *Transitions to Agriculture in Prehistory* (Anne Birgitte Gebauer and T. Douglas Price, Eds.; Prehistory Press, 1992). Another recent companion volume is *Foraging and Farming* (David R. Harris and Gordon C. Hillman, Eds.; Unwin Hyman, 1989), representing the perspectives and diversity of intellectual traditions of a truly international group of scholars. These publications enhance rather than reiterate the information available in *The Origins of Agriculture*, which holds its own place as the most comprehensive and current review of the subject.

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A Colonial-Era Science

The Savage Within. The Social History of British Anthropology, 1885–1945. HENRIKA KUKLICK. Cambridge University Press, New York, 1992. x, 325 pp., illus. \$44.95.

During the second half of the 19th century, anthropology like many other disciplines made the gradual transition from being an avocation to being a profession. In Europe, as in America, this general trend toward professionalism was in large part a response to complex sociopolitical changes wrought by advancing industrialization, but in each country the process was shaped by a particular national experience. Thus, not surprisingly, professional anthropology as it emerged in European countries and America assumed quite distinct national contours with respect not only to the institutions in which it was based but also to its research agendas. Henrika Kuklick's *The Savage Within* is concerned exclusively with the professionalization of British anthropology, and more specifically with the relationship between the British social milieu of the period under review and the corresponding development of anthropological theory and practice.

Much had occurred in British anthropology prior to the 1880s, the point where Kuklick begins her study. At this time, however, a series of Reform Bills were passed in Parliament that had far-reaching social consequences. Furthermore, in 1884 the British Association for the Advancement of Science formally recognized



"The physical homogeneity of populations of backward peoples: the Caribs as represented in E. B. Tylor's *Anthropology* (1892). He remarks on the facing page, 'The people whom it is easiest to represent by single portraits are uncivilized tribes, in whose food and way of life there is little to cause difference between one man and another.' " [From *The Savage Within*]