

Of Marshes and Maize: Preceramic Agricultural Settlements in the Cienega Valley, Southeastern Arizona. Bruce Huckell. University of Arizona Press, Tucson. Anthropological Papers of the University of Arizona No. 59. 1995. Pp. xvii; 166. \$13.95 (paper). ISBN: 0-8165-1582-4.

Bruce Huckell's monograph reports the results of his research on aceramic sites in Matty Canyon Wash and integrates those findings with the information of other studies to generate a model of the subsistence-settlement system of southeastern Arizona's late preceramic populations. Those readers who have kept abreast of the discussions and debates on early southwestern agriculture presented over the past ten years will find Huckell's work a capstone argument for models which recognize early maize production as the crucial factor explaining the transformation from mobile to sedentary settlement. Those who have not will find the book provides clear guidance through the maze (pun intended) of claims and counter claims proposed by competing models that suggest early maize production had minimal impact on the cultural character of populations of the day. Huckell's work was undertaken with the expectation of acquiring new information from one site (Donaldson, AZ:EE:2:137) that had been tested and studied twenty-five years earlier and another (Los Ojitos, AZ:EE:2:137) newly exposed by erosion some distance downstream. Prior reports on the results of archaeological survey and testing operations, geomorphological research, and palynological studies in the Cienega Creek Basin long before Huckell's excavations were initiated had provided substantial evidence that Late Archaic populations in this area created sedentary communities on the local floodplains, where they cultivated maize. This evidence was not widely acknowledged nor appreciated, however, and Huckell's decision to recover additional data and to study the Donaldson site in the context of more recently acquired information and new frames of reference was a sound one.

Fully a quarter of the text is devoted to analyses of the floral, faunal and human remains recovered at the two sites. These are presented as chapters of the monograph, rather than appendices, and are clearly integral to the development of Huckell's conclusions. For example, Lisa Huckell's analysis of the plant macroremains from seven pits and two pithouses at the Donaldson site provide convincing evidence that "a system of maize agriculture combined with gathering of wild plant resources...was maintained by these people, who resided in an optimal area in which to successfully blend these economic strategies" (p. 97). In addition, the analysis of the vertebrate bone data suggests that the procurement strategy of Donaldson's residents, like that of later Hohokam sites, was focused on larger mammals because the increased search time, travel distance and transport costs was offset by a greater payoff in protein, hides, sinew, and bone for tools.

All in all, the ethnobiological studies provide strong support for Huckell's reconstruction of the subsistence-settlement system of the occupants of the Late Archaic sites of the Cienega Basin and his regional model of foraging, farming and sedentism in southeastern Arizona. Thus I find the monograph well constructed, well done and generally praiseworthy. However, I think Huckell overdoes it when, at the beginning of the final chapter, he asserts:

"The 1983 investigations at the Donaldson Site and Los Ojitos... have fundamentally changed our understanding of the settlement and subsistence strategies of societies in southeastern Arizona in the mid to late first millennium before Christ... Of particular importance is the evidence of how agriculture became integrally woven into the fabric of these societies. By at least 500 B. C., the basic elements of the mixed farming-foraging economy that typified the next 2000 years of southwestern prehistory were clearly present." (p. 117)

For one thing, the only new evidence for subsistence strategy provided by his excavations is the demonstration that maize was a significant aspect of the diet. Prior information had clearly indicated maize was grown, and the two structures Huckell recovered (as he realizes) are not more definitive evidence of sedentism than existed previously. Further, if the faunal materials Huckell recovered were the sole body of evidence for a reconstruction of the animal procurement strategy, his contention that large mammals were favored over leporids would not be tenable. Eddy's excavations produced 75% of the artiodactyl remains known for the site while Huckell's yielded 63% of the leporid bones.

For another, there is actually no clear evidence that agriculture was "firmly woven into the fabric" of Cienega Phase population culture (or cultures). The evidence informs us only that subsistence-settlement systems at Donaldson and a number of Cienega Phase sites were characterized by production and consumption of food plants and non-mobile residency. Extension of this knowledge to reconstruction of the character of Cienega Phase societies requires the debatable assumption that the cultural importance of maize production is properly measured by its ubiquity in secondary trash deposits.

Finally, the idea that food production is an adequate archaeological index of agriculture is anthropologically naive. Anthropologically speaking, agriculture is a type of economy in which food production is a crucial element in the interactive relationships of social, political, and religious subsystems as well as a behavior pattern that is structurally significant for the ways members of a society maintain their standard of living. All groups who produce food do not participate in agricultural economies, and all who do participate in them do not necessarily cultivate the food they consume. Huckell's book does not reveal the warp and woof of the fabric of Cienega Phase society. The subsistence-settlement system may be no more than a pattern painted on its surface.

I believe Huckell's appreciation of the value and necessity of recognizing the archaeological distinctions between San Pedro Phase and Cienega Phase assemblages is fully justified, but I find his re-labeling of the period from about 1500 B. C. to the time of the arrival of pottery in the first millennium untenable. Sites on the Colorado Plateau and other parts of the northern southwest are labeled "Late Archaic" if they yield no evidence (macroremains) of maize cultivation and "Basketmaker II" if they do. Basketmaker II sites, however, are contemporary with the sites in southeastern Arizona and the Mogollon Highlands that are labeled "Late Archaic" because they contain evidence of maize cultivation. There's not much question that this awkward situation should be corrected. But Huckell pro-

