



Contents lists available at ScienceDirect

Quaternary International

journal homepage: www.elsevier.com/locate/quaint

Living outside the box: An updated perspective on diet breadth and sexual division of labor in the Prearchaic Great Basin

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ARTICLE INFO

Article history:

Available online 7 November 2014

Keywords:

Human behavioral ecology
 Division of labor
 Patch choice
 Marginal value theorem
 Pleistocene–Holocene Transition
 Western stemmed point tradition

ABSTRACT

A tremendous amount has been learned about the Prearchaic (before 9000 BP) Great Basin since we advocated a perspective of sexual division of labor based on Human Behavioral Ecology a decade ago. Many investigators have taken our advice and a few have challenged our assumptions and inferences. One of the most substantive critiques has been that we misunderstood the paleoenvironmental parameters of ungulate populations during the Pleistocene–Holocene Transition (PHT). Simultaneously, behavioral ecologists have advanced our understanding of sexual division of labor among modern foragers, but these studies appear to have gone unnoticed by Great Basin prehistorians. We review findings of the last ten years and suggest that the key to understanding patterning in the PHT still relies on understanding (a) variability in men's and women's foraging goals, (b) the abundance and distribution of large prey, (c) how changing environmental parameters effect both the division of labor and the distribution of resources, and (d) the relative influence of search and handling costs on residence time in PHT wetlands. We suggest that consideration of how paleoenvironmental variability structured sexual division of labor remains key to fully understanding Prearchaic lifeways in the Great Basin.

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1. Introduction

Over ten years ago, Elston and Zeanah (2002) offered an explanation for the seemingly contradictory combination of traits observed in Great Basin archaeological sites dating to the Pleistocene–Holocene Transition (PHT): evidence for high mobility, lithic technology adapted to hunting, and faunal assemblages suggesting broad spectrum foraging. The paper compared applications of various behavioral ecological models (Simms, 1987; Raven and Elston, 1989; Zeanah et al., 1995; Pinson, 1999), using the simulated resource structure of Railroad Valley, Nevada (Zeanah et al., 1999) for the early and middle Holocene. Drawing from ethnographic studies of diet and patch choice, we proposed that the observed patterns of site location, abundance and content resulted from the different foraging goals and strategies of men and women in the environmental context of the PHT Great Basin. This Prearchaic pattern differed fundamentally from subsequent Archaic (post 9000 BP) lifeways.

Responses were mostly favorable, although there were some misinterpretations of the piece. Here we clarify the model by updating the original framework with new insights from human behavioral ecology (HBE) and a better understanding of the availability of large prey (artiodactyls). Specifically, we highlight that (1) the key to understanding patterning in the PHT still hinges on understanding variability in men's and women's foraging goals and the resulting division of labor; (2) while some suggest that large prey were too uncommon to have been crucial resources for Prearchaic Great Basin foragers, the concentration of artiodactyls around wetlands actually made hunting large game predictable and reliable as long as foragers were free to move from one wetland basin to another; (3) understanding both the division of labor and the patchiness of large prey provides a clear framework for framing PHT foraging, diminishing returns and how these effected forager mobility and site formation patterns.

Before detailing our model of PHT (Prearchaic) lifeways, we first review insights from 2002 and compare how they stand up to additional findings over the last 10 years.

1.1. The PHT record: key observations

Elston and Zeanah (2002) made a series of key empirical observations, most of which have held up to subsequent

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investigations. However, recent work adds some important nuances. We highlight the original thinking in 2002, and update it with new evidence.

1. *Most Prearchaic assemblages occur in lowland locations near the wetlands that occupied numerous Great Basin valleys during the PHT (Fig. 1).* Despite evidence for limited habitation levels elsewhere (Basgall, 2005; Middleton et al., 2014), this continues to largely be true.
2. *These assemblages typically lack diversity and evidence of prolonged habitation, storage, or refuse accumulations (Beck and Jones, 2009).* While we agree that taphonomic factors operating on many PHT surface sites may have obscured evidence for residential and storage features, we argue that this is due to the essentially ephemeral nature or absence of such features in short-term camps used by highly mobile people (Binford, 1980). Substantial features for long-term habitation such as pithouses, prepared hearths, and large, deep storage pits would likely be preserved to some degree even if subjected to bioturbation and inflation (upward movement of clasts). We observe that PHT-age deposits are often well enough protected in Great Basin caves and rockshelters which buffer taphonomic loss (Surovell et al., 2009) preserving organic artifacts and textiles, but evidence from these deposits, invariably thin and containing only
- simple hearths, does not support extended occupation (Kirner et al., 1997). While such sites often contain caches of tools, or textiles that would have been useful to mobile groups cycling between wetlands, caches of food are absent. Variability in duration of occupations within particular wetlands is evident in the use of local toolstones, the extent to which tools of non-local materials were curated and recycled, and possibly, the kind of tools manufactured (Duke and Young, 2007; Smith, 2007; Beck and Jones, 2009; Smith, 2011). This may relate to the abundance of wetlands and distance from one wetland to another.
3. *Further investigations have sharpened the distinctions between PHT and Archaic use of seeds. Most importantly, Prearchaic use of ground stone milling tools is episodic to altogether absent.* While there is strong evidence that PHT foragers used seeds at least occasionally, they appear to have usually done so without the accouterments of milling technology that are “hallmarks” (Jennings, 1957) of the later Archaic lifestyle (Basgall, 2008; Beck and Jones, 2009: 143; Goebel et al., 2011; Madsen, 2007; Rhode et al., 2006; Rhode and Louderback, 2007; Schmitt et al., 2007; Yoder et al., 2010).
4. *Tools suggestive of large game hunting and processing dominate Prearchaic chipped stone assemblages.* This has largely remained true even though evidence has mounted that stemmed points were designed for use in a variety of tasks (Beck and Jones,

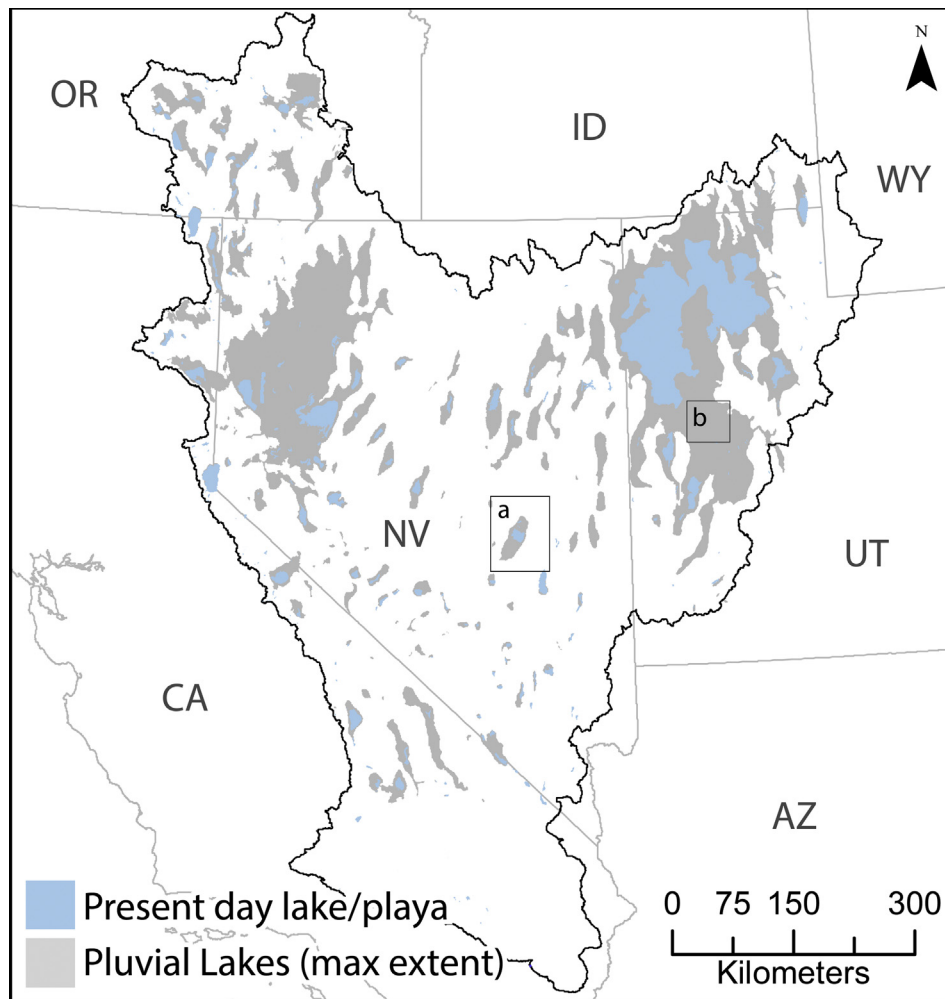


Fig. 1. Pluvial lakes in the Great Basin at their maximum late Pleistocene extent. Frames show locations of Railroad Valley (a) and Old River Bed (b). Although the size of and productivity of wetlands would have fluctuated in response to climatic variability, wetlands persisted and distance between lake basins would have remained relatively constant throughout the PHT.

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