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Journal of California and Great Basin Anthropology

Title

Thomas: *The Archaeology of Monitor Valley: 2. Gatecliff Shelter*

Permalink

<https://escholarship.org/uc/item/05f3676c>

Journal

Journal of California and Great Basin Anthropology, 6(2)

ISSN

0191-3557

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Publication Date

1984-07-01

Peer reviewed

REFERENCE

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Compiled by
MICHAEL J. MORATTO

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The Archaeology of Monitor Valley: 2. Gatecliff Shelter. David Hurst Thomas, in collaboration with Jonathan O. Davis, Donald K. Grayson, Wilton N. Melhorn, Trudy Thomas, and Dennis T. Trexler. American Museum of Natural History *Anthropological Papers* Vol. 59, Part 1, 1983, 552 pp., 242 figs., 91 tables, \$42.00 (paper).

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This is the second in a series of five reports on the massive Monitor Valley project, conducted under the general direction of David Hurst Thomas. The principal purpose

of the research is to reconstruct and explain variation in local human ecology (especially settlement and subsistence patterns) from the time the valley was first occupied about 6000 years ago until the advent of Europeans in the 19th century. In the initial report in the series, Thomas (1983) outlined a theoretical framework for the research, described the local environment, reviewed the available data on historic Shoshone ecology, and established a set of expectations about the archaeological record, particularly concerning site distribution and assemblage composition relative to features of the local environment.

This second report presents the results of excavations at Gatecliff Shelter, a deep, stratified site in the Toquima Range, with deposits spanning the last 7000 years. It is easily the best report ever published on a Great Basin site. Among its more notable elements are sections by J. Davis, W. Melhorn, and D. Trexler on site geology and geomorphology; D. Grayson on small mammal remains; R. Thompson and E. Hattori on packrat middens; R. Lanner on the Holocene history of pinyon pine woodlands in the Basin; Thomas and others on material culture and large mammal butchering patterns; and Thomas on the reconstruction of past human behavior. These and other sections by a total of 22 contributors are drawn together in a smoothly written, abundantly illustrated, and altogether well-integrated whole.

Several general conclusions drawn in the report are likely to be of special interest to Basin archaeologists:

1. A wide variety of geomorphological, paleontological, and paleobotanical data from the shelter itself and surrounding areas of Mill Canyon are found to be broadly consistent with the Antevs model of post-glacial climatic change, except that the mid-post-glacial (Alti-thermal) is seen as locally wet rather than dry, largely as a result of increased summer precipitation.

2. Paleobotanical data, including pollen and plant macrofossils from the shelter deposits and nearby packrat middens, indicate that local plant communities reached their modern form and distribution no earlier than 6000 years ago. The pinyon pine woodland first became established at about this time, apparently having been absent from the central Basin in the terminal Pleistocene. Thomas is cautious about inferring any causal relationship between the arrival of pinyon and the beginning of the Monitor Valley archaeological record, but the connection seems obvious.

3. Stratigraphic and chronometric data (including a suite of over 40 radiocarbon dates) provide solid support for the Heizer-Baumhoff hypothesis that projectile point styles are time markers, at least in the western and central Great Basin. Thomas makes some important adjustments to taxonomic and chronological boundaries, but the correspondence between the Gatecliff sequence and the original Berkeley model of the 1960s is remarkably close.

4. Comprehensive analysis of the large mammal remains in terms of the framework developed in Binford's *Nunamiut Ethnoarchaeology* (1978) indicates that Gatecliff was used primarily (if not exclusively) as a field camp by hunters preparing meat for transport to residential base camps, possibly located elsewhere in Monitor Valley. This is one of the best pieces of work in the report. Careful students will certainly challenge some aspects, but its general conclusions will probably not be refuted.

5. Detailed consideration of the horizontal distribution of refuse in various strata suggests that much of the patterning observed can be attributed to secondary disposal of larger items. This may be surprising to those who think that locations of artifact use and disposal are always the same. At the scale of analysis used at Gatecliff, consistent covariance in the distribution of artifacts and

other refuse items is more likely a function of similarity in size than of use in the same or related activities.

The overall excellence of the report does not mean that its contents will escape criticism. One important point of controversy will involve Grayson's treatment of the small mammal remains. At the outset, one must observe that the strategy used to collect this material and the analysis with respect to paleoclimatic implications are both outstanding. Grayson has set standards to which we could all aspire.

The problem lies in his assessment of the implications of small mammal remains for the reconstruction of human diet at Gatecliff. Grayson argues that since these remains have probably been deposited at the site by several biotic agents (including humans, carnivores, raptors, and packrats), and since the effects of these various agents on faunal assemblage composition are difficult to disentangle, small mammal remains cannot be used as a basis for inference about past human diet.

This is a cautious position, but probably appropriate in this particular case. On the other hand, it is hard to agree with Grayson's conclusion that the small mammal fauna "probably would have been the same had no human ever set foot on the site." This assertion is empirically unsupported, and the ethnographic record leads us to suspect that it may very well be incorrect. Small mammals are consistently reported as important elements of the protohistoric Shoshone diet. Steven Simms' (1984) recent research on the relative costs and benefits of taking these resources suggest they are likely to have been just as important throughout the Holocene. My own ethnographic experience in Australia indicates that hunters occupying field camps for the purpose of taking medium to large game can be expected to exploit lower-ranked resources (e.g., small game, certain kinds of plant food) routinely as part of their pro-

visioning strategy. It seems reasonable to expect that hunters using Gatecliff did the same. If the array of small mammals they took differed quantitatively from that taken by other predators, as one expects it would have, faunal assemblage composition at the site should vary accordingly.

The point here is *not* that identifying the small mammal component of the human diet at Gatecliff would necessarily modify the paleoenvironmental or human behavioral inferences derived by Grayson or Thomas. It probably would not. The issue is whether we should dismiss the potential evidence of human behavior in small mammal remains found at archaeological sites simply because current taphonomic knowledge makes it hard to identify such evidence unambiguously. Better to devote some efforts to improving our ability to address this problem empirically than to abandon the enterprise prematurely, or to pretend (as have many others less cautious than Grayson) that the problem does not exist. This ought to be a matter of concern for all of us with interests in hunter-gatherer ecology.

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