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COMMENT

Additional Comments on Molpa Archaeological Site

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In a recent review of the archaeological report on the site of Molpa, San Diego County, a number of important points were raised by Ken Hedges. This is not a reply to Hedges' review which is on the whole carefully thought out and more than fair. However, several points seem worth some additional comment.

One of the shortcomings of the Molpa report is an incomplete discussion of the size and nature of the excavation sample. This we recognize as an inexcusable omission for a modern site report. The published map of the site, for example, indicates the general boundaries of the site including several marginal features which were part of the site complex but not necessarily within the primary midden deposit. We estimated our excavation sample at 3 to 5 percent; Hedges using the only map and information available, concludes that our estimate is much too large and proposes that our sample was actually less than one percent. Without intending to argue over the percentages we would like to suggest that our original figure *may* be more accurate than it appears. Many of the areas around the boulder outcroppings are only a few inches deep and portions of the larger site area include re-deposited midden. In one area a small drainage runs through the site reducing the meaningful overall midden deposit even more.

At the time the excavations were initiated, the site as a whole was examined with these

problems in mind and the excavation units were placed (1) in the part of the site least disturbed by erosion; (2) in the area *seemingly* most clearly representative of San Luis Rey II; and (3) in the area believed to have enough depth to provide a meaningful stratigraphic sequence.

Our original estimate of sample size was a ball park figure and was not intended to be a basis for sophisticated statistical treatment of the data. The results of our quite preliminary investigations were not presented as final or as representative of the site in general. This seems quite clear in the text (p. 21).

Excavations in the vicinity of the petroglyph and pictograph features were quite carefully avoided because of obvious concern on the part of at least one of our informants.

We feel that in spite of its obvious shortcomings, the sample is *reasonably* representative of the *San Luis Rey II* component at Molpa (in a non-statistical sense). It was at the time the largest systematically examined, problem-oriented artifact sample available from northern San Diego County. The results of the artifact study using the Molpa sample were consistent with test excavations at sites on Palomar Mountain, at Lusardi Canyon, Pauma, and Marion Creek, and the late component at the Pankey site, as well as surface samples from a rather large number of probable San Luis Rey II sites. We agree that the definition of San Luis Rey II based on this sample *is* incomplete, and we make no claim for a total description of the San Luis Rey II assemblage. Molpa is a seasonal site and even completely excavated probably would not include a cross section of the total inventory. Obviously, no data were recovered archaeo-

logically relating to burial practices. No features were found representing dwelling or storage facilities, and as indicated above no attempt was made to excavate in the vicinity of several obviously important ritual locations. It is our understanding of the nature of archaeology that even if the site had been totally excavated we would still need to examine other sites in other contexts, and that in some sense the definition of this or any cultural unit would *never* be complete or finished. We presented the data from Molpa recognizing and stating its weaknesses and the obvious gaps in the record. We defined the assemblage on the basis of data available with the full understanding that additional investigation would expand, modify, or even nullify our results.

Two other points raised by Hedges may be worth a passing comment: (1) A "complete" *Luiseño* ethnobotany has been in preparation by Mr. Henry Rodriguez for some twenty years. Our short list was "designed" to avoid impinging on Mr. Rodriguez's research, which was at the time believed to be almost ready for publication. (2) A *Luiseño* informant did identify the ceremonial wand insert under circumstances which leave little doubt as to its function and significance. (There is in addition other supportive information relative to such wand inserts which make the proposed interpretation quite acceptable.) The same informant identified the tripod pot as some kind of a "*special*" item and suggested that it may have been a shaman's vessel, etc. Our 1956 personal communication and White's 1963 publication represent the exact same data base. Our failure to cite White's 1963 paper was a technical oversight. Our concern relative to the verification of *portions* of the interpretation of the "tripod pot," however, and omission of a more detailed discussion of this item in the Molpa report, were not accidental.

Over and above some of these specific issues relative to the Molpa site report, there is a general issue relative to adequate archaeo-

logical samples which we believe warrants some comment. Hedges says "a three to five percent sample is minimal . . ." From discussions with other California archaeologists, it seems clear that many feel that 10 percent is a minimal excavation sample. Others have suggested that 25 percent is the smallest acceptable sample, and even larger percentages are proposed by some. An important question here is what is the *basis* for these various quantitative estimates? As near as can be determined all of the *numbers* proposed are simply pulled out of a hat and none that we have run into so far have been supported by convincing scholarly evidence. Obviously, a larger sample is more likely to produce well-rounded results than a small one. The question is not related to this, *but to the specific percentage figures cited.*

Bureaucrats would like very much to have a precise definition of the "minimal adequate sample" since it would greatly facilitate planning, budgeting, and compliance with conservation laws. It is vitally important, however, that archaeologists not allow such numbers games to be played; we need to know a great deal more than we do before anyone can propose a set percentage as an adequate sample. While we recognize the value in such precise definitions to planners and others engaged in various aspects of public archaeology, it is important that each situation be examined in terms of some specific context. The nature and size of any sample must be determined for each individual site (or segment of a site) and for each geographic area, and it must in some way relate to the *purpose* for which the sample is being taken. For example, Cook and Treganza demonstrated long ago that a minute fraction of a minute fraction of 1% was sufficient to give a reasonable approximation of the molluscan content of a shell mound. If one wants to know the species of mammals present, a larger sample is necessary; if one wants to define the artifact content a still larger sample need be

collected. Likewise, some decision has to be made relative to the *degree of certainty* that will be acceptable. If 100% certainty is required, nothing less than a 100% excavation sample will do. Usually we settle for a reasonable approximation. The absolute size of the sample is also important. A 5% sample of a very small site may contain little information; the same proportion of a large site may contain thousands of catalog entries. One of us (CWM) has worked in sites outside the United States which were so large that a 5% excavation sample would fill every museum in the country from floor to ceiling, and has worked with excavation samples of *well under 1%* that include a quarter of a million potsherds. Conversely, we can refer to 100% samples of some very small sites which produced very little data. There is, in short, no standardized

sample percentage that can be applied to all archaeological problems.

The test of any archaeological sample is how the conclusions are changed when the sample size is increased, and whether the changes are mere refinements in understanding or whether they make fundamental differences in the conclusions drawn. Not only the definition of San Luis Rey II in the Molpa report, but the definition of every California assemblage, is subject to review, and future work will show how close to the mark the published definitions have come. We predict that there will be useful expansions of the data but few major revisions in the definition of most documented California assemblages.

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