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PERSPECTIVE



## Observations Concerning the Cerutti Mastodon Site

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### ABSTRACT

My examination of the broken bone fragments in the Cerutti Mastodon Site collection indicates that the hypothesis of breakage by modern heavy machinery is invalid, as a thick precipitate of soil carbonate on the broken surfaces proves that the breakage was indeed very ancient. The site remains an anomaly in present modeling of the initial peopling of the Americas.

### KEYWORDS

Cerutti Mastodon Site; modified bones; initial settlement of the Americas

While in San Diego to attend the annual conference of the Society for California Archaeology in early March 2018, I had the opportunity to review a special exhibit on the Cerutti Mastodon Site at the San Diego Museum of Natural History together with resident paleontologists Richard Cerutti and Tom Deméré. The exhibit is featured on the Museum's website at [www.sdnhm.org](http://www.sdnhm.org), with a video of the excavations in progress, and a detailed FAQ section reviewing the pros and cons in consideration of the evidence for human activity at the site.

Other than authors of the report in *Nature* (Holen et al. 2017), I may be the only professional archaeologist to have visited the Museum and actually looked at the site material; I understand that as yet none of the site's critics have done so. They would see at once that the soil carbonate precipitate encrusting the broken surfaces of the bones renders the attribution of breakage to over-riding modern heavy machinery invalid in this case. This particular feature of the broken mastodon bones, although clearly described in Holen et al. (2017) and mentioned again in Holen et al. (2018a, 2018b), has not been addressed by the critics who refer only to other broken proboscidean bone sites in different sedimentary contexts and historic circumstances (Braje et al. 2017; Haynes 2017; Ferraro et al. 2018). The hypothesis of breakage of the bones by modern machinery is demonstrably unfounded – the breakage is indeed very old – and the discussion should move on to focus upon pertinent questions relating to this site, concerning explanations for the observed disposition of the bone fragments and associated lithics, the stratigraphic context of the site, and the dating.

It is of course the dating of this site at ca. 130,000 years ago that has shocked everyone, even those archaeologists (myself included) who recognize evidence and arguments

for a pre-LGM initial entry, considering the radiometric dates back to ca. 30,000 years ago at sites in far distant northeast Brazil (e.g., Boëda et al. 2016), the Argentine Pampas (Toledo 2017), and Monte Verde I in south-central Chile (Dillehay and Collins 1988). It is no wonder that critics of the Cerutti Mastodon Site have been so numerous and so negative. Further research on the pertinent issues raised is essential, and I was happy to hear that additional excavations at the site are planned for later this year.

### Disclosure statement

No potential conflict of interest was reported by the author.

### Notes on contributor

*Ruth Gruhn* received her PhD from Harvard University in 1961. After postdoctoral study in environmental archaeology at the University of London UK, in 1963, she was appointed to the academic staff at the University of Alberta in Edmonton, Canada, where she is presently Professor Emerita. Her research speciality focuses upon the initial settlement of the Americas; and she and her late husband Alan Bryan have excavated early archaeological sites in western Canada, the western United States, Mexico, Guatemala, Nicaragua, Venezuela, and Brazil.

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