May 2012

Violence, taphonomy and cannibalism in Chaco Canyon: Discerning taphonomic changes from human action in the archaeological record

Kerriann Marden
University of West Georgia, kmarden@westga.edu

Follow this and additional works at: http://scholarworks.umass.edu/lov

Recommended Citation
Available at: http://scholarworks.umass.edu/lov/vol2/iss2/14

This Article is brought to you for free and open access by the ScholarWorks@UMass Amherst at ScholarWorks@UMass Amherst. It has been accepted for inclusion in Landscapes of Violence by an authorized editor of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.
Violence, taphonomy and cannibalism in Chaco Canyon: Discerning taphonomic changes from human action in the archaeological record

Abstract
The claim of cannibalism in the Southwest has sparked much controversy, and Chaco Canyon plays a central role in the hypothesis of widespread Southwestern anthropophagy. Although logical weaknesses in the argument for cannibalism in Chaco have been addressed in detail elsewhere, the actual taphonomic evidence that underpins these assertions has not received similar attention. This presentation revisits the data and weighs the validity and reliability of the taphonomic criteria upon which claims of cannibalism in the Southwest have been based.

Keywords
Chaco Canyon, cannibalism, bioarchaeology, taphonomy

This article is available in Landscapes of Violence: http://scholarworks.umass.edu/lov/vol2/iss2/14
The controversial tome on Southwestern cannibalism, *Man Cann*, makes the assertion that “cannibalism was practiced for almost four centuries, beginning about A.D. 900... especially among people living in Chaco Canyon and in or near outlying Chacoan great houses” (Turner and Turner 1999:2). At the core of the conceptual framework for the identification of cannibalism in the archaeological record is a “minimal taphonomic signature” of cannibal activity, emphasizing that these six features “need to appear in tandem for that interpretation of cannibalism to be warranted” (Ibid:44). These are: 1) breakage 2) cut marks 3) anvil abrasions 4) burning 5) many missing vertebrae 6) pot-polishing (Ibid: 24). These authors maintain that, “although it is theoretically possible that some unknown form of natural, nonhuman taphonomic agency could produce an assemblage of human skeletal remains with these six features, it is unreasonable to believe that such a thing ever happened” (Ibid:24). Logical weaknesses in the argument for cannibalism in Chaco have been addressed in detail elsewhere (e.g. Martin 2000; Bustard 2008; McGuire and Van Dyke 2008) and the problematic nature of the interpretation of cannibalism in archaeological human remains has been argued extensively (e.g. Pickering 1989, 1999; Bullock 1991, 1992; White 1992; Arens 1998; Darling 1999; Dongeske et al. 2000; Martin 2000; Rautman and Fenton 2005). Yet even the most critical analyses of this theory have argued against it by using the same set of criteria, essentially stipulating the legitimacy of the criteria themselves. This paper focuses on reevaluating the taphonomic analysis in order to weigh the validity and reliability of the criteria upon which claims of cannibalism in the Southwest have been based.

**Breakage and anvil abrasion**

Breakage is the most common form of damage observed in putatively cannibalized assemblages, with the argument that bones were broken with a hammer and anvil for the alimentary purpose of marrow extraction. Therefore, these two features cannot be separated in the analysis, as both are required in order to discern marrow extraction from any other form of breakage. However, in many of the assemblages Turner and Turner attribute to cannibal activity, the bones that are broken are not, in fact, marrow-bearing elements. For example, in the image below, the Turners demonstrate anvil abrasion on the proximal end of a scapula. This thin, irregular bone would not yield marrow, and therefore does not fit a pattern of distribution for breakage and anvil damage consistent with cannibalism. Rather, this example suggests that these marks could be caused by another taphonomic agent or that there is another reason for breakage with a hammer and anvil.

It is also important to acknowledge that the extent forensic literature on bone breakage clearly indicates that none of the forms of fracture attributed to cannibalism can be attributed exclusively to human action. Rather, butterfly breaks, spiral fractures, and longitudinal splitting are all common forms of bone damage resulting from numerous and varied agents. Therefore, modifications such as spiral fractures with impact scars can be difficult to interpret,” requiring “taphonomic models of animal modification and careful scene reconstructions” (Usinger 1997:79).

**Cut marks**

Distinguishing cut marks from marks caused by other taphonomic agents can be difficult (Potts and Shipman 1981; Behrensmeyer, Gordon and Yanagi 1986). However, Turner and Turner seem to have scored all linear marks on bone as cut marks without discerning these from a host of taphonomic mimics. The image below shows one example of a cut mark provided by the Turners in a putatively cannibalized assemblage. However, the mark is in fact simply a postdepositional scrape, cutting through the patina on the bone and revealing fresh bone surface. This raises questions about the validity of the Turners’ assessment of cut marks, especially in archaeological assemblages excavated in the 19th and early 20th century that show a tremendous amount of excavation damage. These authors also do not demonstrate a consistent pattern of widespread distribution of cut marks as has been documented in butchered faunal remains.

**Burning**

A distinction must be made between different forms of heat modification and their implications for human intent. Burning exhibits three distinct stages: scorched (superficial burning), charred (blackened, towards charcoal), and calcined (blue-white, loss of all organic material, plastically deformed). These different levels of heat treatment are each suggestive of different practices, as burnt, powdered, or calcined bone indicates far greater heat exposure (in time, temperature, or both) that is required to roast an edible meal. Turner and Turner have treated all suspected heat damage to bone as equivalent, when in fact calcination is more indicative of non-surgical processes. The fact that the remains of two adults were burnt in situ within one of the rooms at the small house site Bc 99 indicates that other cultural processes involving heat damage to bone were occurring at Chaco, and that any taphonomic analysis must make an argument discerning between cooking and other processes that involve burning.

**Missing Vertebrae**

The criterion of missing vertebrae is among most problematic of the cannibalism traits. Turner and Turner have deduced that the absence of vertebrae is proof that cannibals boiled or crushed them, therefore, their argument for cooking alone, but requires constant stirring (Ibid:24). These authors maintain that, “although it is theoretically possible that some unknown form of natural, nonhuman taphonomic agency could produce an assemblage of human skeletal remains with these six features, it is unreasonable to believe that such a thing ever happened” (Ibid:24). Logical weaknesses in the argument for cannibalism in Chaco have been addressed in detail elsewhere (e.g. Martin 2000; Bustard 2008; McGuire and Van Dyke 2008) and the problematic nature of the interpretation of cannibalism in archaeological human remains has been argued extensively (e.g. Pickering 1989, 1999; Bullock 1991, 1992; White 1992; Arens 1998; Darling 1999; Dongeske et al. 2000; Martin 2000; Rautman and Fenton 2005). Yet even the most critical analyses of this theory have argued against it by using the same set of criteria, essentially stipulating the legitimacy of the criteria themselves. This paper focuses on reevaluating the taphonomic analysis in order to weigh the validity and reliability of the criteria upon which claims of cannibalism in the Southwest have been based.

**Cannibalistic behaviors**

The Turners’ research on cannibalism caused a tremendous amount of controversy and has highlighted the potential harm that can result from examining the “body as artifact” (Rautman and Fenton 2005:338), divorced from its cultural context and meaning. However, the present study demonstrates the need for more, rather than less, osteological research. Rather than throwing “the baby out with the bathwater,” (McGuire and Van Dyke 2008), the Turners’ work demonstrates the need for increased osteological research of ancient human remains. Re-examination of skeletal collections generates new perspectives that enrich the extant data, allowing broader interpretations and more nuanced understanding of these remains when considered within their archaeological and cultural contexts.