



## Physical Anthropology Section – 2008

### H22 Towards a Comprehensive Theory in Forensic Anthropology

Cliff Boyd, PhD, and; Donna C. Boyd, PhD\*, Radford University, Department of Sociology & Anthropology, Box 6948, Russell Hall 228, Radford, VA 24142

The goal of this presentation is to examine the basis for theory in forensic anthropology. More specifically, this paper will discuss the inter-connections between forensic anthropological research and investigation and broader anthropological and archaeological theory.

This presentation will impact the forensic community by illustrating the application of Agency Theory, Behavioral Archaeology, and Nonlinear Systems Theory to the understanding of forensic events. These archaeological theories can assist in building a comprehensive theory in forensic anthropology.

Even though theory has been an integral part of the discipline of anthropology since its beginning in the 19th century, the existence of a broad theoretical basis for forensic anthropology has been much debated. Because of past reliance on idiosyncratic and often unique case studies to illustrate forensic processes, some researchers have questioned whether a comprehensive forensic anthropological theory is even possible. This paper addresses this issue by proposing several current theoretical avenues toward understanding forensic events.

Lyman (2002) calls for greater dialogue between the sister disciplines of taphonomy, forensic science and archaeology and the application of interdisciplinary research beyond established boundaries. Taphonomic theory and research have certainly had a significant impact on the conduct of forensic anthropology. However, more encompassing theoretical approaches transcending middle range taphonomic theory also can provide an explanatory basis in forensic anthropology. Archaeology, in particular, shares three major dimensions of analysis and interest with forensic anthropology: Time, Space, and Form (or material and physical remains). Three theoretical approaches currently applied by archaeologists—Agency Theory, Behavioral Archaeology, and Nonlinear Systems Theory—are explored in this paper for their applications to forensic anthropology.

Agency Theory is a social/behavioral theory which focuses on the actions of individuals or groups of individuals and how their actions can conform to or transform social institutions (the structure of a society or culture) (Dobres and Robb 2005). Case studies are considered extremely important in Agency Theory, because if they are detailed enough, they can serve as illustrations of the impact (or lack thereof) of human agents in specific situations. As applied to forensic settings—especially crime scenes—it is important to consider the perpetrators, victims, and the individuals involved in recovery of remains and evidence as agents and to look at the consequences of their actions on the ultimate outcome and interpretation of the scene.

Behavioral Archaeology (Schiffer and Skibo 1997) includes certain concepts that more specifically explore the consequences of actions by human agents over a sequence of events (Schiffer's "behavioral chain" model). A behavioral chain includes activity sequences, performance characteristics (of tools or implements), technical choices by the agents, knowledge and experience of the agents, and situational factors (behavioral or environmental limitations affecting such activities as tool use, transport and disposal of material or human remains). These variables are clearly applicable to the interpretation and explanation of forensic events and their time, space, and form dimensions.

Nonlinear Systems Theory (also related to Complex Systems Theory, Chaos Theory, or Catastrophe Theory) looks at the interaction of multiple variables and their consequences often through computer simulation (Beekman and Baden 2005). Nonlinear Systems theorists emphasize multi-variate analysis because complex properties (or consequences) result, in real-life situations, from the interaction of many factors. The importance of human agents as well as what Schiffer calls situational factors are recognized equally. The value of specific case studies, as well as the multivariate factors affecting archaeological and forensic settings, are recognized and considered in analysis and are particularly relevant for explaining past forensic events.

Illustrations of each of these theoretical approaches are presented in terms of their application to forensic anthropology. It is concluded that avenues for building an inclusive theory of forensic anthropology are possible. In fact, elements of these theoretical viewpoints are already being used by forensic anthropologists in the interpretation of forensic scenes. Their more explicit recognition makes it clear that forensic anthropology does indeed have a strong theoretical basis which we can continue to build upon. This theoretical base—grounded in current and well-established anthropological and archaeological theory—lends further credence to the in-court expert testimony of a forensic anthropologist.

#### References:

- <sup>1</sup> Beekman CS, Baden WW, eds. (2005) *Nonlinear Models for Archaeology and Anthropology: Continuing the Revolution*. Burlington VT: Ashgate Publishing.
- <sup>2</sup> Dobres MA, Robb JE (2005) "Doing" Agency: Introductory Remarks on Methodology. *Journal of Archaeological Method and Theory* 12:159-166.
- <sup>3</sup> Lyman RL (2002) Foreword. In Haglund, WD, Sorg, MH, eds. *Advances in Forensic Taphonomy: Method, Theory, and Archaeological Perspectives*. Boca Raton: CRC Press.
- <sup>4</sup> Schiffer MB, Skibo JM (1997) *The Explanation of Artifact Variability*. *American Antiquity* 62:27-50.

#### Theory, Forensic Anthropology, Archaeology