



Physical Anthropology Section – 2005

H56 Mass Graves, Human Rights and Commingled Remains: Considering the Benefits of Forensic Archaeology

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The goal of this presentation is to consider the primary role of archaeological recovery methods in the excavation of mass graves and eventual prosecutorial efforts.

This presentation will impact the forensic community and/or humanity by reevaluating the immediate and long range goals of mass grave recovery in human rights cases, and the implementation of comprehensive forensic archaeological methodologies

The widespread investigation of human rights violations and abuse in many areas of the world during the past few decades has attracted a renewed interest to the recovery and investigation of human remains from multiple victim burial features (*i.e.* “mass graves”). Understandably, focus has been placed on personal identification issues and efforts to return the remains of victims to their families as soon as possible. However, as noted by Rothenberg (2002), the number of perpetrators that have faced prosecution is far below the number of episodes of gross human rights violations and abuses documented during this period, even when just considering the cases of extraordinary brutality. This situation stands in stark contrast with the strict juridical definition of the *human rights* concept, including the *right to an effective remedy by the competent national tribunals for acts violating the fundamental rights* of any individual (Article 8 of the Universal Declaration of Human Rights, UN General Assembly resolution 217 A (III) of 10 December 1948).

The corollary of these considerations is that any investigation of human rights violations or abuses must be conducted in such a way as to allow for effective presentation of the case in a court of law. Failure to do so, or any destruction or negligent recovery of significant evidence will, in fact, result in a new violation of basic human rights.

With respect to the recovery of multiple-victim burial features (“mass graves”) in human rights cases and eventual successful prosecutorial efforts, the proper documentation of contextual data through formal forensic archaeological protocols, standardized to allow for inter-site comparison, is especially critical in attempts to sort out specific depositional episodes, sequences of body deposition, and understanding associations between physical evidence, including human remains, even in complex commingling situations.

Mass grave features may appear, at first glance, to represent very unique and recent scientific situations, requiring special techniques and methodologies; however, professional archaeologists have been excavating and analyzing these rather complex features for many years. Precedent in recovery techniques and methodologies can be found, therefore, in the field of contemporary archaeology.

In this presentation, a prehistoric Native American ossuary feature, containing the remains of over 160 individuals, will serve as a conceptual model of how the implementation of appropriate contemporary archaeological methods, especially, comprehensive mapping protocols, can address multiple issues related to the commingling of human remains and depositional events within the burial feature itself; methods and analyses that are directly applicable to modern forensic settings, including mass graves in human rights cases.

As a result of the rigorous, comprehensive and standardized collection of contextual data, it is possible to identify and interpret the effects of a broader range of taphonomic agents and depositional sequences, leading to a much better reconstruction of past events (especially, with respect to human behavior), including, possibly, determinations of individual body placement sequences and the ability to more precisely define associations between artifacts/physical evidence. In addition, with the embellishment of contextual data, more sophisticated statistical analyses can be brought to bear on relevant issues such as commingling patterns.

Regarding the Orton Quarry ossuary site, the marked commingling of remains within the burial feature led to preliminary observations that the cranial elements were clustered in one area of the ossuary, while the postcranial elements exhibited no recognizable pattern of spatial distribution (with respect to original anatomical articulation). Indications were that very few skeletal elements, if any, were articulated (*i.e.*, no tissue remained on the bones, or processing of fresher remains resulted in disarticulation of all elements) at the time of deposition in the burial feature. In order to test this observation scientifically, a sequential battery of statistical tests was designed, based on formal hypotheses of spatial distribution patterns of skeletal elements.



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In this case, the bivariate Ripley's K function $K_{12}(t)$ was used to study the interaction of multiple series of points (proximal and distal locations of long bones) distributed on a plane. This method is more informative than its equivalent parametrical counterparts, such as *nearest-neighbor* analyses, as it provides information not only on the presence and type of spatial association, but also on its intensity and scale (range).

Results indicate that, in fact, at least some of the individuals or anatomical units were placed in the Orton Quarry burial feature in an articulated state. Further, these findings suggest that spatial proximity of anatomical units (such as proximal tibia/distal femur) can be used effectively as a valid criterion for selecting potential matches of bones from the same individual.

The implications for addressing issues of commingling within mass graves in human rights cases are clear. Although most attempts to determine which bone belonged to which individual rely almost exclusively on skeletal features such as size, chronological age, sex, idiosyncratic variation, or even taphonomic modification of elements, significant stream-lining of the process can be accomplished through the careful recovery of contextual information during the recovery phase of the project.

Finally, if these investigations are to be considered "forensic" in nature, and if they follow the original intent of human rights legislation, the goal should not be confined to the identification of the victims. Forensic evidence takes the form of not only the biological remains of humans interred in the burial feature, but the contextual relationship of all associated evidence, such as personal effects, weapons, trace evidence; as well as, environmental evidence, such as stratigraphic data, faunal, botanical, and geological evidence (soils types, water movement through deposits, etc.). The collection and ultimately, the interpretation of this collage of evidence permits investigators to not only identify the victims but to provide a comprehensive, testable hypothesis of events surrounding the burial episode.

Mass Graves Excavation, Context, Prosecution Consideration