

**ABSTRACTS of the 3rd Annual Meeting of the
Midwest Bioarcheology & Forensic Anthropology Association
Michigan University, Kalamazoo, Michigan
October 12, 1996**

Abstracts are given in alphabetical order by senior author; all papers are podium presentations unless noted otherwise.

(1) BAKER TATAREK, Nancy, & Lauren LEASE. "Further Statistical Analysis of Differentiating Sex from the Patella." (poster presentation; abstract not available)

(2) BIANK, Vincent. "Schmorl's Nodes: Congenital Defect or Trauma Related?"

The purpose of this paper is to present preliminary results on the exploration of Schmorl's nodes and the possible association with trauma. This was accomplished by examining whether ligament exostosis and osteophytosis, pathologies known to be associated with trauma, were significantly correlated to the occurrence of Schmorl's nodes and whether this correlation is age dependent. In other words, if Schmorl's nodes are the result of trauma, one would expect to find Schmorl's nodes significantly correlated with ligament exostosis and/or osteophytosis at all ages. This project was completed under the supervision of Dr. Anne Grauer.

(3) BUZON, Michele, & Thomas KRUEGER. "Evidence of 'Pipe Smokers' Wear in the Dunning Cemetery Population."

In 1992, the Dunning Poor House Cemetery, located west of Chicago, Illinois, was excavated. Prior to the reburial of 120 skeletons in 1995 dental casts were made of dentition which was in reasonable condition. This has allowed further study into patterns of attrition within the population. The goal of this paper is to examine the presence and prevalence of the dental wear of this condition along with historical and ethnographic research will be used to explore the human behavior leading to these dental conditions. This project was completed under the supervision of Dr. Anne Grauer and supported by her NSF Grant No. SBR-9350256.

(4) CHENEY, M., & M. SHAH. "The Area Z Cemetery at Umm el-Jimal." (poster presentation; abstract not available)

(5) COLYER, Anne, & Norman SAUER. "Analysis of Post-mortem Trauma: Animal Tooth Marks."

A set of human remains were found in wooded area in the Midwest. These remains were positively identified by medical X-rays and attempts were made to reconstruct the origin of the severe and extensive skeletal trauma. Careful inspection of the bones proved that none of the marks were stabbing or gunshot wounds. They were all made by animals scavenging the remains, presumably postmortem. Tooth marks of two animal species were tentatively identified.

(6) COLYER, Anne, & A. RAUTMAN. "Studying Dietary Change at the Pithouse to Pueblo Transition."

About 1,000 years ago, populations in the Southwestern United States abandoned their long-established use of pithouse dwellings in favor of pueblos. Researchers have long associated a change in subsistence pattern with the pithouse to pueblo transition -- that of increasing sedentism and maize dependence. Recent studies have challenged this theory. Stable isotope analysis of two skeletal populations from central New Mexico, one from a pithouse village and one from a pueblo site, suggest that not increase in maize dependence occurred at this time.

(7) HARN, Dawn. "Human Remains from the Liverpool Lake Site (11Mn163)."

The Liverpool Lake site is a predominately Mapple Mills (800 - 1000 A.D.) occupation with minor components of Bauer Branch, Weaver, and Mississippian. The site is situated on a natural levee of the Illinois River and has been mostly buried by post-settlement alluvium. Many intact features were located at the water's edge and material was observed extending outward into the river. A total of 21 individuals were identified from human skeletal remains that were found scattered on the eroded surface of the site, in pit features, and in a back profile trench. Non intact interments were found at the site. Three types of postmortem modifications were observed at the site -- defleshing, gnawing, and burning. The amount of postmortem modification is a striking attribute of the site. Evidence from the scorched remains, defleshing, and carnivore gnawing indicates that the fragmented human skeletal elements were not accorded burial treatment and were part of the site's refuse. The question of identity of the fragmented remains arises.

(8) HITZEMANN, Nicole. "Late Woodland Patterns of Osteoarthritis in West-Central Illinois."

Previous researchers have compared changes in activity levels between Archaic hunter-gatherers and Mississippian agriculturalists. While some studies indicate an increase in physical activity with the intensification of maize agriculture, others conclude the opposite. Differing suites of subsistence-related behaviors in various regions have been used to explain this contradiction. This study focuses on the sites of Kulman (600 - 800 AD) and Schroeder Mounds (800 - 1000 AD) which encompass a limited temporal and geographic range in order to examine the transition between these two subsistence strategies. Patterns of osteoarthritis and other activity-induced pathologies of the major limb joints are analyzed.

(9) HUNT, Vanessa. "Dietary Interpretation of a Plains Village Site."

Trace element levels in ten individuals from the Plains Village site 39CA102 were established. These individuals range in age from newborn to young adult. Stable isotope ratios will also be discussed with regard to possible dietary interpretation.

(10) KNAPP, Heather, Robert MENSFORTH, & D. MEDVED. "Taphonomic Study of Rodent Gnaw Marks Among the Late Archaic Ward Site Human Skeletal Remains."

Human skeletal remains recovered from the Late Archaic Ward Site were examined for the presence/absence of rodent gnaw marks (RGMs) in order to (1) document the overall frequency with which individuals displayed RGMs, (2) differentiate RGMs from premortem cut marks, (3) determine if rodents exhibited a preference for specific human bones, (4) assess the extent to which rodent

gnawing activities at the Ward Site may have been opportunistic by exploring the relationships between RGMs and degree of post-depositional skeletal exposure, and (5) evaluate the extent to which rodent activities have contributed to the decay of the mortuary assemblage prior to recovery.

(11) KONDRAT, James. "A New Co-Ordinate Caliper." (poster presentation; abstract not available)

(12) LANGFORD, Donna. "Non-Specific Infectious Diseases in Central Illinois: Indications of Health Status During the Late Woodland Period."

This research project focused on the impact of nonspecific infectious disease on the human populations of Kuhlman and Schroeder Mounds. The disease process is thought to be the body's struggle to maintain health. A high frequency of disease lesions may indicate increased environmental stresses and the population's attempt to adapt. Both the Kuhlman mounds (AD 600 - 700) and Schroeder Mounds (AD 800 - 1000) sites are located in central Illinois and respectively represent the early and late phases of the Late Woodland Period. These sites may illustrate change in health status during the time or transition from hunting and gathering to intensification of agriculture.

(13) LEHER, Tamara. "A Facial Reconstruction From a Caucasoid Cemetery in North Dakota."

Site 32SN194 is an unmarked Caucasoid cemetery in east-central North Dakota. Of the four burials at this site, three were juveniles, and the fourth was a female, circa 60 years of age. It was this fourth individual whose face was reconstructed. Fragile areas were protected with cotton. Erasers were cut to muscle depths for an emaciated female and glued into place and filled in, after which they were connected with strips of clay. The eyes, lips, nose, and ears were sculpted. When completed, the face was smoothed of extra marks, and aged. The process took approximately 5 days (24 working hours).

(14) MASTERSON, William Jr., & E. KILBANE. "Cranial Deformation in Prehistoric Native American Populations."

The presence of cranial deformation in prehistoric native American populations is not uncommon. This paper explores the pattern and frequency of cranial deformation in an archaeological population from the S.U. site in New Mexico (approximately 1550 b.p.) and works to develop hypotheses concerning possible causes of these skeletal alterations. This project was completed under the supervision of Dr. Anne Grauer and supported by her NSF Grant No. SBR-9350256.

(15) MCBRIDE, David. "Osteoarchaeological Wealth in Museum Collections: Analysis of the NAGPRA Inventory."

Museum collections represent a great reserve of osteoarchaeological information that is often under examined. This point was emphasized during the compilation of a joint inventory of human remains and associated funerary objects housed at the Illinois State Museum and Dickson Mounds Museum, as specified by the Native American Graves Protection and Repatriation Act (NAGPRA). The completed inventory contains 5,653 records representing a minimum of 5,827 individuals from at least 265 named archeological sites, which date from the Early Archaic to post contact periods. Analysis of the records

has provided a valuable assessment of the nature of information contained in museum collections and its potential in osteological and archeological research.

(16) MENSFORTH, Robert, & G. BAKER. "Auditory Exostoses: Potential Value of A Phenotypic Skeletal Response for Inferring Aspects of Subsistence Behavior and Health."

This study examines within and between group differences in the frequencies of auditory exostoses (AEs) among a series of four Late Archaic groups from Kentucky. AEs are induced by thermal injury associated with episodes of cold water exposure. Results show that adult males exhibit significantly greater frequencies of AEs compared to females in all groups examined, and that inland bluff site groups exhibit much lower frequencies of AEs compared to shell midden site. These results are discussed with respect to (1) seasonality and sex-specificity of mollusk gathering activities, and (2) their implications for inferring increased sedentism and territorial behaviors among Late Archaic peoples.

(17) MORRIS, Alan. "The Cobern Street Cemetery: The Excavation of a Historic Slave Graveyard in Cape Town, South Africa."

The exposure of an 18th century cemetery in downtown Cape Town in October 1994 was followed by an extensive rescue archeological excavation over the December-January period. A team of volunteers excavated over 65 formal burials in 108 square meters of deposit. Nearly all of the burials were extended on their back and in wooden coffins. A few of the deeper skeletons (perhaps earlier in time) were without coffins and were laid on their side. Two Late Stone Age (LSA) graves were identified from below the level of the cemetery. These were "sitting" Khoikhoi burials with LSA pottery and lots of animal bone and shell in attendance. Each of these two LSA graves was a double burial, a phenomenon rarely seen in prehistoric burials in South Africa. Radiocarbon dates indicate a date a burial around 1000 years ago, indicating that these graves are unrelated to the historic cemetery above them.

Although the precise date of the cemetery or an identification of who was buried there remains uncertain, the excavations yielded a rich variety of grave goods which points to both the date and identity of the occupants. All of the associated material is 18th century in origin, primarily from the second half of that century. The grave goods included whole tobacco pipes and smoking paraphernalia, brass and silver buttons, and an ornate silver box. The last date of burial is hinted at by the presence of a 1797 British penny located just above one of the burials. The fact that no reference to the graves is mentioned in the Cape Archives seems to indicate that the people buried here were probably slaves or other people toward the bottom of the hierarchy of 18th century Cape society. Archival work is continuing on the history of the site. Physical anthropological analysis of the skeletons is now underway and preliminary results should be available by early 1997.

(18) MORRIS, Alan. "Ethnic Identity and the Re-Burial Issue in South Africa: The Cases of Saartje and Hintza."

Recent claims for the return of the remains of Saartje Baartman to South Africa from the Musee de L'Homme in Paris, and the search in Scotland for the cranium of the Zhusa chief Hintza have highlighted the importance of human remains and the issue of reburial to people in the 'new' South Africa. Baartman's case has been taken up by the Griqua National Congress which is trying to forge a new ethnic identity for the Griqua, encompassing the early historic Khoikhoi and all living people who

are descended from them. In the case of Hintza, Nicholas Gcaleka is claiming the right not only to find a skull through his traditional powers as a sangoma (traditional healer), but also to speak on behalf of the Zhusa in demanding an apology from the Queen of England for the murder of Hintza by her ancestor's followers.

These cases demonstrate how ethnicity can be used to claim a position in terms of land, power or financial ease. Modern science can also be appropriated to confirm or deny claims as in the ongoing case of Hintza's cranium. It is easy to choose a position with respect to either case, but what is clear is that each case is complex and the solutions to the problems presented cannot be couched in terms of historical realism alone.

(19) NAWROCKI, Stephen, Christopher SCHMIDT, Matthew WILLIAMSON, & Jason SANDERS. "More Historic Cemetery Recoveries in Indiana."

During 1996 we performed emergency excavations at a number of historic cemetery sites in Indiana, further expanding our research interests in historic burial archeology. The first skeleton was found eroding from the banks of a reservoir at the spot of a known cemetery that was supposedly removed decades before. The second case involves as many as 10 burials that were spread across several acres before being noted by the bulldozer operator. The two burials in the third case were found below the concrete subfloor of a factory in Indianapolis as workers were excavating to install a new furnace. These two are part of a huge cemetery 'relocated' at the turn of the century.

(20) NELSON, M., & Nancy BAKER TATAREK. "Taphonomic Analysis of Human Remains Recovered in a Central Ohio Arson Investigation." (poster presentation; abstract not available)

(21) OVERSHINER, Gina. "Shiloh Methodist Church Cemetery: A Skeletal and Ethnohistorical Reconstruction."

During the great flood of 1993, a previously forgotten mid-nineteenth century cemetery was exposed near Cedar City, Missouri; this cemetery had been associated with Shiloh Methodist Church. Skeletal and artifactual analysis of the disturbed burials revealed African American ancestry. Comparison of skeletal analysis from Shiloh with contemporaneous cemeteries, reveals that these individuals were exposed to different types of skeletal stressors. This finding agrees with historical evidence that asserts that African Americans of the Upper South were exposed to fewer stressors than their counterparts from the Deep South.

(22) PETERSON, Ryan, Stephen NAWROCKI, Matthew WILLIAMSON, Christopher SCHMIDT, & Curtis TOMAK. "An Archaic Rockshelter Burial from Daviess County, Indiana."

In the Fall of 1994 we excavated a human burial that had been noted two years previously as it slowly eroded from a cliff face along the West Fork of the White River. Although severely damaged by looting activities and the extremely hard matrix that surrounded it, careful excavation and painstaking preparation of the skeleton had revealed that the middle-aged female suffered from significant osteomyelitic infection of both tibiae and ankylosis of the distal tibiofibular joints. A Middle Archaic projectile point (ca. 3500 B.C.) found directly above the interment suggests that this is one of the oldest articulated burials yet recovered in Indiana.

(23) DEL PINO, David. "Forensic Anthropology and Human Rights: Genocide and the Disappeared." (poster presentation; abstract not available)

(24) POLLI, Maura. "The Underclass in an Historic Industrial Community: The Role of Enamel Hypoplasia Studies in Population Health Models."

Nutritional conditions affecting historic populations may be inferred from skeletal remains in general and specifically from dentition. A nineteenth and early twentieth century pauper cemetery (1885 - 1925) in Milwaukee Co., Wisconsin provides an unique opportunity to further examine current use of enamel hypoplasia as an indicator of stress. A subset of the original 1649 individual population (approximately 10%) was used to (a) test the sensitivity of particular teeth to developing bands of enamel hypoplasia, (b) to measure the frequency of childhood stress in the underclass of an industrializing community, (c) seek comparison data with other populations (prehistoric through contemporary) and, (d) to exam how this population fits the model of declining age of incidence. Confirming previous studies, mandibular canines were found to be most sensitive to systematic stress while the total incidence of enamel hypoplasia (of anterior teeth) in this population is approximately 65%.

(25) SCHMIDT, Christopher, Stephen NAWROCKI, & Matthew WILLIAMSON. "The Recovery of Dermatoglyphs from Recently Mummified Human Finger Tissues."

In October of 1994 the badly decomposed body of a middle-aged white female was found along a road near Greenfield in Hancock County, Indiana. Remaining soft tissues were damaged by carnivores and/or extensively mummified. A death scene investigator removed the dessicated fingertips and preserved them in an unsuccessful attempt to recover dermatoglyphs and establish positive identification. A review of the literature produced a solution developed in 1921 to rehydrate Egyptian mummy tissue. After some experimentation we used it to rehydrate a single fingertip, allowing the recovery of the fingerprint. Unfortunately, the individual remains unidentified. (NOTE: see Schmidt C et al. 2000. Obtaining fingerprints from mummified fingers: A method for tissue rehydration adapted from the archeological literature. *Journal of Forensic Sciences* 45:874-875).

(26) SMITH, Maria. "Age and Gender Bias in Populations from the Rio Grande Valley, New Mexico."

The sites of the Alfred Herrera and Pueblo Del Encierro from the Rio Grande Valley of Central New Mexico exhibit a distinct age and gender bias in the recovered skeletal sample. There is a disproportionate representation of mature females. Other sites in the southwest, such as Point of Pines, Grasshopper Pueblo and Black Mesa, also report female age and/or gender bias. The cause of the disparity has never been fully addressed despite some authors attempts to deal with recovery bias. Mortuary treatment as well as recovery bias will be examined at Alfred Herrera and Pueblo Del Encierro in the hope that the source(s) for the sample bias will emerge.

(27) SWENSON, Diana. "Partially Decomposed and Mummified Remains from North Dakota."

In October of 1995, the decomposed and partially mummified body of a 32 year old female was discovered in Rapid City, South Dakota. She was approximately 18 months postmortem. The procedure for processing the remains and the analytical protocol will be discussed. Antemortem pathological features will also be discussed in relation to their utility in identification.

(28) TUCKER, Teri, & Paul SCIULLI. "A Survey of Harris Line Frequency and Distribution in Monongahela Samples."

A survey of Harris line frequency and distribution in Monongahela samples: We analyzed the radiographs of the tibiae of 57 individuals (aged 1.6-57 years) from western Pennsylvania Monongahela sites for the presence and distribution of Harris lines. Subadults, adult males, and adult females each show a high frequency of affected individuals (83.3%, 78.9%, 85.0% respectively) with an average of 3.4, 3.3, and 3.6 lines. The age of occurrence of the Harris lines suggests that growth disruption-resumption is particularly likely to occur during times of rapid growth. We also discuss the possibility of selective mortality and line resorption.

(29) WEIDNER, Dennis, & Paul SCIULLI. "Metric Variation of the Deciduous Teeth in Ohio Valley Populations."

We obtained and compared the bucco-lingual diameters of the deciduous teeth of 527 individuals from Late Archaic (ca. 3000 BP) through Late Prehistoric populations (ca. 300 BP). Our results show that throughout this approximately 3000 year time span deciduous tooth variation and intervariation (shape) remain constant and, absolute size showed only minor fluctuations with no consistent trend of increase or decrease. We interpret these data in light of the early development of the deciduous teeth and their concomitant shielding from the environment.

(30) WILLIAMS, John. "A 19th Century Historic Cemetery from North Dakota."

In October of 1995, gravel road repair exposed four coffins of an unmarked cemetery in east-central North Dakota. Historic records and recollections place this cemetery prior to A.D. 1900. Three of the four coffins contained the skeletal remains of juveniles. These ranged in age from 1.5 to 12 years. Two juveniles showed evidence of systemic stress prior to death. The fourth coffin contained the skeletal remains of an adult female 50 - 60 years of age. Discrete and metric assessment identified the later remains as Caucasoid. These individuals represent the first non-Indian and non-forensic skeletons to be described in North Dakota.

(31) WOLFE STEADMAN, Dawnie. "The Application of Population Genetic Theory and Methods to the Bioarchaeological Study of Mississippian Population Movement: It's Not That Bad!"

To accurately estimate prehistoric patterns of gene flow, archaeological problems are best modeled within a population genetics framework. This paper will demonstrate that the integration of bioarchaeology and population genetic theory is imperative to fully understand prehistoric population structure. Using Late Woodland, Mississippian and Oneota samples from the central Illinois valley, it will be demonstrated that a population genetics approach is more informative to estimate long-term regional population movement than current archaeological models and traditional epigenetic studies. The results indicate that significant population movement occurred at different times within and between regions than cultural diffusion models predicted. An alternative model of Mississippian population movement and biocultural interaction in west-central Illinois is presented.

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