About

The Bioarchaeologists’ Northeast Regional Dialogue (BNRD) Conference was established in 2010 to initiate dialogue among bioarchaeologists in the Northeast United States and to provide a semi-formal venue in which students and faculty can present current research in subfields of biological anthropology including, but not limited to, human osteology, paleopathology, paleodemography, dental anthropology, forensic anthropology, and bone taphonomy.

The University at Buffalo – SUNY is hosting the 2015 BNRD conference. It is funded by the Department of Anthropology and the Saturday networking happy hour is funded by the Anthropology Graduate Student Association. We would like to acknowledge all professors in the Department for their support, especially Dr. Peter Biehl, Professor & Chair of the Department, and Dr. Joyce Sirianni, Distinguished Teaching Professor.

2015 Conference Committee

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Schedule
October 17, 2015

8:30 a.m. - 9:10 a.m. Welcome Reception

9:10 a.m. - 9:15 a.m. Introduction

9:15 a.m. - 10:30 a.m. Podium Session 1:
Teaching an Old Dog New Methods

10:30 a.m. - 10:45 a.m. Morning Break

10:45 a.m. - 12:10 p.m. Podium Session 2:
Reports from the Ground – Case Studies

12:10 p.m. - 1:00 p.m. Lunch

1:00 p.m. - 2:00 p.m. Keynote Lecture

2:00 p.m. - 2:15 p.m. Afternoon Break 1

2:15 p.m. - 2:45 p.m. Undergraduate Poster Session

2:45 p.m. - 3:00 p.m. Afternoon Break 2

3:00 p.m. - 4:15 p.m. Podium Session 3:
Exploring the Boundaries of Bioarchaeology

4:15 p.m. - 4:20 p.m. Closing Remarks

5:00 p.m. - 7:00 p.m. Networking Happy Hour
Keynote Lecture
Sin Nombre - The Body as Parchment in the Writing of Violence

In my work as a bioarchaeologist, I look at life in patterns of death by synthesizing biology and culture into a biocultural framework that allows for a more holistic interpretation of skeletal material. This talk brings together my research in Cd. Juarez on narco violence and el Teul, Mexico (ritual sacrifice from the early to mid-Classic [ca. 200 d.C.-400/450 d.C.]) in the exploration of performance violence. My analysis of various types of trauma examines how the symbolic aspects of violence have the potential to create order and disorder depending on the specific social context within which the violence is expressed. Bodies evidencing such trauma become the parchment upon which the literal writing of violence codifies meaning and structure to the objective world they occupy. The literal “language” of violence is then reproduced in written and oral forms and, in the case of el Teul iconography, to explain and exploit these events. This talk examines the cultural taphonomic indicators indicative of violent trauma by placing the corpses into the larger cultural and environmental dynamics that can produce and maintain violence within populations.

Disclaimer:
Due to the subject matter of this talk, please be aware that there will be several graphic images used during this presentation. I will try to warn the audience before the images are shown.

About our Keynote Speaker
Dr. Ventura Pérez
Associate Professor, Department of Anthropology
University of Massachusetts Amherst

Dr. Pérez is a bioarchaeologist whose research is embedded within a biocultural paradigm. His focus is on the poetics of violence (both interpersonal and institutional) in past and present human populations. His analysis of various types of trauma examines how the symbolic aspects of violence have the potential to create order and disorder depending on the specific social context within which the violence is expressed. Dr. Pérez is currently researching the use of performance violence in pre-Hispanic and post contact Mexico, is a consultant for the Pascua Yaqui Tribe, and is working with Dr. Nancy Scheper-Hughes at the site of Montes de Oca in Argentina. He is the founder and Editor-in-Chief of the online journal Landscapes of Violence - http://scholarworks.umass.edu/lov/. Contact him at vrperez@anthro.umass.edu.
Podium Session 1
Teaching an Old Dog New Methods

Moving Beyond the Case Report: A Study of Reactive Arthropathy using Military and Skeletal Assemblages
Meghan Banton - UCL Institute of Archaeology and Longwood University

In bioarchaeology, reactive arthropathies (such as spondyloarthropathy) are usually discussed in the form of reports on individual cases encountered. Calculation of the prevalence of reactive arthropathy using skeletal assemblages has not often been attempted, which is likely due to the fact that reactive arthropathies are expected to be encountered infrequently. This hole within bioarchaeological research has left a gap in the knowledge of the paleopathology of reactive arthropathies, but it was hypothesized that some skeletal assemblages have potential to provide more data than others and could potentially aid in bridging this gap; assemblages where the living population had a higher exposure to the bacterial infections that trigger reactive arthropathy would present more cases than an ‘average’ assemblage. To test this hypothesis, standards for identifying and analyzing reactive arthropathies in skeletal remains were established and used to research their prevalence in military skeletal assemblages. The military assemblages examined included remains from the 1461 Battle of Towton, the 1644 Siege of York, and remains excavated from two 18th - 19th century royal naval cemeteries; skeletons from the cemeteries of St. Brides Lower (Farringdon) and Chelsea Old Church dating from the 18th - 19th century, as well as remains from medieval All Saint’s Church in York, were used as control assemblages. The results of this research suggest that reactive arthropathy can be considered a military occupational disease and provide a means of selecting skeletal assemblages for future paleopathological research of reactive arthropathy.

Geometric Morphometric Analysis of Craniofacial Metrics across Age and Ancestry
Amy L. Szen - Binghamton University - SUNY

As skeletal biologists are aware, the creation of the biological profile is one of the most important steps when analyzing human remains that may be of medico-legal significance. Skeletal biologists utilize both metric and non-metric methods for estimating the elements of the biological profile. These methods however are almost only designed on and applicable to adult human remains. One such element of the biological profile that is difficult to estimate on juvenile remains is ancestry. The purpose of this research project would be to answer the following question, can human skeletal variation between ancestry groups be seen metrically in juvenile samples, and if so, at what age or age range can this variation be seen? In order to execute this research a sample of juvenile skeletons of documented “white” or “black” ancestry were chosen. The age range of the samples extended from at or near birth to approximately eighteen years of age. This research utilized samples from the Hamann-Todd Collection, John’s Hopkins Fetal Collection Mall and Lamb Collection, Terry Collection, and the American Museum of Natural History Collection. Following this the chosen specimen had ancestrally relevant cranial measurements and cranial landmarks taken following the guidelines in Standards for Data Collection from Human Skeletal Remains (Buikstra & Ubelaker 1994). These measurements were taken using a 3D digitizer. The information that was collected was then analyzed using multivariate analysis to evaluate shape variation amongst the two ancestral and along the age groups to assess the validation of this research’s hypothesis (Slice 2005).
Differentiating Perimortem Trauma from Postmortem Heat Alteration: A Case Study
Erin N. Chapman, MS, MA - University at Buffalo - SUNY

One of the most important and challenging tasks for a forensic anthropologist is separating postmortem taphonomy from perimortem skeletal trauma. Some taphonomic processes, such as heat alteration, make this task even more difficult. This presentation will use a forensic case study to explain the importance of and factors related to separating perimortem from postmortem events as well as some of the key signs that the forensic anthropologist should look for when presented with a complex case of this nature. By sorting out products of heat alteration to bone based on expected process signatures we are able to reveal, when present, underlying trauma. The present case also addresses the types of information that the forensic anthropologist should attempt to glean for a case involving perimortem trauma: type of trauma, sequence of events, type of tool, minimum number of impacts, etc. Ultimately, the main goal in any forensic case is to reconstruct the events surrounding and subsequent to death, including the identification of perimortem injuries that may have contributed to the death of the individual.

Estimation of Age at Death: Evaluating Error of Several Methods and the (Surprising) Utility of Cranial Sutures
Jessica L. Campbell, MS - University at Albany - SUNY

Estimating skeletal age at death has been consistently problematic for bioarchaeologists due to its inherent and highly variable nature. Age at death estimation has been studied for over a century and it is still faced with several problems, including an inability to estimate ages greater than 50 years, and a consistent trend to overestimate younger individuals and to underestimate older individuals. This preliminary study evaluates the error of three commonly used traditional methods (Suchey-Brooks pubic symphysis, Osborne et al.’s auricular surface, Nawrocki’s cranial sutures) against Boldsen et al.’s Transition Analysis (TA) to determine which methods are better for estimating age of an unknown decedent and, secondly, whether any of these methods successfully address any of the common problems to age estimation. 147 individuals from the Pretoria Bone Collection in South Africa and the William Bass Donated Collection in Tennessee were scored in both traditional and TA methods. Inaccuracy and bias were calculated for every age estimate attained from each method’s respective tables, equations, or software. Paired t-tests were calculated to determine if the methods for a given feature (i.e. pubic symphysis) could be compared. Results indicate that accuracy for the traditional methods are better than TA methods; however, bias is lower in the TA methods. Cranial sutures of both the overall TA and traditional methods reveal an interesting trend affecting the age estimate when methods are combined.
The Nadin Bioarchaeological Project
Kenneth C. Nystrom¹, Gregory Zaro², Martina Celhar³, Dario Vujević³ - ¹SUNY New Paltz, ²University of Maine, ³University of Zadar

This project is a field program that consists of archaeological excavation and laboratory skeletal analyses recovered from the Nadin archaeological site, a moderately-sized center in Croatia’s Ravni Kotari region along the Adriatic Sea. This area was one of the most urbanized regions of Dalmatia in antiquity and the site has complex history of occupation, if only intermittently, beginning with an Iron Age settlement in the latter half of the first millennium BCE. Nadin was then transformed into the Roman municipium Nedinum around the turn of the first millennium and was apparently abandoned sometime thereafter. The site was reoccupied during the Late Medieval period (~1000-1400 CE) with the last major occupational phase being the 16th century when the Turks established a fort at the summit of the site. With such a deep occupational history, the data derived from Nadin affords the opportunity to investigate the impact of urban growth and decline as well as broader changes in landscape and environment.

Human Rights Investigations in Mexico: A Case Study
Sarah E. Baumgarten, MSc – Mercyhurst University

The integration of forensic anthropology into human rights investigations has been pioneered by many of the Latin American teams formed in the last few decades. The recent disappearance of 43 students from Ayotzinapa, Mexico made international headlines prompting a request from the victims’ families to have EAAF aid in the investigation. Having worked with EAAF over the last 6 months, we were able to sort the remains, document, and analyze the evidence associated with the case. One of the most influential findings was the discovery of a dental appliance. Four key elements were discovered during the sorting process, including a tooth root, a small charred fragment of mandible containing a tooth socket, and two dental bridges, one of which contained a tooth crown still in situ. We were able to match the tooth root to the crown still in situ in the mandibular dental bridge, and then consequently match the tooth root to the charred mandible fragment. Furthermore, the maxillary dental bridge looks taphonomically consistent with the mandibular bridge. Additional odontological analyses revealed a point of occlusion between the two bridges, associating them to one individual. However, none of the missing students were known to have dental appliances, indicating that at least one other individual not associated with the missing students was present. After the Mexican Attorney General had declared the case closed, this, along with other evidence was released in a document by EAAF, prompting the reopening and continued investigation of the case.
Excavation of human remains at the South Campus of the University at Buffalo occurred between March and September 2012 through the combined efforts of Archaeological Survey staff and physical anthropologists from the UB Department of Anthropology. The portion of the Erie County Poorhouse Burial Site (UB 2756) examined likely represents a small part of the cemetery, used for an unknown period between about 1851-1913. It is estimated that thousands of people were buried during those years. No records have been found that provide a specific location for the cemetery or that identify the location of individuals buried there, and limited information is available regarding the numbers and nature of interments. Decades of historic and modern land alteration culminating in the development of the University at Buffalo South Campus, caused a great deal of site disturbance, yet human remains continue to be found. About 450 burial locations were examined in 2012 representing a range of findings from intact burials in well-preserved coffins to disturbed and fragmentary remains, with some empty coffins representing the prior removal of remains. This presentation briefly describes the history of finding human remains on the south campus at UB, and then focuses on the archaeological excavations that took place during the summer and fall of 2012. Exhumation techniques and results are summarized along with the site conditions encountered. Material patterns evident in the burial sample with respect to artifacts, coffin types and contents are also described.

The Erie County Poorhouse (Buffalo, N.Y.) cemetery includes 383 burials and extensive municipal documents representing individuals served by the poorhouse, insane asylum, and hospital. Between 1851-1926, approximately 150,000 individuals received care there and 10,000 people died. The individuals buried in the ECPH Cemetery are believed to have been interred between 1851 and 1913. Mortality records from 1880-1913 were examined and compared to a sample of death certificates to determine how many individuals listed in the records were buried in the poorhouse cemetery. Records include burial remarks and demographic indicators for 7,181 individuals. The records indicate that 3,512 (49%) individuals were not buried in the poorhouse cemetery. The burial remarks were tabulated as follows: “County Plot” (1,609), “None” (1,138), “Child Space” (356), “Medical College” (473), no remark (93). 525 death certificates were examined and tabulated as follows: buried in the poorhouse cemetery (357), buried elsewhere (51), buried in the County Plot (32), medical college (1), burial place not listed (50), no records found (34). Death certificates that listed the poorhouse cemetery as the place of burial corresponded to the remarks “None”, “County Plot” and “Child Space” in the records. Assuming these remarks indicate burial in the poorhouse cemetery then 3,103 (43%) individuals were originally buried in the cemetery. The lack of these terms after 1913 suggests that the cemetery was not used after that date. These data become important for comparisons of demographic patterns and frequencies of pathology in the skeletons to the causes of death listed in these records.
Paleopathology and the Poor: Comparing Historical Records of Morbidity and Mortality to Skeletal Paleopathology in Erie County Poorhouse Cemetery
Joyce E. Sirianni, Rosanne L. Higgins, & Jennifer F. Byrnes – University at Buffalo – SUNY

The Erie County Poorhouse Cemetery, in Buffalo, New York, (1851-1911) provides a unique opportunity to shed light on the impact of poverty on health during the nineteenth century. This study uses both the skeletal collection and the historic records to understand patterns of morbidity and mortality among Buffalo’s urban poor. Skeletal data were compared with cause of death for 6,399 adult individuals listed in the Poorhouse Mortality Registers for 1880 to 1913. During this time, tuberculosis and other respiratory diseases accounted for 31% of the deaths listed in the mortality registers. Bone trauma was listed as a cause of death for less than 2% of individuals and syphilis accounted for 1% of the causes of death. Among the 327 skeletons in the collection, 58 individuals (17.7%) exhibited reactive bone lesions on the visceral surfaces of their rib. Two of the individuals had lesions indicative of tuberculosis. While 25% of the individuals had ante-mortem traumatic injuries, only one individual had a peri-mortem traumatic injury that probably was the cause of death. One individual had lesions typical of syphilis. Given the frequency of deaths due to tuberculosis (TB) in the records, the low frequency lesions typical of TB is surprising. However, evidence of reactive bone on the visceral rib surfaces is indicative of chronic respiratory infections. It may be that those dying in the poorhouse hospital were already weakened and at risk by the stresses of poverty and succumbed to acute infectious diseases before TB left any mark on their bones.

11:50 – 12:10 p.m.
Session 2 Questions & Discussion

12:10 – 1:00 p.m.
Lunch

1:00 – 2:00 p.m.
Keynote Lecture
Dr. Ventura Pérez, University of Massachusetts Amherst

2:00 – 2:15 p.m.
Afternoon Break 1

2:15 – 2:45 p.m.
Undergraduate Poster Session
Abstracts listed at the end of the program in alphabetical order of first author.

2:45 – 3:00 p.m.
Afternoon Break 2
Antemortem and Perimortem Skeletal Trauma in Mountain Gorillas: Evidence of Conspecific Aggression
Amandine Eriksen - University at Buffalo - SUNY

Trauma is the leading cause of death among mountain gorillas (Gorilla beringei beringei). Typically due to conspecific aggression, perimortem blunt force trauma is most notable among infants while antemortem (healed) trauma is documented as a result of severe conflict between dominant males or from accidental falls in their montane habitat. Infanticide, or the killing of an unweaned unrelated infant, is a male reproductive strategy accounting for up to 37% of infant deaths. Males also behave aggressively toward other males when separate groups travel too closely to one another, using their sharp canines to inflict severe injuries. This study documents and examines patterns of antemortem and perimortem trauma in a large collection of mountain gorilla skeletal remains from Rwanda, many with life history and veterinary records. In a sample of 92 individuals (51 adults, 11 juveniles, 30 infants), detailed life records are available for 35 gorillas, which further aids in associating skeletal observations with specific gorilla behavior. Results reveal characteristic patterns of antemortem and perimortem trauma among age and sex classes. Perimortem blunt force and puncture trauma are present on nine infant skeletons. Infanticide-related trauma primarily affects bones of the cranium, ribs, and pelvis. Antemortem trauma is present on 22 adults, primarily on the hands and feet. Although frequency is slightly higher in females, the most severe bony injuries are found among males. These results provide a basis for understanding primate behavior and thus may shed light on the result of aggression in other modern, bioarchaeological, and paleontological contexts.

Rethinking Dental Wear: What We Can Learn from Clinical Dentistry and Anthropological Theory
Kevin Knowles - University at Buffalo - SUNY

Over the past century, bioarchaeologists have typically viewed dental wear as the direct result of an abrasive diet and cultural wear (i.e. tool use, pipe wear, etc.). While these are certainly aspects of wear that need to be considered, we can focus on other aspects of dental wear by looking at research coming out of clinical dentistry. Clinical dentistry acknowledges three interrelated processes of wear: abrasion, attrition, and erosion. Often, anthropologists focus on the first of these three categories, viewing the differentiation as unnecessary because all of these processes overlap and are unable to be distinguished in the archaeological record (Alt et al., 2012). However, clinical dentists have argued that even if these three categories cannot be distinguished, acknowledging them can allow us to construct a more complete picture of wear (Kaidonis, 2007). Further, diet and “direct” cultural factors are not the only causes of wear. Bruxism—the involuntary grinding of teeth—affects a large proportion of the modern population and has a variety of causes that need to be considered, including stress, anxiety, sleep disturbances, lifestyle choices, and other conditions (i.e. stomach illnesses, trauma/pain). I do not suggest that all aspects of wear can be analyzed in the archaeological record, but combining our traditional analyses of wear with guidance from clinical dentistry and anthropological theory can allow for more comprehensive discussions. The aim of this presentation is to look at different aspects of wear as discussed in dentistry and consider how they may be examined in the archaeological record.
Bioarchaeologists often examine the “same” material traces yet “see” quite different things. This is usually explained epistemologically, in terms of different points of view. Instead, we focus on the malleability of matter itself. By attending to the many ways in which objects are enacted in practice, we seek to trace the multiplicity of forms in what would seem to be a single object (Mol 2002). The single object in this case is Specimen 2032, a cranium donated in 1862 to the Army Medical Museum in Washington, D.C. Here we trace Specimen 2032’s shape-shifting, from acquisition into the present. The cranium has remained in association with a handwritten note, detailing its provenience as a victim of the 1857 Mountain Meadows Massacre. However, it has also been marked by changing names, numbers, institutions, and affiliations. The object has thus become simultaneously known and anonymous—both familiar and strange. To investigate these multiple forms, we marry Ingold’s concept of naming with Dawdy’s social taphonomy. “Names” Ingold argues, “are not nouns but verbs: each describe a going on” (2011:168). Such goings on, as Dawdy has emphasized, involves complex formations, “the mix of accident and manipulation, the silences and erasures, the constraining structures, and the sudden ruptures that all go into the creation of history and into the formation of the ‘ethnographic present’” (2006:719). In other words, we follow the doings and undoings to interrogate the processes by which Specimen 2032, a named individual, is unstable, relational, and continuously changing through movement and encounter.

Hypovitaminosis D and mental illness have long existed in conjunction with each other; yet, the role of Vitamin D in the brain has only become a focus of study within the past decade. According to recent literature, gestational deficiency, as well as malnutrition throughout infancy and childhood, has a lasting effect on the brain. However, the underlying mechanisms through which this occurs are still poorly understood. Historical evidence suggests that the coexistence of Vitamin D deficiency and various mental illnesses originates in Industrial England; however, the interplay is apparent across a variety of demographics. Recently, there has been a resurgence of Vitamin D deficiency in the Northern hemisphere, and almost simultaneously, we find ourselves amidst yet another mental health epidemic. In order to devise effective public health protocol, an examination of the correlation between the two conditions is necessary. This paper provides a critical overview of bioarchaeological data and current scientific literature in order to explore the association between Vitamin D deficiency and mental illness, thereby asserting that low Vitamin D levels play a significant role in the acquisition and/or exacerbation of neuropsychiatric disorders.
4:00 – 4:15 p.m.
Session 3 Questions and Discussion

4:15 – 4:20 p.m.
Closing Remarks

5:00 – 7:00 p.m.
Networking Happy Hour @
Totem Pole Room, Department of Anthropology
Spaulding Hall, University at Buffalo
Poster Abstracts

The Prevalence of Linear Enamel Hypoplasia at Early Bronze IV and Middle Bronze Age Jericho
Matt Capece & Jaime Ullinger - Quinnipiac University

Cemetery excavation at ancient Jericho (Tell es-Sultan; located in modern-day West Bank) uncovered numerous skeletons in the 1950s which are currently housed in countries all over the world. Earlier research conducted on tombs housed in Australia suggested that some of the Middle Bronze Age inhabitants of Jericho experienced a number of health issues, including degenerative joint disease, non-specific infection, and malnutrition. This project increased the understanding of health at Jericho by identifying linear enamel hypoplasias, another indicator of generalized stress, in individuals from the tombs housed at the Duckworth Laboratory at Cambridge University. Skeletal material from the Jericho tombs (Early Bronze IV Age; ca. 2300-2000; Middle Bronze Age; ca. 2000-1550 BCE) was fragmentary and occasionally commingled. Therefore, dental defect data were analyzed by tooth type. LEH were observed on casts coated with chromium under a Dino-Lite AD4113ZT digital microscope. Defects were identified macroscopically as horizontally depressed grooves on the enamel surface, and microscopically by sequences of wider perikymata spacing followed by a cervical wall of normally-spaced perikymata. Of 81 anterior teeth examined, 34 exhibited linear enamel hypoplasias (42.0%). Of those, 23 had single defects and 11 had multiple episodes of physiological stress. Anterior teeth from Jericho were compared with other sites from the region, including Middle Bronze Age Pella, Jordan (n=112). Anterior teeth from Jericho had similar high levels of LEH as their contemporaries from Pella (55/112; 49.1%) (ο· 2= 0.79; df = 1; p=0.33). Overall, the inhabitants of Jericho likely experienced a significant amount of physiological stress as children.

Post-mortem Intervals in Mice Submerged in Aqueous Environments at 20°C
Elizabeth Celata & Karina Gerdau-Radonic – Binghamton University SUNY

Understanding the rates and stages of decomposition enables forensic pathologists to determine the Post-Mortem Interval. The physiological changes undergone by specimens depend greatly upon the environment with numerous factors confounding the perceived Time of Death. Aqueous submersion can impede decay, increase the extent of skin slippage and enter stages that are ordinarily unseen in terrestrial burials. Fifty-four mice split into freshwater, marine water, and a control environment set to 20°C displayed sequential decomposition stages at differing rates over six weeks. Internal putrefaction was faster in the control whereas freshwater and marine water specimens entered a viscous stage towards the final two weeks. The mean weight difference and abdominal circumference change pre-submersion versus post-submersion was significantly between the control group and both aqueous environments. However, the freshwater and marine water did not vary significantly between each other. The environment a body is subjected to after death heavily influences the duration of decomposition stages and the extent. Between two water types, the visual variance was more distinct than the calculable changes before and after submersion that implies that the salinity and general microbes within closely associated water sources caused less distinct variance than submersion in general.
Reassessing Scars of Parturition: Is There a Relationship With Obesity?
Elizabeth Evangelou – Binghamton University

Dorsal pubic pitting and preauricular sulcus formation, two skeletal features long associated with pregnancy, are today recognized as having a much more complicated etiology. Alternative explanations for these so-called scars of parturition have included pelvic size and related ligament stabilization, pathological conditions (including infections, trauma, and degenerative changes); and cultural practices (including changing birthing positions). The research presented here assesses the relationship between these pelvic anomalies and obesity, following the work of Cox (1989), Snodgrass and Galloway (2003), and Maass and Friedling (2014). One hundred and eleven individuals from the William M. Bass Donated Skeletal Collection curated at the University of Tennessee were examined. Data was recorded on body mass index, pubic pitting, preauricular sulcus formation, and pelvic dimensions (including anterior posterior inlet and interspinous diameters). One-way multivariate analyses of variance and paired and unpaired t-tests were used to analyze the data. No correlations were found between pelvic anomalies and obesity. Consistent with earlier research (see Cox, 1989 and Maass and Friedling, 2014), pelvic anomalies were associated with larger anterior posterior inlet and interspinous diameters. Also consistent was the fact that the pelvic anomalies were more prevalent in females than in males. Additionally, this research supports the rejection of the hypothesis that these pelvic anomalies correlate with parity status. Pelvic anomalies may be recorded in forensic anthropology and bioarchaeology as interesting skeletal features, but they should not be used as indicators of obesity, pregnancy status, etc. until more research is conducted.

Estimating Sex in an Archaeological Collection Using Metacarpal Interarticular Length
Alice Hahn & Jaime Ullinger – Quinnipiac University

The pelvis and cranium provide the most reliable landmarks for identifying sex in skeletal material. In commingled and fragmentary material, other techniques are required. Metacarpal measurements have been used to estimate sex in both forensic and archaeological settings. This study utilized interarticular length to estimate sex of metacarpals (n=17) from the Ottoman period (15th-18th century CE) cemetery of Tell el-Hesi, located in modern-day Israel. Results indicated that three of the samples were female, and three were male. These estimates matched other indicators of sex within the same individual, suggesting that this technique is appropriate for this sample, and can be used on unknown individuals.
We conducted an osteological archaeology dig in the Zamartze monastery in the Basque region to investigate human burials and the Roman Road. The burials gave information of the individual types buried, and the Roman Road proved the importance of the Zamartze church as a resting stop for pilgrims and noblemen on the roads. Discoveries were carried out by testing soil samples as well as careful excavation techniques using wooden tools for handling human remains, and digging tools to expose the Roman Road. Excavation and discovery of the Roman Road proves the existence of the Romans arriving to the Basque Country. The Roman Empire created an extensive road system throughout Europe, which some segments were found in Zamartze proving the integration of the Romans in the Basque Country, despite the extremely well preserved Basque traditions and language. The Roman Road that was excavated was found to be part of an alternative highway that led to Zamartze. Furthermore, Roman artefacts found such as coins dating to the rule of Constantine and the pieces of bronze found, proved the presence of Romans in the site. Excavating the burials led to the discovery of noblemen buried at the site, as well as Camino de Santiago pilgrims due to the appearance of metals, coins, and lastly, the symbolic scallop shells pilgrims would carry with them during their passage. The Zamartze monastery served as a site to prove the intermingling of the Romans and Basque people, ultimately showing evidence of Antiquity transforming into the Middle Ages.