

A world map where the oceans are depicted with vibrant blue and green swirling patterns representing ocean currents, while the continents are shown in solid black. The text is overlaid on the map.

CURRENTS IN ANTHROPOLOGY

3rd Annual

STUDENT RESEARCH

CONFERENCE

MARCH 11TH, 2017

Department of Anthropology
University of Victoria



University
of Victoria
Social Sciences



University
of Victoria
Anthropology

Welcome to Currents in Anthropology: A Student Research Conference 2017!

The Department of Anthropology at the University of Victoria is hosting this conference as a celebration of the research efforts of our undergraduate and graduate students. The presentations represent research completed for in-class and out-of-class projects, Honour's theses, JCURA research, Master's and doctoral research. Enjoy the presentations, ask questions, and do not forget to vote for the "People's Choice Award" for best presentation.

Our Keynote speaker, Jude Isabella, will talk about how Anthropology contributes to her career. She will discuss why she thinks that good writers are good anthropologists. And that good anthropologists can make for very good writers, with some training. Jude completed her interdisciplinary MA in Anthropology and Writing at UVic in 2013. She is a writer with a particular focus on science, health and the environment. *Salmon; A Scientific Memoir* (published 2014), based on her MA research, chronicles the 4 years she spent with scientists studying British Columbia's coastal ecosystem. Currently the Editor in Chief of Hakai Magazine, Jude was the managing editor of *YES Mag*, a Canadian science magazine for kids for over a decade. As a freelancer, she has written for numerous publications including *Archaeology Magazine*, *Spirituality and Health Magazine*, *WILD*, *Nautilus*, *New Scientist*, *BC Magazine*, *Reader's Digest*, *BBC Wildlife*, *Loh Down on Science*, *Blue Ridge Press*, and *The Tyee*. Jude also writes science books for children, including *Chit Chat*, *Celebrating the World's Languages* and *Fantastic Feats and Failures*, which won the American Institute of Physics award for writing in the children's category.

We wish to thank our sponsors – the Department of Anthropology and the Faculty of Social Sciences Dean's Conference Fund.

And thank you to the Bureau of Anthropology Students (B.O.A.S) for all their assistance!

Sincerely,
Conference Program Committee

SCHEDULE

10:00 – Mix, Mingle and Munchies in the Hallway outside COR B250

POSTER PRESENTATIONS – 10:00-3:30, COR B250

When possible, presenters will be available for questions during breaks in the podium presentations.

1. **Blunt Force Trauma of the Skeleton: Fractures at 50km/h.**
Don Crawford, Emily Stach, Angela Martens
2. **Cemetery remains or clandestine burial?**
Jake Bryan, Caitlin Thurley, Trysten Goodridge
3. **Inter/Intra Observer Error Rates for Metric and Morphological Measures to Identify Sex in Unidentified Human Remains.**
Zachary Rintoul, and Wyatt Schiefelbein
4. **Fiery Forensics: The Impact of Accelerants on Burning Characteristics of Bone.**
Holly Marsh, Kai Michaluk, Grace Wicken
5. **A Comparison of Three Approaches to Remove Soft Tissue from Putrefied Remains.**
Maddy Chater, Daniella Baldini, Morgana Zayas
6. **Sharp Force Traumatic Injury Patterns: A Comparison of Class Characteristics from Four Weapons on Domestic Cow and Pig Bones.**
Torah Lee, Lydia Toorenburgh, Hannah Van Adrichem
7. **Washing Away Identity: Tooth Erosion from Household Chemicals.**
Kayla Berryman, Emily Fairweather, Courtney Sims
8. **Rates of Body Decomposition in Three Burial Environments.**
Frank Babuin, Kathryn McAllister
9. **Who's to Blame? Recognizing Dismemberment Patterns from Canid Scavenging on Bone.**
Emma Eslake, Alexandra Bell, Jordan O'Mara
10. **Decoding Degradation: The Rate of DNA Decay in Varied Burial Depth Environments**
Cianan Butterfield-Stinson, Lindsey Marsden, Mariel Finnegan-Klein
11. **A Critical Analysis of Morphological and Behavioural Adaptations for Dietary Specialization in Primates.**
Michelle Smits

12. **Reinforcing and Resisting Global Apartheid: An Analysis of a BBC Podcast Covering Europe's Migrant "Crisis".**
Ariel Becherer
13. **Grave Monument RTI Photography: Uncovering Inscriptions.**
Melanie Heizer
14. **Memorials in Danger? A Study of Monuments in Victoria's Jewish Cemetery.**
Emily Badger, Ryan Schurcoft
15. **Burials in the Emanu-el Jewish Cemetery in Victoria, B.C., and the Use of Concrete Fills.**
Maya Cowan, Vanessa Tallarico
16. **Archaeology and Archives: Locating Missing Graves in a Jewish Cemetery in Victoria, BC.**
Taylor Peacock
17. **Archaeological Ink: Recreating Viking Tattoos Using Pig Skin and Charcoal.**
Alexa Dagan, Melanie Heizer, Taylor Peacock
18. **Viking Burials.**
Morgan Lochhead, Katie Dierks
19. **Estimating Ancient Urchin Size on the West Coast of Vancouver Island.**
Arianna Nagle
20. **Preliminary Vertebrate Faunal Analysis of Hup'kisakuu7a (93T): Results from 2015 and 2016 Excavations.**
Bree Bamford
21. **Excavating the Intertidal at Hup'kisakuu7a: a Summary and Artifact Analysis of an archaeological site in the Broken Group Islands, Barkley Sound.**
Sage Schmied
22. **Skeletonizing Fish with Inexpensive Dishwater Detergent: Testing Experimental Methods for Defleshing and preparing specimens for the UVic Zooarchaeology collection.**
Paige Lewis

PODIUM PRESENTATIONS – 10:15-3:00, COR B235

- 10:15 **Alps, Accordions, Artistry, and Academia: Dynamic Learning Environments and Negotiations of Tradition Among Emergent Swiss Folk Musicians.**
Sharonne Specker
- 10:30 **Tracing the Visibility of Repatriation in Anthropological Literature.**
Suzanne Kroeger
- 10:45 **Practicing Repatriation, Projecting Reciprocity: Questions on Expectations of Collaboration and Repatriation in Museum Anthropology.**
Bradley A. Clements
- 11:00 **Redefining Kinship: Governmental Definition of Migrant Families Bodies in Detention.**
Anna Lorraine Thompson
- 11:15 **Visual Portrayals of Migration In UK Media: Representing the Migrant Other.**
John McIver
- 12:00 BREAK – More mix, mingle and munchies!
- 12:15 **KEYNOTE ADDRESS.** Jude Isabella
- 1:15 BREAK - More mix, mingle and munchies!
- 1:30 **The Distribution and Prevalence of Albinism in Tanzania.**
Kirsten Mathison
- 1:45 **Discovering Bytown’s Barrack Hill Cemetery: Archaeology in the Heart of Downtown Ottawa.**
Marla MacKinnon
- 2:00 **Preliminary Vertebrate analysis of Column Samples taken from Hup’kisakuu7a (93T, DfSh-43).**
Spencer Armitage
- 2:15 **Investigating Handaxe Function at SM-1: Preliminary Results of an Experimental Use-wear Analysis.**
John Murray
- 2:30 **Heritage Bytes: Experimenting with Digital Exhibitions.**
Sierra McKinney
- 2:45 **Closing Remarks**

PRESENTATION ABSTRACTS

Preliminary Vertebrate analysis of Column Samples taken from Hup'kisakuu7a (93T, DfSh-43). Spencer Armitage

Two 2x2m units were excavated at Hup'kisakuu7a (93T, DfSh-43), a small pre contact site in Tseshaht territory. A column sample was taken from the north wall of each of these units in 2016. These column samples reached a depth of 120 cm depth below datum (DBD) in unit 1, and 137 cm DBD in unit 2. The sediment recovered was screened through 6.35 mm and 2 mm mesh. The extent to which smaller pre contact sites were used in Barkley Sound is not well documented. In this report I analyze the bones recovered from the column samples. This was done to determine spatial site use, environmental variability and ensure accurate representations of fauna were recovered from different areas of the site. I then compare my findings from Hup'kisakuu7a to column samples taken from three larger sites in Barkley Sound; Hup'kisakuu7a (93T, DfSh-43), Kakmakimilh (306T, DfSh-17) and Ts'ishaa (204T DfSi-16). This comparison determines Hup'kisakuu7a has a lower NSP per litre than its larger counterparts. The first six column sample levels from both excavation units account for the majority of bones recovered whereas few bones were present below these depths. The majority of bones are fish. This suggests that Hup'kisakuu7a was more extensively occupied in the near past, and that fishing was the primary means of subsistence at the site.

Rates of Body Decomposition in Three Burial Environments.

Frank Babuin, Kathryn McAllister

Determining time since death is a crucial step in homicide, suicide and un-witnessed deaths, because what happens during the postmortem interval helps to understand the circumstances of the death event, decomposition and relative taphonomy. However, decomposition occurs at different rates in different climates and seasons. The rate of decomposition is highly dependent on abiotic factors including; oxygen flow for aerobic decomposition, moisture and access to the specimen for scavengers and insects. Using mice buried in medium-grade gravel, sand, and soil, rates of decomposition were examined at 8 days, 16 days and 24 days after initial burial. This experiment took place on the West Coast of British Columbia between October 16th and November 9th 2016. Specimens buried in sand desiccated at a relatively slow rate, and showed no signs of skeletonization by 24 days. Specimens buried in soil started skeletonization by 24 days but retained most of their original bodily form. Finally, specimens buried in gravel were exposed to insect activity and by 24 days entered late stages of decomposition with almost full skeletonization. It can therefore be concluded that the type of ground materials bodies are buried in will have an effect on their rates of decomposition.

Memorials in Danger? A Study of Monuments in Victoria's Jewish Cemetery. Emily Badger, Ryan Schurcoft

Monument preservation is an important part of remembering loved ones. Because of the wide variety of stones and manufacturing techniques, there are many factors that may contribute to monument decay. Each factor should be assessed and measures taken to prevent further degradation. For this project, we attempted to determine what factors could be at play when looking at headstone

deterioration at the Emanu-el Jewish cemetery. We considered four hypotheses: first, monuments under tree cover would be in better condition than those from the same time that were under open sky. Second, upright headstones would be in better condition than those that were flat. Third, monuments closer to the ground would be in worse condition than those raised up out of grass and dirt allowing for organic growth. Finally, unpolished headstones would be in worse condition than polished headstones. As each of our hypotheses were examined, extra factors came into play that we had not foreseen (e.g.,: organic matter decomposing on flat monuments). Overall a larger sample size would be beneficial as it would allow for more examples to be compared, and possibly higher levels of research where our each of our hypotheses were the sole focus of study. We concluded that though some hypotheses were easily proven, others had complications that could be looked into in further studies.

Preliminary Vertebrate Faunal Analysis of Hup'kisakuu7a (93T): Results from 2015 and 2016 Excavations.

Bree Bamford

Excavations conducted at the site of Hup'kisakuu7a, in partnership with Parks Canada and the Tseshaht First Nation, unearthed a variety of fauna that merit zooarchaeological analysis. Unlike previously excavated major ancient village sites, such as Ts'ishaa and Huu7ii, the shallow shell midden deposits of Hup'kisakuu7a are representative of a small-scale site potentially occupied over a long period of time, comparable to that of the aforementioned major village sites. The faunal assemblage is small in comparison to those of major village sites and consequently differs notably in its composition. Data from two separate excavation seasons have been quantified by weight, number of specimens and volume excavated per cubic meter. The datasets have been integrated to assess intrasite temporal and taphonomic trends, as well as intersite variation. Analysis reveals discernable intrasite variation that is consistent with house floor deposits and associated midden refuse. Intersite comparisons indicate that the characteristics of Hup'kisakuu7a are unique and provide context to the site within a larger archaeological understanding of regional subsistence practices. These results contribute to the ancient and continuous cultural history of the Tseshaht First Nation within the Broken Group Islands of Barkley Sound.

Reinforcing and Resisting Global Apartheid: An Analysis of a BBC Podcast Covering Europe's Migrant "Crisis".

Ariel Becherer

Images and stories on The Syrian Refugee Crisis and The European Migrant Crisis, dominated headlines for months. One media story, a podcast from the BBC World Service titled, "Great Expectations: Migrants in Germany", is analyzed in this paper. The podcast focuses on the aspirations of newly arrived migrants/refugees' in Germany in 2015. Tensions between ideas on human rights and citizenship, specifically with regards to decisions of deservingness, appear throughout the podcast. Theory on language of crises, othering, dehumanizing, bordering processes, état de siege, and structural violence are used to situated the Syrian Refugee Crisis/ European Migrant Crisis within The Global Apartheid; a system in which human rights are inconsistently allocated according to one's citizenship. In the podcast the journalist, Rakusen, sees this uneven distribution of access to rights as

normal; rather Rakusen does not see it at all. That the migrants/refugees from outside the EU are deserving of different treatment than German or EU citizens, is an unquestioned fact for the journalist, not a form of state violence. The interviewed migrants/refugees, at times resist this idea through their words, and through the act of crossing borders “illegally”. Throughout the podcast acts of maintaining and resisting global apartheid can be observed.

Washing Away Identity: Tooth Erosion from Household Chemicals.

Kayla Berryman, Emily Fairweather, Courtney Sims

Teeth are a particularly excellent resource to personally identify unknown individuals. Easily accessible chemicals that hold enough power to dissolve teeth, or at least bits of teeth, can be found all around the house and are more frequently being used to help wash away these markers. Since teeth are so durable they are often the last part of a body to decompose, and chemicals will affect them differently than regular bone or flesh. The purpose of our study was to observe the decomposition process of fresh versus dried pig and deer teeth when submerged in three separate chemical baths: hydrogen peroxide, Coca-Cola, and sulfuric acid. Since a human tooth can be dissolved in as little as 15 hours, we tested the variables of age and potency of chemicals in this comparative study and expected that sulfuric acid would completely dissolve teeth, the hydrogen peroxide would have little impact, and that Coca-Cola may dissolve teeth entirely over several days. We also expected that dried teeth would dissolve quicker than fresh teeth. Results of this study showed that the postmortem interval does not necessarily impact chemical decomposition rates in tooth enamel and dentin. While decomposition changes of dried teeth may appear earlier at first, the total time to dissolve does not differ based on quality of the tooth itself. We also debunked the popular myth that Coca-Cola can completely dissolve teeth, though a significant amount of damage was observed over the 22 days of the experiment.

Cemetery remains or clandestine burial?

Jake Bryan, Caitlin Thurley, Trysten Goodridge

During body recovery, forensic anthropologists may have difficulty distinguishing between cemetery remains, that is, those chemically processed for burial and remains from a clandestine burial site. The process of embalming leaves identifiable changes to soft tissue, though there is very little research in how this may affect skeletonized remains, and whether embalming effects can be recognized. This study attempts to clarify the differences between these two burial signatures, specifically considering how the effects of embalming may slow decay rates of a body. These results are important for forensic anthropologists to rule out forensic significance when cemetery remains are accidentally disturbed. Two distal leg sections of a domestic pig were used for this experiment, one of which was embalmed, and the other used as a control. Both specimens were buried to a depth of approximately 30cm for 6 weeks then exhumed for examination. We expected that the embalmed specimen would decay slower than the control. Our expectations were correct. The embalmed piece kept its pinkish hue and the flesh maintained its structural integrity, while the control specimen was very badly decomposed exhibiting skin slippage and loss of fresh appearance, but did not skeletonize. Surprisingly, no evidence of insect activity or scavenging was present with either specimen or in the surrounding soil. We suspect that the proximity of the control specimen to the embalmed piece may have warded off insects and larger animals, delaying the overall process of decomposition of the control. A longer study

and greater separation of elements may produce more significant results to recognizing cemetery remains in a forensic context, particularly to identify any and all embalming signatures in bone.

Decoding Degradation: The Rate of DNA Decay in Varied Burial Depth Environments.

Cianan Butterfield-Stinson, Lindsey Marsden, Mariel Finnegan-Klein

Availability of DNA is an invaluable tool in the arsenal of the forensic anthropologist allowing for indisputable personal identification even in the absence of morphological evidence. Personal identification through DNA is not always possible since degraded genomic strands reveal only a fraction of an individual's genetic information. In order to gain insight into the fragility of genomic material, DNA integrity was tested at various burial depth environments, because clandestine graves are often associated with cases of homicide. Fleshed bovine rib samples were buried at two depths (2ft and 3.5 ft) compared to one sample left on the ground surface for control. Degradation of DNA was ultimately identified by exploring four variables: soil acidity, temperature fluctuation, insect disturbance, and water exposure. We expected that remains buried in the most shallow grave would show the most degradation in DNA genomic strands because of more general exposure to fluctuations in temperature, animal scavenging, and precipitation. Through the use of electrophoresis and microscopic images, our results were unexpected, demonstrating that the deeper the burial environment, the more degraded the DNA. Additional testing of the soil acidity revealed a strong correlation between acidity and DNA degradation. Clearly soil acidity had the greatest impact on DNA preservation. This outcome is significant for forensic anthropology and concerning the stability of DNA, used as a marker of personal identification for unknown human remains.

A Comparison of Three Approaches to Remove Soft Tissue from Putrefied Remains.

Maddy Chater, Daniella Baldini, Morgana Zayas

Forensic anthropologists must be careful when selecting maceration methods, as the practice is often dictated by cost, speed, and esthetics opposed to scientific research. Forensic anthropologists must be wary of methods that utilize harsh chemicals or high temperatures. Due to the fact that not all methods of maceration produce the same quality or standard of the final product, it is up to forensic anthropologists to determine the best maceration method for use in a medico-legal context. The purpose of this project was to compare three maceration methods in order to determine the process that allows for the most complete removal of putrefied flesh. By utilizing the University's anthropology processing lab, we created a controlled environment to observe the scavenging process of dermestid beetles on dehydrated pig flesh, the effect of diluted hydrogen peroxide on a de-fleshed halved pig head, and a complete scalpel dissection of another halved pig head. Using time as a variable, we set out to find which approach would best suit a forensic investigation. Over the span of 9 weeks, we were able to determine that maceration by dermestid beetle scavenging allowed for the most complete removal of flesh with the least amount of damage inflicted to the bone itself. Maceration by hydrogen peroxide allowed for the second most complete removal of flesh, but left the bone brittle and smooth, something that would hinder forensic investigation. Lastly, maceration by scalpel dissection proved to be the least effective method, as we were unable to fully expose any bone, as that would have resulted in direct scalpel damage to the bone itself.

Practicing Repatriation, Projecting Reciprocity: Questions on Expectations of Collaboration and Repatriation in Museum Anthropology.

Bradley A. Clements

Exemplary work on museum repatriation and collaboration has increasingly occurred in recent decades. As emergent expectations of museum practice claim an important place in the discipline, this presentation questions assumptions that connect repatriation and reciprocity, which appear to have arisen in the process. Recent contributions by scholars such as Cara Krmpotich and Laura Peers (2013), Bryony Onciul (2015), and David Garneau (2016) have opened space to inquire into potential disconnect between source community and museum experiences of collaboration. Here, I probe the possibility that assumptions of repatriation as an act of reciprocity, rather than as an act of restitutive reclamation and justice, may play a part in creating these disconnects. The intention in this presentation is not to present case-specific critiques but to assess the value of this line of questioning of possible disciplinary assumptions. It is hoped that, in doing so, museum practitioners may continue to enhance their ability to accommodate, and be accommodated in, diverse relational possibilities.

Burials in the Emanu-el Jewish Cemetery in Victoria, B.C., and the Use of Concrete Fills.

Maya Cowan, Vanessa Tallarico

The goal of our research was to analyze the correlation between decomposition, and damage to memorial structures around the Emanu-el Jewish Cemetery in Victoria B.C. We hypothesized that some concrete fill damage was due to casket decay after the fill was placed, causing it to sink or crack. We used damaged double plots with a single fill as evidence, because the side of the older burial had time to settle before the fill was poured over both plots. We found that damage was almost always on the side of the most recent burial, where the ground had not settled beforehand. Jewish custom dictates that memorial be placed one year after burial, and that all materials used in burial be completely biodegradable. In some Jewish traditions, bodies are shrouded for burial, rather than placed in the pine caskets used by many communities. Since a human body decomposes much faster than a casket, concrete fills could be used for a shrouded burial with less possibility of damage. Prior to our research, we were informed that Victoria's Jewish community has expressed interest in accessing more traditional burial customs. We offer our results to the community to consider in their future practice.

Blunt Force Trauma of the Skeleton: Fractures at 50km/h.

Don Crawford, Emily Stach, Angela Martens

Blunt force trauma (BFT) is defined as trauma inflicted by a wide focus and a slow loading force. BFT, when caused by a motor vehicle crash is unique because the applied force in these cases is actually fast loading. Motor vehicles are an increasingly common cause of BFT and rates of incidence are increasing. As a result, it is imperative for forensic anthropologists to identify and interpret blunt force skeletal trauma associated with motor vehicle collisions. This experiment analyzed bone fracture patterns resulting from the impact of a motor vehicle travelling at 50km/hour in three specimens; a *Bos taurus* (cow) femur; and *Sus scrofa* (pig) leg and complete cranium. Results revealed common

skeletal fracture patterns across two of three specimens. The cow femur and pig cranium sustained comminuted fractures over a wide area consistent with trauma caused by a high energy, fast loading force. Results of fracturing of the pig leg was unexpected, displaying only two complete fractures of the distal humerus. While common BFT fracture patterns from motor vehicle collisions were observed in this experiment, future research using high-speed cameras to record the vehicle making contact with specimens in slow motion are strongly recommended. This would provide much greater information on the points of contact between vehicle and specimen, and the forces applied to the specimen from contact with the vehicle. Also, driving over a specimen is different from colliding with a specimen. To test BFT fractures of a motor vehicle collision, an apparatus to suspend the specimens may produce more realistic results.

Archaeological Ink: Recreating Viking Tattoos Using Pig Skin and Charcoal.

Alexa Dagan, Melanie Heizer, Taylor Peacock

The image of tattooed Viking warriors has become a popular one in modern day depictions of Vikings, appearing in pop culture, artistic renderings and in the styles of metal musicians. However, aside from Ibn Fadlan's *Risala*, which describes Rus men as being heavily decorated with dark green designs, there is very little in either the historical or the archaeological record to support this image. For this project we adopted an experimental archaeology approach and sought to explore traditional tattoo practices and to answer a few questions relating to the popular image of tattooed Vikings. What evidence do we have that Vikings had tattoos? In comparing three traditional styles of tattoo, which seems the most likely to match Ibn Fadlan's account? Why do we feel the need to put tattoos on modern day depictions of Vikings? To answer these questions we researched tattooing in cultures that overlapped with Viking expansion and then recreated the three most common tattoo methods using a charcoal based ink recipe and pig skin from a local butcher. These methods were the Inuit sewing technique, stick and poke, and an incision technique. When considering Ibn Fadlan's description, we concluded that incision was the method that most likely could have been used. However, evidence supporting tattooed Vikings is still inconclusive, and the popular image of Vikings as tattooed, pagan, masculine warriors is one that is problematic for our modern understanding of Viking culture.

Who's to Blame? Recognizing Dismemberment Patterns from Canid Scavenging on Bone.

Emma Eslake, Alexandra Bell, Jordan O'Mara

Bodies are dismembered in an effort to hide signifiers of personal identification. Patterns of dismemberment can provide information and evidence about the perpetrator, as it requires them to spend significantly more time with the body. Bodies are usually dismembered at joints (where two bones meet) using sharp instruments. This helps to disarticulate limbs that aids in body disposal. Patterns of canid scavenging can be confused for dismemberment markings because of the way carnivores cone the epiphyses of long bones for marrow. The purpose of our study is to compare bone markings made by a household kitchen knife with those from dog scavenging. Three fleshed limb joints were each cut with a serrated kitchen knife and two fleshed limb joints were given to two domesticated dogs belonging to a group member. Upon comparison, we noticed significant differences between the two samples. Canid scavenging produced much more damage overall, a result of marrow coning that left haphazard linear markings all along the bone surface, while the kerf

impressions from the serrated knife were more uniform in distribution and consistent with incisive wounds. Canid scavenging also created small furrows, and much of the bone was consumed. This project is significant to understanding variation between canid scavenging effects on bone and the incisions created by serrated tools.

Grave Monument RTI Photography: Uncovering Inscriptions.

Melanie Heizer

By performing Reflectance Transformation Imaging (RTI) photography on grave monuments, we are able to rediscover inscriptions and motifs that have been lost through environmental damage and degradation. With this project, I have selected monuments from two cemeteries in Victoria (Emanuel Jewish cemetery and the Ross Bay cemetery) and used RTI to try to uncover what we can no longer see on the monuments. I will compare the results with historical records of these sites. I will also look at the materials used and the environments surrounding them in order to identify how the damage is being caused and look at similarities and differences between the sites.

Tracing the Visibility of Repatriation in Anthropological Literature.

Suzanne Kroeger

Over the last three decades the topic of repatriation has become widely, and at times intensely, debated. Anthropologists, members of Indigenous communities, museums and governments have varying opinions and agendas regarding this issue. The repatriation of Indigenous artifacts and remains has become an important topic of consideration and debate in academic, non-academic, and institutional settings, and as such, this subject often appears within academic literature. As the discourse surrounding repatriation becomes more mainstream, Indigenous communities worldwide are asserting their rights regarding the return of ancestral human remains from various institutions, such as museums and universities. As repatriation emerges as a best practice for the building and maintaining of relationships between colonial institutions and Indigenous communities, I want to look at how repatriation has been framed in anthropologic literature. What are the common trends and rational within the repatriation debate? How are these articles viewed in relation to religious freedom, scientific inquiry, community cohesion and colonial policy? Ultimately, I seek to trace the roots of repatriation by way of literature and discourse analysis with the goal of understanding the trajectory of repatriation as it emerges in anthropological literature, and tracing how and where it evolved. This research will help discover how past conceptions of repatriation have changed and where repatriation is headed in the future.

Sharp Force Traumatic Injury Patterns: A Comparison of Class Characteristics from Four Weapons on Domestic Cow and Pig Bones.

Torah Lee, Lydia Toorenburgh, Hannah Van Adrichem

Key information about cause and manner of death can be discovered through the examination of injuries that exist on bone. To improve the ability of forensic anthropologists to distinguish between a variety of bone traumas, it is important to study distinct classifications of injury produced with sharp

force weapons: punctures, incisions, chopping, and sawing. This comparative study of sharp force trauma analyzed traumatic injury from four household items: a chef's knife, a Phillips head screwdriver, a hand axe, and a hand powered saw. Trauma was inflicted on both cow and pig bones, then compared to identify class characteristics of bone that is commonly associated with such tools. We found that in each case, class characteristics associated with incised, punctured, chopped, and sawed wounds could be easily identified, as well as other markings such as hinge and radiating fractures, chattering, and cone-shaped punctures. This demonstrates the significance of recognizing sharp force traumatic injury patterns that assist forensic anthropologists in identifying and individualizing causative tools, and to assist forensic pathologists in determining cause and manner of death.

Skeletonizing Fish with Inexpensive Dishwater Detergent: Testing Experimental Methods for Defleshing and preparing specimens for the Uvic Zooarchaeology collection.

Paige Lewis

This poster describes experimental methods for preparing fish skeletons for osteological collections using varying amounts of trypsin and other is used as an active protease to disintegrate any tissue attached to the specimen. However, though effective, trypsin is available at a high cost both economically and ecologically. In this poster, we describe alternative methods for preparing fish skeletons using multiple specimens of Pacific Herring (*Clupea pallasii*) subjected to different concentrations of common dishwasher detergent. This alternative allows for a more cost effective alternative to Trypsin, which retails around \$340 per 500ml container. The two types of dish detergent used are Seventh Generation and Western Family. Our approach differs from those conventionally used, a lighter mass of a more concentrated and more expensive solute, to prepare fish skeletons because dish detergents are used as a light protease. Here, we used Pacific herring (n=15) of different sizes and placed them into varying concentrations of dishwasher detergent and recorded the temperature. To assess the success of these different treatments following emersion for several days, we measured levels of greasiness, flexibility/brittleness, colour, and odor. We found that dishwasher detergent can be used as an alternative to Trypsin, it produced a similar bone quality and a fraction of the cost. It was found that Western Family dishwasher detergent was the most effective. Although you cannot relearn everything from studying one specific specimen or using simply one type of preparation, fully de-fleshed skeletons prepared using dish detergent are useful for research ranging from morphological investigations to age and historical ecological analysis, making them of great and lasting value to any collection.

Viking Burials.

Morgan Lochhead, Katie Dierks

Viking Burials vary across time and place, each providing further understanding of the culture and religion of the Vikings throughout time. This medium provides just a closing scene of an otherwise long play of a Viking life and the society each person was raised in. The project we completed focuses on Viking mortuary practices through four different mediums. First burial types and their relation to religion, weapons and warrior status, animals and their associated items, and jewellery of both secular and religious fashions. Through the study of these four aspects of burials we explored the importance

of each within Viking society, and the important roles they had on the day to day life of the various Viking peoples. The changing religion affects the burial type and orientation, the warrior culture provides understanding of the values of the people and who could be included in this identity, animals help us understand the relationship with the people and the environment around them and the symbolism they held, and finally jewellery provides an understanding of important symbols people had in their everyday lives. The better understanding of Viking burials and some elements within them provides a further understanding of the Vikings themselves, and helps an academic audience get a better grasp on the important aspects of Viking life and culture.

Discovering Bytown's Barrack Hill Cemetery: Archaeology in the Heart of Downtown Ottawa

Marla MacKinnon

Around the year 1828, a Christian cemetery was opened in the centre of Bytown, located near the junction of the Ottawa River and the Rideau Canal. Positioned at the base of Barrack Hill (now Ottawa's Parliament Hill), the cemetery remained in use for approximately 20 years. Once the cemetery was closed, the human remains interred were moved to a new, nearby cemetery to allow for urban development in the area. Looking forward to present day Ottawa, construction works are currently underway to build a light-rail transit system through the centre of the city (scheduled for completion in 2018). During the process of water main replacements in 2013, human remains were unearthed on Queen Street in the middle of downtown. A forensics investigation, followed by an archaeological investigation, has led to the discovery of several in situ and disturbed human remains, remnants of the Barrack Hill cemetery that were left behind. Archaeological works have been progressing since 2013 in the area, and continue to unearth interesting pieces of Ottawa's history. Several unexpected discoveries have highlighted problems that can arise in urban archaeology and continue to show the importance of diligent archaeological practices in cultural resource management.

Fiery Forensics: The Impact of Accelerants on Burning Characteristics of Bone.

Holly Marsh, Kai Michaluk, Grace Wicken

One of the main tasks of forensic anthropologists is to identify and classify trauma to bone. A variety of events can lead to the burning of human remains, including vehicle accidents, explosions, and earthquakes, and perpetrators of homicide commonly intentionally burn their victims in order to destroy evidence and or markers of personal identification. Forensic anthropologists must then be able to differentiate between thermal modification and other types of traumas/pathologies. There are three main process signatures that commonly occur to burned bone: colour change, fractures and characteristic body positioning. Gasoline is an inexpensive and easily accessible fire accelerant that is often used in criminal burning events. It is therefore important to understand how gasoline could affect the way that bone changes when exposed to thermal modification. Our experiment examined the presence and timing of three process signatures to bone in two separate burning events, one using an accelerant and one without an accelerant. Partially defleshed *Sus scrofa domesticus* (pig) limbs and vertebral columns were used. No characteristic body positioning was found on any of the specimens, due to their lack of flesh. The timing of the two processes was different between the two fires. The accelerant fire significantly accelerated the timing of colour change and bone fracturing. However,

both sets of specimens displayed similar types of fracturing and colour change. The results indicate that the use of gasoline as an accelerant in a criminal burning event cannot be determined through a visual analysis of recovered human remains when found post-burning.

The Distribution and Prevalence of Albinism in Tanzania.

Kirsten Mathison

The 2012 Tanzanian National Census, conducted by the National Bureau of Statistics, collected detailed information about individuals with albinism in the country. The census represents the most comprehensive national dataset about albinism to date and provides a wealth of information about the distribution and demographics of people with albinism (PWA) in Tanzania. Large scale surveys provide the means to investigate the patterns of distribution of albinism to begin to understand complicated population dynamics processes. They can also help inform programs and policies to more effectively support people with albinism. The Tanzanian census revealed a number of surprising patterns of variation in the reported population with albinism in the country. There is significant spatial variation in the district-level prevalence of albinism in Tanzania. Additionally, a gender disparity is present in the data, and the prevalence of females (1 in 3032) is significantly lower than the prevalence of males (1 in 2341). The prevalence also varies by age, and the proportion of people with albinism over 80 (1 in 863) is over four times greater than the proportion among the 0-4 age group (1 in 3670). Evaluating the spatial distribution of albinism and its connection to these demographic anomalies and other variables found that the Tanzanian population aged 0-19 and the percentage living in rural areas both exhibit a negative correlation and account for up to 35% of the spatial variability present in the albinism data, while the prevalence of the female population does not represent a statistically significant correlation.

Visual Portrayals of Migration In UK Media: Representing the Migrant Other.

John McIver

In the lead up to the Brexit vote in the UK, visual representations of migration were popularized and circulated. In this, different media sources reflected the same visual representations of migration in overtly different ways, due to social and political forces. The consequences of this social influence can be seen in the creation of narratives, where the meanings of visual representations, such as photographs, are changed depending on the context they appear in. Then, this paper explores how photographs are used to influence political narratives and discourses in the UK, and how media's utilization of the images is a reflection of the migrant as the 'other'. Specifically, it looks at the ways in which two migrant related, and news-worthy, events were portrayed in the right leaning Telegraph newspaper, and in the left leaning Guardian newspaper. The first event that is examined is the death of Alexandra Mezher, a woman working at a Swedish refugee centre, who was stabbed by a refugee residing at the centre on 15 January 2016. The second event, from 16 April 2016, is when Pope Francis brought 12 Muslim Syrian refugees back to the Vatican City with him, after their homes had been destroyed in the Syrian Civil War. Through these case studies, I aim to provide insight into how visual representations can be used for the creation of narratives that are inclusive of political bias.

Heritage Bytes: Experimenting with Digital Exhibitions.

Sierra McKinney

The development of digital technologies has greatly impacted how archaeological work is done, artifacts are preserved, and data is analyzed. It has also changed how archaeological and heritage knowledge is shared. Digital platforms have provided new opportunities to engage the public in increasingly interactive ways. Archaeologists and institutions use social media to share new discoveries, while archaeological blogs provide interesting information in an approachable manner and museums digitize artifacts and digitally curate collections. While digital exhibitions have been created and curated for over two decades', recent developments have resulted in increasingly interactive experiences. Platforms such as Google Arts and Culture provide digital walkthroughs that allow visitors to explore a physical exhibition space. The Canadian Museum of History's digital exhibitions incorporate games, videos and sounds to create an immersive experience through which a visitor can select their own path. These case studies provided the inspiration for the development of a digital exhibition focused on a local heritage site, Craigdarroch Castle. Through an examination of the aforementioned examples and the creation of an experimental digital exhibition, the benefits, challenges and potential of online museums will be examined. How is information best communicated? How can museums engage online visitors? What role do digital exhibitions play in sharing information? The development of digital exhibitions has resulted in many questions that are both necessary and exciting to explore.

Investigating Handaxe Function at SM-1: Preliminary Results of an Experimental Use-wear Analysis.

John Murray

Although handaxes are one of the longest lasting and most iconic stone tools in the Paleolithic, little experimental work has been done to inform archaeologists about their function. The research presented here explores handaxe function using an image-based GIS approach combined with low-powered microscopy. 32 handaxes were created with chert collected from outcrops in the region surrounding Shishan Marsh-1. For the purpose of this study, the researcher focused on experiments involving subsistence activities such as butchery, plant and shellfish processing, and digging. Prior to use, the edges of the experimental handaxes were microscopically examined with a Wild M420 Makroskop for knapping traces that may be confused for use-wear and photographed at 72x . Afterwards, the experimental and prehistoric datasets were analyzed for use-wear (microflaking, crushing, rounding, and macrofractures) under magnifications between 25-75x and mapped on a shapefile using ArcGIS. This allows for the distribution of wear to be calculated and compared to help us understand how these tools were being used in the past. Preliminary results show a higher frequency of edge damage is present towards the tip of the handaxes. This research has implications regarding handaxe function, hominin subsistence in a desert refugia, and provides future directions in experimental protocol.

Estimating Ancient Urchin Size on the West Coast of Vancouver Island.

Arianna Nagle

Archaeological remains of sea urchins along the Northwest Coast have not been a subject of concerted

archaeological research but has the potential to provide new insights into Indigenous marine subsistence practices, and the complexities of pre-contact First Nations' ecological roles within the marine ecosystems they inhabited. The focus of this report is to investigate the importance of red sea urchin (*Strongylocentrotus franciscanus*) size in the archaeological record at the sites of DfSh- 7 (Huu7ii) and 93T (Hup'kisakuu7a) in the area that is now called Barkley Sound. I discuss the potential for preserved urchin hemipyramids (an element in urchin jaws) to predict ancient urchin body sizes. To this end, I measured a series of urchin hemipyramids and test sizes to improve on an existing regression based method for estimating archaeological specimens in Barkley Sound.

Archaeology and Archives: Locating Missing Graves in a Jewish Cemetery in Victoria, BC.

Taylor Peacock

The Congregation Emanu-El cemetery in Victoria, BC is the oldest Jewish cemetery in the Pacific Northwest, consecrated in 1859 after the arrival and growth of a Jewish community in Victoria, following the Gold Rush. After a fire in 1890 destroyed the cemetery's wooden markers, a number of graves were lost. Recent efforts by the community in Victoria, Dr. Rick Kool, the Cemetery Director, and Dr. Erin McGuire have sought to recover who these missing individuals may be, and where they are located. Beginning with the unfortunate disturbance of two infants in an unmarked grave, the community compiled a list of forty individuals likely buried in the cemetery, found through obituaries and burial records. Building on this list, my research attempted to determine whether each of the forty individuals were buried in the cemetery, and if so, where they were located. Taking a historical and document archaeology approach, I sought to answer these questions by examining the records of four archives and six online catalogues. Using census data, burial records, obituaries and old maps, I first found that the infants belonged to the Sylvester Family, an early pioneer Jewish family in Victoria. I was also able to determine the identity and likely location of another five unmarked or "missing" individuals in the cemetery. In locating unmarked individuals in the cemetery, I hoped to help the community prevent further disturbances, as well as help recover lost stories and provide the community with resources for further research.

Inter/Intra Observer Error Rates for Metric and Morphological Measures to Identify Sex in Unidentified Human Remains.

Zachary Rintoul, and Wyatt Schiefelbein

Forensic anthropological research and field-work is ultimately used in the context of courtroom testimony, and therefore must meet the Daubert criteria for acceptable scientific testimony in court. The Daubert criteria state that scientific methods and theories should: be subject to scientific testing, have known or possible error rates, be standardized in practice, be subject to peer review/publication, and should be generally accepted in the scientific community. The present study addresses these criteria with regards to sex estimation of human skeletal remains by providing and interpreting inter- and intra-observer error rates of measures used in sex estimation by forensic anthropologists. Forty-five metric measures and twelve morphological measures were taken/observed on four separate occasions by two observers. Within-observer measures, and between-observer measures were then analyzed to determine intra-/inter-observer error rates. We found that a greater number of metric measures reached significance for error than was expected (16/180); overall metric methods were

deemed reliable. Morphological measures had lower inter-observer agreement rates (20% for measures of the skull, and 50% for the distal humerus) than intra-observer agreement rates (100% and 71% agreement within observer skull measures, and 60% and 60% for the distal humerus). It was concluded that metric measures were highly reliable, and therefore provide a suitable basis for scientific testimony in court. The lack of reliability in morphological measures is discussed as likely stemming from the researchers lack of prior experience, and should be interpreted with caution.

Excavating the Intertidal at Hup'kisakuu7a: a Summary and Artifact Analysis of an archaeological site in the Broken Group Islands, Barkley Sound.

Sage Schmied

The Barkley Sound region of Vancouver Island has a rich archaeological record that is important to the Nuu-chah-nulth people but contrary to elsewhere on the coast, the earliest known evidence for human occupation only dates back to approximately 5000 years ago. This is largely due to the fact that changing sea levels have inundated once exposed shorelines now underwater, meaning that the evidence of earlier human occupations are difficult to locate and excavate. Focusing on the period between 5500-7000 cal years BP when sea levels were just a few meters below modern we excavated in the intertidal at Hup'kisakuu7a to search for evidence of human occupation. We documented fire cracked rock (FCR) and possible stone artifacts which point to humans occupation of the beach which may date to this period. However, due to the lack of dateable samples and the uncertainty of the context of the artifacts it is not something that can be confidently concluded. Further work is required to be done in the intertidal at Hup'kisakuu7a, especially because the artifacts found at Hup'kisakuu7a are so promising.

A Critical Analysis of Morphological and Behavioural Adaptations for Dietary Specialization in Primates.

Michelle Smits

Primate diets and resources required for their survival are important in regards to conservation, as most primates are endangered and understanding the resources they require and how they utilize them is key in understanding how best to preserve their environments and thus prevent extinction. Primate dietary specializations allow them to be successful in a wide range of environments with greatly varying conditions and resources. These specializations allow for niche partitioning reducing competition both within and between species, as well as for utilizing fallback foods and other difficult to exploit food resources. The relationship between behavioural and morphological adaptations is complex and often one cannot be successful without the other, which is exhibited across many species. Using specific species as examples, these relationships are explored, and indicate that the success of a species is dependent upon the relationship between morphological and behavioural adaptations as well as predator avoidance and competition reduction.

Alps, Accordions, Artistry, and Academia: Dynamic Learning Environments and Negotiations of Tradition Among Emergent Swiss Folk Musicians.

Sharonne Specker

After decades of social ambiguity, German-Swiss folk music has experienced a resurgence in popularity in its home country, and a new generation of young musicians is participating in this genre in various learning contexts. The country's musical heritage operates as a springboard for new ways of thinking about Swiss musical possibilities, as musicians participate in a vibrant, locally grounded community of practice, maintaining creative and nuanced relations between 'the innovative' and 'the traditional'. Participants in this sphere must navigate a complex, vibrant, and nuanced musical and social world, in which layers of authenticity, knowledge, experience, and learning interacted continuously to make up the 'Swiss folk music scene' at any given moment in time. Interviews revealed three key themes in the participation and learning processes of up-and-coming musicians: 1) the significance of the recently-established folk music postsecondary program as a site of learning and participation; 2) the importance of creativity among this demographic, and the way in which learning environments and spaces of experience shape this creative potential, and 3) the centrality of Swiss folk music festivals to the continuance of this music and community. Exploring the interplay of these various aspects, and incorporating perspectives on situated learning and legitimate peripheral participation (Lave and Wenger 1991), this presentation will attend to the reclamation and renegotiation of heritage among an emergent generation of Swiss folk musicians.

Redefining Kinship: Governmental Definition of Migrant Families Bodies in Detention.

Anna Lorraine Thompson

Defining the Migrant Family in the State of Exception. Apprehended undocumented migrants including children and family units can, under U.S. law, be held in detention centers rather than be deported. The detention of family groups traveling with children has been a challenge for the Department of Homeland Security in how the treatment of such families apprehended at the border should be handled. It is this detention of children and their families that my research will focus on. I will specifically examine the legal justifications of family and child detention which occurs in the name of 'national security.' To that end I will address the following questions: How is kinship redefined by the United States government under the state of exception of detention centers for undocumented immigrants? How does the court balance human rights and national security in the state of exception? How is the definition of "child" and "minor" being redefined by the state when these individuals are non-citizens? This research will look at the language used in a selection of court cases around the detention of families and children by the United States government. My focus will be to identify how the state's construction of "family" and other terms surrounding the rights of a child may differ from the rights of a citizen child and their family. The goal of this research is thus to identify said language that acts as a dichotomy of rights between that of citizen families and those of detained undocumented migrant families. I am expecting to find that under the state of exception of detention centers the rights of families and children are defined in terms that justify their detention as part of a greater United States security program of managing threats to national security from "undocumented aliens."