

# Collegiate Anthropologist

State University of New York College at Potsdam



**INSIDE:**  
Cordage production and Easter Island  
Analyzing Bayside Cemetery  
On Marxist theory

A faculty profile, photo essay,  
and more...

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COVER PHOTO: *SUNY Potsdam student Brookelin McKay cracks open a bone using a stone tool to retrieve marrow at the prehistoric cooking station featured at the 2016 REARC Conference at Colonial Williamsburg (photograph by Lauryn Czyzewski).*



## A Note from the Editor

The *Collegiate Anthropologist* has had another great year working to bring you the fascinating research and experiences of the SUNY Potsdam Anthropology Department's students. The contents of this journal exemplify the variety of opportunities that our students have in the field of anthropology. The *Collegiate Anthropologist* allows students who are doing original research in the field to publish their work in an academic journal, an accomplishment not many undergraduates can achieve. This alone sets our students apart from others when applying for jobs and graduate schools. And this year our students have done truly amazing work!

In this issue, you will read about the effects of cordage manufacture on the collapse of the environment on Easter Island, learn about the use of gravemarkers about symbols of status in Potsdam, and explore the Marxist anthropological perspective. You will also learn about two archaeological field schools attended by SUNY Potsdam students and read an interview with our newest faculty member. This issue is filled with much more as well! Our students were very busy within the last year and this publication demonstrates that.

It has truly been a pleasure to serve as the editor-in-chief for this publication. I would like to thank the editorial staff for their tireless work to make the pieces you will read the best they possibly could be. I would also like to thank the authors for being dedicated students, driven to pursue passionate academic inquiry. Thank you to Dr. Lydia Rodriguez for her time, dedication, and effort aiding the editorial staff and making this publication the best it could be. And lastly, a huge thank you to Dr. Hadley Kruczek-Aaron for pushing myself and the editorial staff to be better editors and writers and for being an incredibly dedicated faculty advisor. This year's publication would not have been possible without the hard work of all of these individuals. I hope you enjoy!

Sincerely,

*Lissa*

Lissa Herzing  
Editor-in-Chief

## The Ancient Adirondacks: A Field School Experience

CASSIDY JOHNSON

During the summer of 2016, 12 students from SUNY Potsdam packed their gear and set out traveling for a four-week long field school, an experience like no other, set in the beautiful Adirondacks. This field school, lead by Dr. Timothy Messner, was an exploration into the prehistory of the Adirondacks that he has been looking into in recent years, in order to gain a better understanding of an area that has been neglected over time by archaeologists.

Upon arrival, the students met at an ice cream shop outdoors in the frigid temperatures of Tupper Lake—despite it being summertime. The students were then split up into two houses: one further out of town in a log cabin, and one that was in the more populated area of town.

Once everyone got settled in their assigned house, we were given our “goodie bags”: an amalgamation of essential tools for field archaeologists, all put together in a tool bag. These tool bags contained a trowel, clippers, heavy-duty gloves, a plumb-bob, a dust pan, and measuring tape. Each of these items are important in their own way to the precise recording of an archaeological site.

Another vital object we received was a binder containing the syllabus, and, more importantly, a packet detailing information about the history and characteristics of the site, and other important factors like techniques for recognizing certain artifacts, percentage of gravel present in the matrix, angularity of gravel, soil color, and soil texture. Last, we received a notebook in order to document the daily discoveries and learning experiences gained throughout the four weeks at Smoker Point. Despite the split of students between two houses, it quickly became clear we had the potential to work together

efficiently and fluently in the field.

The first task we accomplished, with the help of some more experienced students, was learning to get across the waterway in groups of three in canoes. Our first day wasn't exactly smooth sailing, but once we arrived safely on land the new task assigned was conducting a Phase I, or doing a pedestrian survey, in order to find any artifacts on the ground visible to the naked eye. Upon discovery of any artifacts, which were mostly lithic flakes composed of chert, we marked them with a bright flag indicating their exact location, bagged the artifact, and wrote its provenience on the bag.

Throughout this field school, we had many learning experiences that helped us to gain a better understanding of the Adirondacks and archaeology as a whole. One of the foremost factors in doing archaeology is being able to identify artifacts, whether prehistoric or historic in origin. In order to assist our identification skills, Dr. Messner set up a tarp outside one of the houses, and assigned us with a simple task—go find a hammerstone. A hammerstone is a rock which is usually medium-sized and handheld, and is used to work another stone down by striking it to produce projectile points or other stone tools. Once

we gathered our stones, we met up and began doing experimental archaeology. By doing this action, known as flintknapping, we became more familiar with the appearance of debitage created in the process, mostly seen as flakes.

Each day we had to bring our tool bags over to the site, go into the woods, and grab the larger equipment from hidden locations within the trees. Spread over the area of the whole site, we opened



*Field school students had to take canoes to the Smoker Point site every day (Photograph by the author).*

up four 1x1 yard units, continually expanding and adding more as time went on. As we dug carefully through each level of soil, making sure to trowel down ten centimeters precisely, we uncovered the deep history of the Native American inhabitants of the area of Tupper Lake. Some of our greatest finds were projectile points dating to the Late/Transitional Archaic (approximately 7,000-3,000 B.C.E.), hand tools made from argillite, a chert drill, and many other artifacts. These artifacts are the primary evidence that Native Americans did in fact inhabit these lands for periods of time. While learning to pursue our passion for archaeology, we never lost our sense of humor. Throughout the site, all that could be heard were geology puns and the echoing "OOOOH!"s upon finding an artifact.

When studying a site, it is important to keep archaeological theory in mind. At the Smoker Point site, other evidence of occupation can be seen through various archaeological concepts. One example of this at the site was the use of phenomenology. Phenomenology is a concept that refers to the act of attempting to understand, through observation with one's senses, how past peoples would have experienced certain landscapes. For Smoker Point, this is exemplified through a large cliff that looks over the water, providing a view of the entire area surrounding the point. Phenomenology encompasses not only the scenery, but what one hears and smells as well, creating a feeling of how ancient peoples would have seen and experienced the very same spot. While we stood on that point, we saw bald eagles soaring across the sky and realized its potential as a very important spot that may have also played a role in ritual ceremonies for indigenous peoples.

On rainy days, the weather was too inclement for us to travel across the water to the site, so we spent this time doing things like learning to clean artifacts, reading our articles for class, or visiting museums. On one day in particular, we visited the Adirondack Museum in Blue Mountain Lake, New York. While we were there, we gained a better understanding of the history of the Adirondacks. During our time in Tupper Lake we also visited the Six Nations Museum in Onchiota, New York, which provided information about the past lives of Native Americans in the area, specifically the Haudenosaunee. We were told stories



*Excavation units surrounded by tools and paperwork needed to conduct an archaeological excavation (Photograph by the author).*

and looked at artifacts that detailed this deep history of indigenous peoples.

In the time of our field school, each student got to choose an article to read and present to the class. This way, we would gain knowledge on archaeology by both doing it in the field and reading about it. Each article had its own specific topic, like formation processes of soil, the history of the Adirondacks, or doing archaeology in highland mountainous regions. Some of the things we did for fun in spare time were playing cards and other board games, reading articles together, hanging out on weekends, and getting together for barbecues. We bonded, talked about the fieldwork at hand, and made jokes at our own expense, discussing the small bumps and hiccups we encountered learning proper archaeological technique. Each day at the site we would eat lunch on the rocks, looking out over the water at the beautiful view surrounding us. The horseflies would buzz and

*Adirondack field school essay*

*Three lithic artifacts found during the 2016 SUNY Potsdam archaeology field school at the Smoker Point site in Tupper Lake, New York (Photographs by the author).*

the dragonflies would dive-bomb onto us and our food, but the scenery and our purpose for being there stood strong over small annoyances of the like.

While four weeks at a foreign place surrounded by strangers, acquaintances, friends, and archaeological role models may seem like a long time to be away, this time goes by in the blink of an eye, and there's nothing you can do to stop it. After the first week, I remember telling myself to cherish

each day, as it would soon be over and we would be reminiscing on these days. We spent this time forming meaningful connections and friendships that will follow us into our futures as professionals in the field of archaeology. No matter the path we choose in our lives, one thing is certain, we will never forget the time we had at Smoker Point, and look back on it fondly.

## About the Author

**Cassidy Johnson** is a senior archaeological studies major with a geology minor. She attended the 2016 field school as part of the Adirondack Archaeology Heritage Project in Tupper Lake, New York. She has also been a devoted member of the Anthropology Club since freshman year. Her interests include prehistoric archaeology and archaeolinguistics. After graduation, she hopes to work in cultural resource management, and later pursue an M.A. in North American archaeology. This is her first year as an editor for the *Collegiate Anthropologist*.

## Summer at the Parsonage: Archaeology in the Mid-Hudson Valley

THERESA MORREALE

In the cellar of a parsonage dating back to the 1700s (and later known as the Maple Avenue Parsonage site), the image of a West African cosmogram was recently found etched on the frame of a fireplace. The symbol, which shows a cross inside a circle, is associated with BaKongo culture, but it also has been found at American sites linked to those of African descent. With most discovered in southern states, the Parsonage cosmogram is especially exciting because it was found in the Mid-Hudson Valley of New York. The Parsonage would soon reveal other mysteries about the lives of the Germantown residents via archaeology. In July 2016, the Bard Archaeology program carried out research on the grounds of the Parsonage. Led by Bard College Professor Christopher Lindner, eight students and volunteers, including myself, set out to further understand the lifestyle of the earliest settlers and their descendants who lived in the modern Mid-Hudson Valley.

Located in Germantown, New York, the Parsonage was the site for both our excavation and lab work. The building itself is the original structure built by the Palatine German settlers of the area in the 18th century, and it served as a home for the town ministers until the 19th century. It was then owned by an African American family until the 20th century where it switched hands several times before preservationists found it and purchased it in 1990.

Due to this, the Parsonage has proven itself to hold important information about the lifestyles of both early German settlers and African Americans. Along with a plethora of artifacts left by the German settlers, objects such as quartz crystals—among other valued objects—were found both inside and outside of the house during previous digs of the cellar and front yard. For the summer 2016 phase, our goal was to better understand how the side and backyard of the Parsonage was used over time. In these areas, there were signs of heavy use by the inhabitants as well as deliberate changes to the landscape such as surface leveling, as seen by the test units.

This fieldwork experience was extremely interesting and worthwhile for the students. Half of the students, including myself, commuted on the shuttle provided by the Bard Archaeology program. In the commute, we would discuss our ideas and impressions of our work at the Parsonage. We would update each other on what was found and what was happening in the different areas of the yard. It was surprising to see the variety of artifacts concentrated in the different units.

The typical day for our session began with this commute. Once we had all gathered at the front steps of the Parsonage around nine o'clock, we would then set up for the day. This would include reviewing yesterday's notes, setting up wet and dry screening stations, and gathering our tool bags for another day of digging in our individual units. The excavation process would continue uninterrupted with the exception of lunch near one o'clock in the afternoon. After a day of digging, we would then pack up and meet in the basement of the Parsonage. This area served as our lab and artifact storage. Here, we would spend a few hours going through the bagged artifacts to properly identify and store them before we returned to the shuttle station.

The excavation process was an independent part of our day. Each student was assigned to a unit that we were in charge of properly extracting, drying and wet screening, and conducting the lab work for the artifacts found. Due to the high concentration of fragile artifacts, such as pottery sherds and shells, Dr. Lindner instructed us to create units measuring two by two feet. Thanks to these units extracting artifacts became more manageable, and these were also easier to find within each unit. The units tended to be in clusters of two or three around the yard, allowing for some discussion with the people nearby. But mostly, it was solitary work in the field.

Group work occurred more often in the lab. Though still expected to work on our unit alone, we often conversed about what we had found and

*Hudson Valley field school essay*

*The Parsonage is located in Germantown, New York, and was home to German and African American settlers (Photograph by Daniel Case, courtesy of [www.wikipedia.com](http://www.wikipedia.com)).*

helped each other to identify artifacts. Being cooler and out of the sun, the lab was the more social part of our work. Here, we discovered the interesting trends in the artifacts found. For instance, my unit contained numerous intact oyster shells and some pottery sherds that had not yet been found elsewhere on the site, whereas the student in the unit next to mine was uncovering an abundance of animal bones. More quartz crystal and even a cluster of pins were found on the other side of the yard, which confirmed the spiritual use of the grounds by its African American inhabitants. Along with the diverse spread

of artifacts, we quickly discovered that the strata were different from one unit to the next, which is very interesting. Particularly, stratum two was found to be a different depth for each unit. These trends were often discussed, but no definite conclusions have been reached yet.

In addition to this work, Dr. Lindner was concerned about having an open door to the public and keeping our findings up to date. Often, he would ask us to update the website on the Parsonage with the artifacts we had found in our respective units. We also had people at various times coming to receive a tour of the Parsonage. We set one Saturday aside for an Open House event in which we took turns showing our findings to the visitors who arrived at the Parsonage and we allowed them to observe us while we continued our work in our units. It was refreshing to see so many people interested in the Parsonage as they asked questions not only about the history, but also about the archaeological process.

The field school seemed to end shortly after it began. As the four weeks came to a close, we tried our best to wrap up our work in our units and process the information we had learned. In Bard's field experience, we have learned to balance work in the field, in the lab, and public relations. These four weeks allowed us to better appreciate the many hats an archaeologist must wear in order to properly preserve and understand the past. The excavating of the Parsonage is by no means done. Dr. Lindner will continue to look further into its mysteries as time goes on, allowing more new students to gain experience in archaeology.

## About the Author

**Theresa Morreale** is an archaeological studies major at SUNY Potsdam and the grateful winner of the 2016 Scott Powell Memorial Field School Scholarship. This paper is the result of her summer field school experience at Bard College in 2016. After graduation, she hopes to work in CRM before going to graduate school for an M.A. in archaeology.



# Easter Island: Twisting Together the Threads of Collapse

MAUREEN FOLK

## Introduction

Measuring 63 square miles, Easter Island was once known as the navel of the world. Today, it is better recognized as the quintessential example of human destruction and environmental collapse. Easter Island is best known for the constructed heads, known as moai. These statues are far more than simply stone heads; they have bodies and detailed arms, painted eyes, and sometimes hats. The moai were constructed for a purpose. Their purpose, along with the rapid deforestation of the land, remains an enigma.

People first arrived to the island approximately AD 1200, and environmental changes began to occur soon after that (Hunt and Lipo 2011). Island culture consisted of boat houses and lithic gardens scattered across the landscape, but a cultural center was not established by the first settlers. With them, they brought critical plants to Polynesian life including taro, breadfruit, coconut, yams, bananas, sugarcane, chickens, and small Polynesian rats (Hunt and Lipo 2011). After some time, a complex hierarchical chiefdom arose under Hotu Matu'a. This chiefdom had a centralized religion that focused on ancestral worship.

As religious and political pressure mounted, the production of moai increased (Hunt and Lipo 2011). Production escalated and statues continued to increase in size. Meanwhile, resources were being collected at an abounding rate. This led to an upsurge in the loss of flora in order to move the statues and sustain hundreds of workers (Hunt and Lipo 2011). Consequently, as moai production increased, so did population and political tension. Scholars believe that the rapid population growth seen here was the ultimate cause of collapse; the island had exceeded its carrying capacity (Hunt and Lipo 2011).

Once resources became diminished, moai production halted. Statues remained in transport and unfinished at the quarry, where several remain today. Civil war ensued as the population divided

into two groups, long and short ears, each faction toppling the statues of the other tribe. The war continued until the last tree was cut (Hunt and Lipo 2011). However, the archaeology tells a narrative of islanders that were resilient and adaptive, augmenting their diets and utilizing new food production techniques. When Dutch explorers arrived in 1722 they found an island populated by approximately 3,000 people and devoid of trees (Hunt and Lipo 2011). The name "Easter Island" was adopted by Christian explorers that arrived on Easter Sunday. Locals know it as Rapa Nui. Today, the landscape remains a relic of destructive human land-use practices. However, the ruins tell the story of a once productive society.

## Research Question

The following research focused on the environmental impact of moving the moai on the island. It was originally hypothesized by a variety of scholars that these multi-ton stone statues were moved horizontally using palm rollers or sleds. Hunt and Lipo (2011) challenged this idea, arguing that the statues were moved in an upright/vertical position. This follows the narrative the natives tell, that the statues "walked" to where they are today. In either scenario, the production and movement of these megaliths would have had a severe impact on the environment. My research goal was to decipher the severity of environmental deterioration caused by the movement of moai using ropes.

## Methods

In order to understand the severity of environmental collapse experienced in Easter Island I decided to construct two different ropes. I began by looking at the vegetation on Easter Island at the time of moai construction. Through pollen diagrams I located a tree called *Thespesia populnea*, known for its bast fibers (Orliac 2000), which is an ideal characteristic for the construction of rope. In

*Easter Island*

*Questions remain about why the moai were made and what impact their production had on the people who lived on Easter Island (Photograph courtesy of [www.wikipedia.com](http://www.wikipedia.com)).*

order to better understand the harvesting process I searched for a tree I could access in northern New York possessing similar characteristics. *Tilia Americana*, or basswood, grows from as far south as North Carolina and as far west as Oklahoma (Little 1980). I contacted a farmer in Heuvelton, New York who allowed me to cut a few of his trees for my research. Under his direction, three volunteers and myself felled two basswood trees and stripped them completely of their bark. This was completed mid May as it is a growing season, and as layers of cambium and phloem grow they create a layer of springwood just beneath the surface of the bark (Roberts 2007).

In order to harvest the inner bark, which possesses the bast fibers, linear cuts were made along the tree and wooden barking spuds were used to separate the bark and phloem. This layer peeled off effortlessly, creating a smooth, uniform surface. To ensure enough material was harvested I completely stripped two trees, with an average height of 23.5 meters and 21.75 centimeter base diameter. Once

this was done, the bark removed was tied into two bundles and transported to Potsdam, NY, where it was immediately submerged in the Raquette River, weighed down with cinder blocks, and left to soak for 38 days. The time for this process may vary, although the longer it soaks the easier it becomes to work with the fibers (Whitcombe 2004). This process, known as retting, is the rotting away of the cellular tissues and pectins that hold the inner and outer bark together (Roberts 2007). Once this material breaks down, the bark can be easily separated. After the soaking period ended, the bundles were pulled from the river and the process of cleaning and separating the inner fibers began. This produced approximately 6,000 grams of fiber. The sheets of fibers were laid outside to dry in the direct sun.

Once dry, the fiber was ready to be worked. Using a truncated cone formula, I calculated the amount of material each tree provided by volume and averaged the weight of each tree before constructing the segments of rope. This was done to ensure not only that each rope was made using the same amount of material, but also to understand exactly how much material each tree contributed to the total of 6,000 grams. The first rope was constructed following a two-ply approach, which is a common practice in the Pacific Northwest. Cedar is a popular fiber source and it is abundant along the Northwest coast (Stewart 1995). This method of construction is fairly common and can be seen across several cultures. The second



*The total amount of fiber harvested and processed for rope construction (Photograph by the author).*



*ABOVE: The author went to Peru to see the Q'eswachaka Bridge, which has been rebuilt annually for the past 500 years. Its makers use the composite technique (Photograph by the author).*

*FAR LEFT: Rope completed by the author using the two ply approach (Photograph by the author).*

*LEFT: Rope completed by the author using the composite technique (Photograph by the author).*

*Easter Island*

approach is a composite technique, which consists in twisting several individual ropes into a larger cable. This is the method used to build the Q'eswachaka Bridge in Peru.

Fortunately, this is a technique I was able to see in person. The Q'eswachaka Bridge has been rebuilt annually for the past 500 years; it is the last traditional Inca Bridge (Smithsonian National Museum of the American Indian 2015). Not only is this rebuilding a display of technological knowledge, it is a social event. The bridge is constructed using a local grass called qu'oya. Grasses regenerate annually, thus this is an example of a sustainable construction technique. According to the locals, during the construction the surrounding mountains are cleared of grass. The annual rebuilding brings together the four neighboring peasant villages, consisting of approximately 1,000 people. The reconstruction takes four days; each day has different meaning and varying tasks that need to

be completed (Smithsonian National Museum of the American Indian 2015).

The bridge's reconstruction is not only an opportunity for the community to unite, but it is also a display of power. Men are in charge of constructing the large ropes; there are two males in particular that possess the knowledge of how to assemble the bridge. Women and children sit on the hillsides and spin the local grass into q'eswas, or small ropes, for the men to use later. While it is the men who ultimately build the final bridge, it would not be possible without the contributions of women. This region in the Andes is sparsely populated and this rebuilding provides an opportunity for the surrounding communities to interact with each other.

Researching and visiting the Q'eswachaka Bridge helped me to understand the social elements involved in rope production. The construction of the Q'eswachaka Bridge takes far more planning than

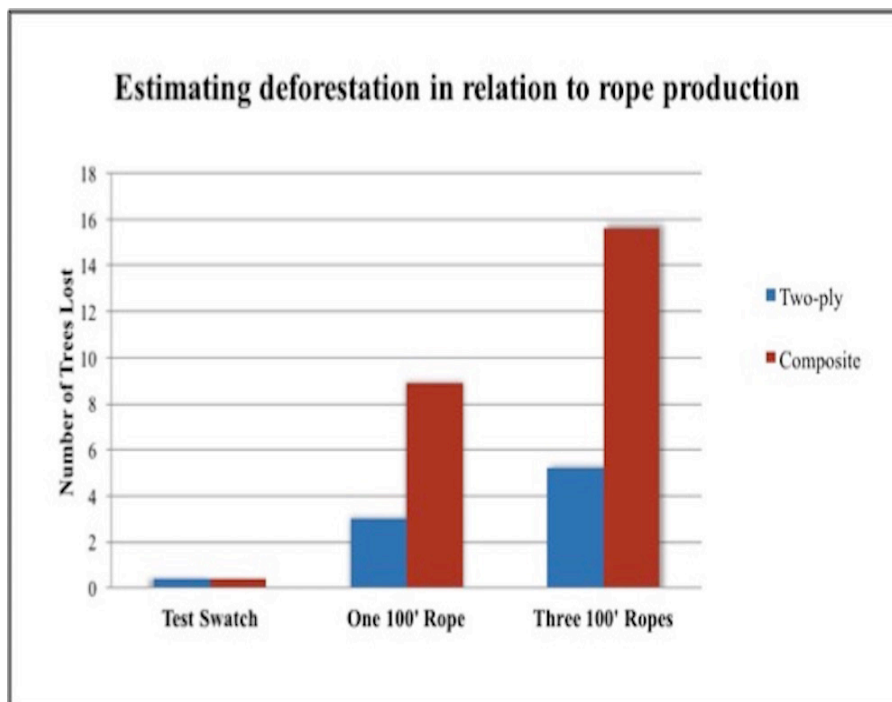
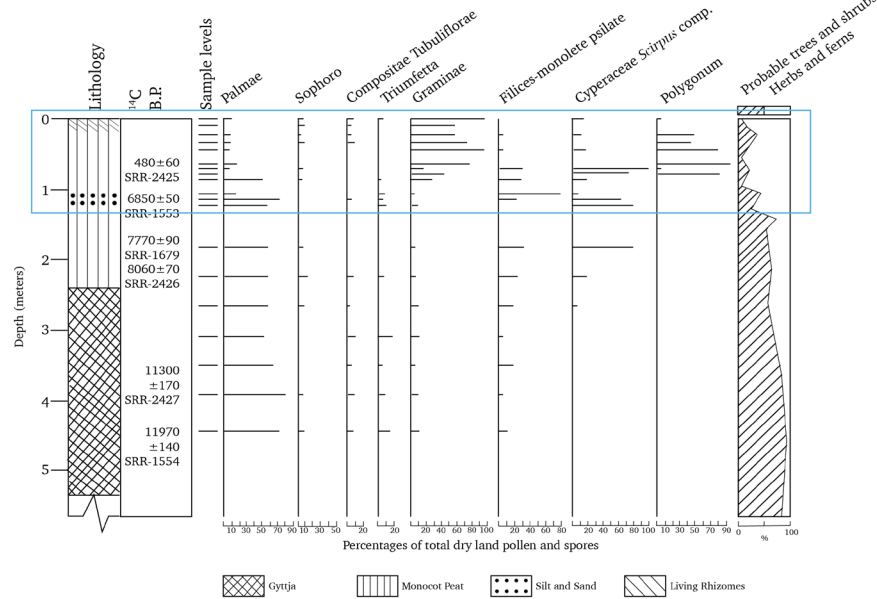


Figure 1. Estimating deforestation in relation to rope production. The results show that the composite rope would require significantly more material to construct enough cordage to move the moai on Easter Island.

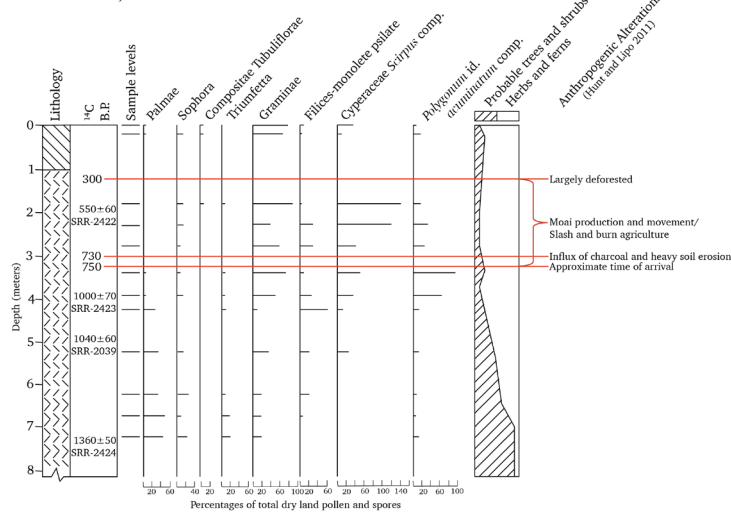
RANO RARAKU, alt. c.75m: Easter Island



Pollen diagram for core RRA 3. Values are percentages of total dry land pollen and spores. Only selected taxa shown. (Modified after Flenley et al. 1991)

Figure 2. Pollen Diagram for Easter Island. The blue box highlights the dramatic change that coincides with human arrival. The column on the far right shows the changes in levels of trees and shrubs against the changes in levels of herbs and ferns (Flenley 1993).

RANO KAU, alt. c. 110m: Easter Island



Pollen diagram for core KAU 1. Values are percentages of total dry land pollen and spores. (Modified after Flenley et al. 1991)

Figure 3. Highlighted portion of Pollen Diagram showing timeline of deforestation on Easter Island (Flenley 1993).

*Easter Island*

what is seen during the four days of the festival. Similarly, throughout the construction and movement of the moai on Rapa Nui, a variety of social structures would have formed. Observing the rebuilding of the Q'eswachaka Bridge, I gained valuable insight into how this knowledge may translate cross-culturally.

Once the rope swatches were completed, I was able to examine them on a larger scale. Method one was a simple two-ply method, twisting together large amounts of fiber. This produced a rope nearly 14 feet in length. As the fibers tapered, more material had to be spliced in; this technique can sometimes create weak spots in the rope. Using the same amount of material, the second rope was constructed using the composite method – combining ten smaller ropes into one. This produced a cable approximately 8 feet long. While the same amount of material was used for each, 1,200 grams, they differed in length. The variation in techniques led to this difference. Rope two was far thicker and thus, it was shorter as a result. In addition, to construct rope one I only needed the assistance of another person. To build rope two, I was aided by four volunteers in addition to myself. Once the two ropes were completed, I could begin to analyze the environmental implications of rope construction.

### Findings

As illustrated in figure 1, once projected on a large scale, the composite rope would require significantly more material to construct enough cordage to move the moai on Easter Island. Ultimately, this results in the loss of more trees. During Hunt and Lipo's (2011) experiment, three ropes were used to move the moai. To follow this model, I scaled the calculations to predict the number of trees needed to make multiple ropes. The number of trees needed increased dramatically for the composite method as the rope length increased. It would require roughly 9 trees or 9,200 grams of fiber

to construct three ropes approximately 30.5 meters (100 feet) using the two-ply method. For the same amount of cordage, using the composite technique, it would require approximately 15.6 trees or 15,947 grams of material. The length of 30.5 meters is an approximation. Calculations can continue to be made adjusting to an increasing or decreasing length for each rope.

*"Observing the rebuilding of the Q'eswachaka Bridge, I gained valuable insight into how this knowledge may translate cross-culturally."*

In order to understand the significance of the environmental impact of rope production, the vegetation on Easter Island needed to be evaluated. To do this, I examined pollen charts that showed the changes in vegetation through time. Figure 2 illustrates long-term changes the island experienced. Demonstrating that the flora remained relatively stable throughout the Holocene, the blue box highlights the dramatic change that coincides with human arrival. The column on the far right shows the changes in levels of trees and shrubs against the changes in levels of herbs and ferns. The dramatic increase in herbs and ferns occurs once the loss of trees and shrubs begins (Flenley 1993).

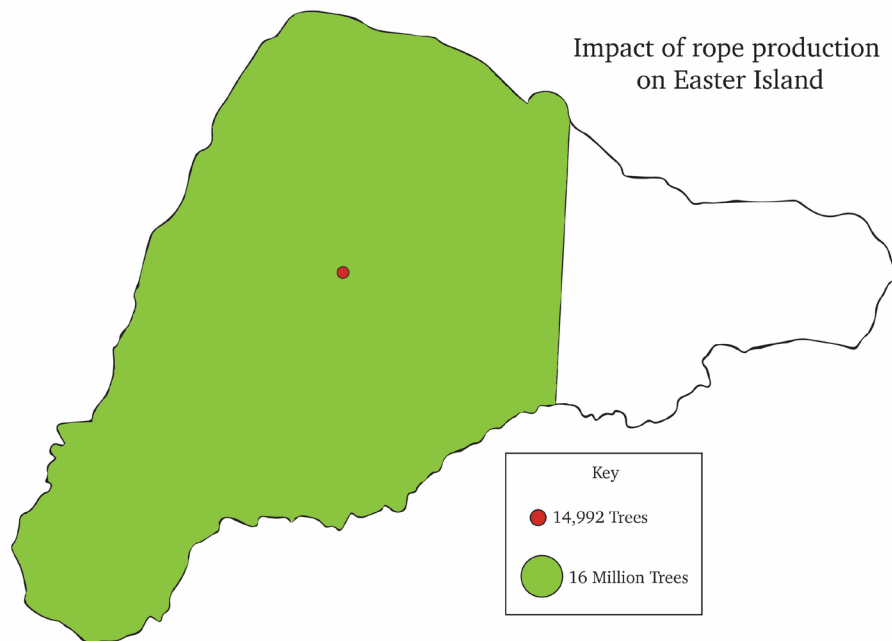
With the addition of a timeline of events, figure 3 shows how the environmental changes coincide with human activity. In order to fully understand why Easter Island was becoming so rapidly deforested, I researched other events that were happening on the island and how those events related to the pollen chart. As can be seen on figure 2, there is a dramatic decrease in *Palmae* and increase in *Graminae* (now known as *Poaceae*). This means that the canopy was being removed and grasses were growing in its place. In addition to moai construction and movement, other anthropogenic alterations were being made. This includes slash and burn agriculture and the construction of shelter and watercraft (Hunt and Lipo 2011). Slash and burn agriculture would have been incredibly important, providing nutrients for the soils, but it would have depleted the forest. Canoes

would have also played a critical role in everyday life. The surrounding ocean provided abundant sources of protein and other nutrients. Once the trees were gone, canoes were no longer built and the ocean's bounty became less accessible. Further, the island itself is geologically young. Rapa Nui was formed less than one million years ago by three seafloor volcanoes (Hunt and Lipo 2011). This means that the soils are relatively shallow and do not have the rich nutrients that older landforms do. For this reason, it is challenging to farm on the island. The Rapa Nui people used a variety of techniques to combat this, including lithic mulching, a method that covered the soil with mineral rich rocks (Hunt and Lipo 2011). The minerals seep out and provide nutrients for plants such as banana and taro. Lastly, agriculture necessitates deforestation. The large palms that once

populated the landscape have an extremely slow regeneration rate, as it takes nearly one hundred years to reach their full height and several decades to produce seed-bearing fruit. Further, the introduction of the Polynesian rat meant that the seeds dropped by these massive trees were consumed and the trees were unable to regenerate (Hunt and Lipo 2011). These facts demonstrate that the removal of vegetation was not done solely to transport the mysterious statues.

**Discussion**

For the final calculation, I had to decipher how this information translated on a larger scale. I used the calculations I had made earlier, specifically that 15.6 trees were required for method two of rope construction. Again, this number is based on the production of three ropes to move one moai. To err



*Figure 4. Impact of rope production on Easter Island. My research shows that rope production would have had a minimal impact on the palm trees of the island.*

*Easter Island*

on the side of caution, I scaled my calculations to reflect the production of three new ropes for each moai on the island, whether they were transported or not. This is because rope can become weak and break, especially when moving multi-ton statues. This was also done in an effort to see what the highest impact level could be. I chose to focus on method two (composite rope), as it resulted in the loss of more foliage. The calculation predicted that a loss of 14,992 trees would be required for the transport of 961 moai, which results in a total of 2,883 ropes that are approximately 30.5 meters (100 feet) in length. I compared this figure with the vegetation present on Easter Island at the time of collapse, and there was a startling discrepancy. Once populated by 16 million palms (Bork and Mieth 2003), the movement of the moai would have only resulted in the loss of .09% of the canopy using these methods. As shown in figure 4, 70% of the island was forested by 16 million palm trees; the loss of .09% of the canopy is merely a blip on the scale.

However, we must keep in mind that vegetation behaves in different ways. When harvesting materials, if there is an intimate understanding of ecology, people can collect a variety of plants in a sustainable way. As witnessed in Peru, grasses can be harvested annually while sedges require two to three year regeneration periods (Anderson 2005). Trees require a much longer period of time to regrow. Further research should examine the use of alternative fiber sources on Rapa Nui such as grasses. Although it is difficult to know what resources people were targeting for rope production, the use of grasses would tell an entirely different story.

By constructing the ropes myself, I was able to understand the kind of teamwork necessary to produce the ropes. Without the help of volunteers, construction would have been impossible. This brought the social elements of rope production to the forefront, leading to a deeper understanding of the relationship between the methods used to construct the Q'eswachaka Bridge in Peru and my own research. Furthermore, this research is important because it challenges a narrative that has been in place for several decades, contradicting the idea that

the production and movement of moai were the ultimate cause of environmental collapse.

**Conclusion**

To this day, no one knows exactly the purpose of the moai. In several scenarios, scholars have stated that the inhabitants of Rapa Nui put the production and movement of these statues before the well-being of their own civilization (Hunt and Lipo 2011). Although this technology relied on cutting the forest for raw materials, this research highlights the fact that complex processes, such as ecological change, rarely result from singular causes. Instead, this work illuminates the importance of examining the intersections between broader social and cultural dynamics and environment change.

**Works Cited**

- Anderson, M. Kat  
2005 *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources*. Berkeley: University of California Press.
- Bork, Hans-Rudolf, and Andreas Mieth  
2003 The Key Role of Jubaea Palm Trees in the History of Rapa Nui: a Provocative Interpretation. *Rapa Nui Journal* 17(2): 119-122.
- Flenley, John R.  
1993 The Paleoecology of Easter Island and its Ecological Disaster. *Easter Island studies: contributions to the history of Rapanui in memory of William T. Mulloy*. Oxford: The Short Run Press: 27-45.
- Hunt, Terry and Carl Lipo  
2011 *The Statues That Walked: Unraveling the Mystery of Easter Island*. New York: Free Press.
- Little, Elbert L.  
1980 *National Audubon Society Field Guide to North American Trees: Eastern Region*. New York: Chanticleer Press.



Orliac, Catherine  
2000 The Woody Vegetation of Easter Island Between  
the Early 14th and the Mid-17th Centuries AD.  
Easter Island archaeology: research on early Rapanui  
Culture. Easter Island Foundation. Los Osos: 211-220.

Roberts, Keith  
2007 Handbook of Plant Science, Volume 1. England:  
John Wiley & Sons Ltd.

Smithsonian National Museum of the American  
Indian  
2015 Weaving the Bridge at Q'eswachaka. Noonday  
Films.

Stewart, Hilary  
1995 Cedar: Tree of Life to the Northwest Coast  
Indians. Seattle: University of Washington Press.

## About the Author

**Maureen Folk** graduated from SUNY Potsdam in May 2016. She has a B.A. in archaeological studies and plans to pursue her masters and doctoral degrees. While at Potsdam, she conducted her research with the help of the Presidential Scholars program and went on to present this work at the on campus Learning and Research Fair, the Northeast Anthropological Association meetings, and the Reconstructive and Experimental Archaeology conference.

# Call Me Karl: A Reflection on Marxist Theory and Anthropology

ELIJAH C. SMITH

It is the 19th century. After the royalty and nobility had been outed by the French people, a new era was beginning. During this era, the middle class was thriving while the working class grew further agitated by inequalities. Meanwhile, the Industrial Revolution had taken hold of much of Europe, creating new classes of factory-owning elites, and the factory-working peasants they paid (or did not). In this troublesome time, there were two men who could see through the fog of false consciousness and lead the world to a better tomorrow. Karl Marx, born in Prussia in 1818, was a philosopher out of the University of Berlin with a passion for politics and economics. At the same time, another man named Friedrich Engels was spending his years in English cities as a textile agent. It was there that Engels saw the realities of industrialization and the conditions that accompany them. Together, Marx and Engels set out to find a pattern in which social structures and modes of production would evolve (Erickson and Murphy 2008). In this article, it is my intent to outline many of the tenets of the school of thought created by Marx and Engels, show a number of examples of how Marxist theory can be applied in the field of anthropology, and explain how Marxist theory will influence my future work in anthropology.

In order to discuss Marxist theory, one should start with historical materialism. Marxist theory would argue that social struggles are not created at random. There is a pattern in which societies in different regions, and in different periods throughout history, have organized the production of material goods. This theory is known as historical materialism. Historical materialism explains that all societies that do exist or have ever existed display one of five different modes of production.

The first of these is the ancient mode of production, which rose out of primitive communism, due mostly to advances in technology. For example, the Iron age saw an increase in specialized domestication and agriculture. This led to agricultural surplus, which required a different and more complex division

of labor. This new division gave rise to a class of non-producers which would then come to dominate the producers. This mode of production is supported by the involuntary labor of individuals who are seen as property by other individuals. In short, this ancient mode of production can be more easily described as slavery, which was prevalent in Greece and Rome. In these two places, we see the collapse of this mode of production due to the erosion of the state power which it depended upon, and this collapse occurs due to a state's inability to control individuals living in the vast expanses of its empire. This collapse of the ancient mode of production known as slavery gave rise to the feudal mode of production (Jones et al. 2011).

In feudalistic modes of production, nobles, known as lords, coerce and exploit an agricultural labor force (or serfs). The labor in this mode is thus performed by individuals who need to work the land to survive, but since they do not own the land in which they work they must pay a significant tithe to the lords who do own the land. Feudalism can be seen dominating the Dark Ages of Europe, and eventually dying off due to the establishment of absolute monarchies to the detriment of empires. Once state governments had removed property rights from the farmers who tended their fields, the former farmers had nothing left to sell but their labor, and thus emerged the first labor markets (Jones et al. 2011).

This ushered in the capitalist mode of production, characterized by landless laborers known as the proletariat and property-owning employers, or bourgeoisie. The proletariat sold their labor to the bourgeoisie for minimal wages. As time went on, the wealth gap caused by continued revenue for the bourgeoisie and continually low wages for the proletariat increased, and conditions arose for a drastic shift in class consciousness. Marx theorized that this mode of production would eventually lead to a new communism through a revolution of the proletariat overthrowing the bourgeoisie. In this

society, the proletariat rules as a collective of workers. The promise in this system for Marx lied in the ability of individuals to write their own story and achieve their own status. According to Marx, this is the final mode of production for society (Jones et al. 2011).

To this point, Marxism had only explored the production and the economic relations within societies. But this is not the full extent of Marxism. Instead, Marx would argue that economic relationships are social relationships because they define political, cultural, social, and legal contexts. In Marxist theory, the way a society organizes production is called its infrastructure; its non-economic activities, beliefs, and philosophies are called the superstructure. The name is significant because it represents the Marxist belief that a society's superstructure is created by its base (Jones et al. 2011). Marxism argues that these economic systems and modes of production are perpetuated by ideologies.

In Marxist theory, ideologies are belief systems which legitimize class-based systems of production by making them seem right, and by muddying the reality of their repercussions for the individuals involved. These ideologies exist to prop up and support the economic system of a society. In Marxist thought, ideologies in a capitalist society direct people's attention away from class inequality, encourage consumerism to increase demand, encourage the working class to accept their subordination, and justify class inequality. Institutions such as the entertainment industry allow individuals of lower socioeconomic standing to escape from their subordinate reality through the constant production of fantastical stories that draw their attention away from reality. The capitalist system revolves around the reproduction of demand and the acquisition of material goods. This demand is constantly perpetuated by television, radio, or newspapers. In capitalist societies, these ideologies must be accepted as true in order to sustain the system of inequality

at play. This inequality is reinforced by institutions such as education, wherein children who do better in class get better grades. However, children possess different abilities that allow them to perform better in different categories of learning. This is literally a mirror image of the explanations for wage inequality, "of course, a doctor should make more than a janitor, anyone can mop floors." It is due to these ideologies

that class consciousness is such a vital part of Marxist theory. Class consciousness allows for the proletariat to overcome the bourgeoisie when it is opposed to capitalism. However, until these oppositions come to the forefront of thought, individuals will exist within a state of false consciousness. False consciousness occurs when individuals cannot fully see, understand, or interpret the behaviors of themselves and others due to the perpetuation of inequality by ideologies and institutions (Erickson and Murphy 2008).

Historical materialism, which analyzes modes of production throughout time and space, made up the majority of early Marxist thought. While

Marx's theories were not popularized during his lifetime, his school of thought has not remained complacent. Frenchman Louis Althusser attempted to create a theory based upon 20th-century Marxism with added scientific certainty. According to Althusser, there are three levels in the structure of any society, economic, political and ideological. In Althusser's theory, these levels are broadly defined; The economic level has to do with all aspects of material production. The political level concerns all forms of social organization. The ideological level comprises the different beliefs and ideas a society holds. In Althusser's model the economic level is the most important, however, he argues that the political and ideological levels have relative autonomy. This means that they are independent in their own way,

*"False consciousness occurs when individuals cannot fully see, understand, or interpret the behaviors of themselves and others due to the perpetuation of inequality by ideologies and institutions."*

*Marxist theory*

and, although they are built upon the economic level, they still influence what happens within the other levels. Althusser is also renowned for his separation of state powers. He described state powers as consisting of a repressive state apparatus and an ideological state apparatus. The repressive state apparatus consists of organizations such as the police, the army, and laws, in short, the institutions in place to keep the people in line through fear of punishment. The ideological state apparatus is made up of educational, entertainment, religious, and cultural institutions, which subversively control and pacify the public (Jones et al. 2011).

Marxist theory was further pushed by Antonio Gramsci and his notion of hegemony. To Gramsci, hegemony is the way in which ideologies work to cloud an individual's view of the world. Hegemony further explains an individual's inability to acknowledge that other ideologies may be different. This implies that ideologies are so ingrained into our consciousness that it actually takes effort and thought to point out their existence. The main way in which Gramsci's theories differ from Marx's is how they conceptualize social change. Both theorists believe that social change hinges upon class consciousness, however, Gramsci would argue that this does not occur as a byproduct of economic developments, but instead that the hegemony must be directly challenged by the proletariat in order to defeat the bourgeoisie. Marxist theory is then further developed by the Frankfurt School with Critical Theory. Critical Theory focuses on instruments which dominate mind and emotion as the key to the success of capitalism. Critical Theorists argue that in capitalism individuals are not seen as having individual value, but instead as a means to an end (Jones et al. 2011).

Marxist theory has a long and rich history of creating conversations about class inequality. What follows is a discussion of examples of how this theoretical perspective can be applied. Anne Marie Marchetti's 2002 article "Carceral Impoverishment: Class Inequality in the French Penitentiary" is one such example. In this work, Marchetti interviewed the populations of seven French penitentiaries in order to discover the reality of class inequality within. At the outset of the article Marchetti addresses the notion that "prisoner = pauper." Marchetti explains

that this equation is a vast oversimplification and that "...it tends to obscure the responsibility of the correctional administration in the impoverishment of the populations entrusted to it" (Marchetti 2002:15). The article explains that while penitentiaries do not choose who enters their walls, or determine their fate, their prioritization of security causes the perceived interests of the social body which they are to serve to "systematically outweigh" the outside interests of inmates. It is through the undermining of prisoners' resources that penitentiaries manipulate its population into a state of perceived justified impoverishment. However, rather than improving the carceral establishment, this practice instead only results in punishment becoming less acceptable to inmates (Marchetti 2002). In addition, due to the rules and restrictions placed on inmates regarding work and outside resources, oftentimes inmates resort to hustling in order to acquire the resources that are being kept from them by the institution. The inmates then engage in illegal activity within the walls of the institution meant to be the personification of the law. In this example, Marchetti used Marxist theory to look at how penitentiary administrations disenfranchise inmates by devaluing their labor and making it harder for them to work, therein exposing the reality of their disenfranchisement.

Karen Sacks' 1978 review of Ousmane Sembene's revolutionary work *God's Bit of Woods* describes and analyzes the Marxist themes presented in Sembene's novel. *God's Bit of Woods* details the 1947 strike in French West Africa between African railway workers and French colonial capitalists. Specifically, this review seeks to better piece together feminist and Marxist theory by looking at how the men's act of going on strike caused the women of the community to join their cause. Specifically, Sacks argues that Sembene sought to "show how men and women become conscious of their oppression as collectivities within a class. The men's strike is the necessary event that makes women act in their class interest" (Sacks 1978:364). So here it is through the act of striking that the railway workers found solidarity with the women of the community, and through solidarity class consciousness came about. Sacks further goes on to discuss the ways that feminist theory and Marxist theory can play off one another

in order to bring about stronger class consciousness and to overcome the conditions of existence that capitalism forces upon both men and women.

In his 2003 article "Inequality and Conflict in Fiji: From Purgatory to Hell," Dhananjayan Sriskandarajah analyzes the differences between inter-ethnic inequality and intra-ethnic conflict among Indo-Fijians and Indigenous Fijians. In order to accomplish this, Sriskandarajah looks at inequality in four distinct areas. The first area looked at in Sriskandarajah's work is income inequality. While indigenous Fijians earned only 80 percent of the Indo-Fijian average, all is not as it seems. The second area looked at by Sriskandarajah is that of poverty. Poverty here is split into food poverty, needs poverty and relative poverty. Sriskandarajah explains that while he did observe that there were higher incidences of food poverty among Indigenous Fijians, he also observed that Indo-Fijians experienced higher rates of basic needs poverty and relative poverty. The third area looked at by Sriskandarajah is education. Again here we see that the waters of inequality are muddy. Indo-Fijians had a higher secondary and tertiary education statistic than Indigenous Fijians, however, more Indo-Fijians were reported as having no formal education. This correlated to inequality in literacy levels, 96.5% in Indigenous Fijians versus 88.7% in Indo-Fijians (Sriskandarajah 2008).

In the fourth area of inequality, employment, we also find that not everything is simply black and white. In employment there were two instances of inequality: Indo-Fijians were underrepresented in the public sector, and Indigenous Fijians were underrepresented in private sector managerial positions. While the inter-ethnic conflict of Indo-Fijian versus Indigenous Fijian is one side of this story, the intra-ethnic conflict is the one that is far more interesting. As Sriskandarajah explains, "inequality within each major ethnic group is far more important than inequality between them ...inequality within the Indo-Fijian community is

much higher than that found within the Indigenous community" (Sriskandarajah 2003:312). Upon closer analysis it is apparent that while inequality between Indo and Indigenous Fijians was present, inequality within different classes in the Indo-Fijian context was far greater. Sriskandarajah's work is an excellent example of the versatility of Marxist theory. While remaining true to looking at social and economic factors of inequality, Sriskandarajah evolves his outlook to encompass both inter-ethnic and intra-ethnic inequality.

*"Marxist theory stems from the idea that there are people in the world who experience real and visceral oppression, whether it be social or economic. "*

The final case study in this article displays Marxist theory in the subfield of archaeology. In their 2005 article "Battlefields of Class Conflict: Ludlow Then and Now," Dean Saitta, Mark Walker, and Paul Reckner conduct an archaeological excavation of the tent colony from the 1914 Ludlow tent colony massacre. In this article, Saitta and colleagues seek to understand "the tactical strategies used by Labor and Capital to gain (the) advantage in the conflict, as well as the survival strategies employed by ordinary people in harm's way" (Saitta et al. 2005:192). Specifically, Saitta looks at the control of place and space

in order to understand class consciousness among seemingly different ethnic groups. The Ludlow coal company dominated the community of coal miners for years. This happened because while the company was paying wages to miners, they could only spend said money in the shop owned and run by the Ludlow Coal company. In addition to this, the Ludlow Coal Company attempted to exert dominance by mixing the immigrant population with the local population. The company did this in order to prevent solidarity among the miners. This mixing of Southern European, Eastern European, and American identities did not create strife but instead created a new community that found solidarity in their differences. Saitta and colleagues use material culture to provide evidence for their argument.

In his analysis of material culture, Saitta

*Marxist theory*

points to two pieces of evidence to validate his claim for the solidarity at Ludlow. The first is the presence of whiskey and beer bottles, which, Saitta argues, means one of two things, the freedom from company surveillance (not likely), or attempts to resist domination and combat boredom in siege-like conditions (Saitta et al. 2005). The other evidence that Saitta gives is in the ceramic assemblage found at Ludlow. The evidence of family-style dishes at the tent colony suggests that while European immigrants were resisting Americanizing influences they were also sharing their cultural practices with the other miners. Through the analysis of the archaeological evidence left behind, Saitta and colleagues explore the dimensions of solidarity and class consciousness at the Ludlow coal field.

Saitta's (2005) article has influenced me greatly. In my future work, I hope to use a Neo-Marxist perspective to look at the ways institutions and ideologies control and create class conflict, class consciousness, and through their destruction, solidarity. In the future, I seek to apply this perspective to archaeology, similarly to Saitta. Another way in which I hope to use Neo-Marxist perspective is in the field of applied anthropology. Applied anthropology, as defined by Margaret A. Gwynne, is "the use of ideas, techniques, and data, drawn from any of the four traditional fields of anthropology, in the attempt to contribute solutions to real-world problems" (Gwynne 2003:2). One interest of mine is that of the Fédération Internationale de Football Association (FIFA). Every four years countries across the globe bid for the privilege of hosting the FIFA World Cup, a prestigious event celebrated in over two hundred countries around the world. The last FIFA World Cup took place in Rio De Janeiro, Brazil in 2014. In order to accommodate the event the city built a colossal stadium using local labor. These laborers were promised proper compensation and safe working conditions as well as an inevitable economic boom to the city as a result of the cup. Instead, what they got was hundreds injured and many lives lost. In the year 2018 the World Cup will be held in Qatar, and already 1200 people have fallen victim to the capitalist endeavor of FIFA's World Cup stadiums construction. It is my intention to look at situations

such as these where institutions such as FIFA or the International Olympic Committee (IOC) employ lower class laborers to build their altars to capitalism. My research seeks to expose the mistreatment of laborers, enhance the situations of those employed to build these stadiums, and bring to light the reality of the class conflict at play.

In their 2005 article "Probing Praxis in Archaeology: The Last Eighty Years", McGuire and colleagues explain the Marxist concept of praxis, which "springs from knowledge and critique. They [Marxist Archaeologists] generate knowledge about the past, use this knowledge to engage in a critique of our own world, and come to action based on the realization that there is real oppression in the world that must be challenged" (McGuire et al. 2005:355). Until I read this passage I had just assumed that this idea was fundamental to all anthropology. If it is a Marxist tendency to use knowledge and critique to bring about social change and justice, well then color me red and call me Karl. If it is not to use our knowledge that we as archaeologists and anthropologists have to create change, then what is its purpose?

Marxist theory stems from the idea that there are people in the world who experience real and visceral oppression, whether it be social or economic. Marxist theory allows anthropologists to look at the ideologies and institutions as sources of domination, which can only be overcome through class consciousness and solidarity. It is then our duty as anthropologists to be active agents of social change in the face of oppression, for if it is not for the benefit of humanity, then is it really anthropology?

**Works Cited**

- Erickson, Paul A., and Liam D. Murphy.  
2008 *A History of Anthropological Theory*. Ontario: University of Toronto Press.
- Gwynne, Margaret A.  
2003 *Applied Anthropology: A Career-Oriented Approach*. New York: Pearson Education Incorporated

Jones, Pip.

2011 Marx and Marxism. In *Introducing Social Theory*. Pip Jones, Liz Bradbury and Shaun Le Boutillier, eds. Pp. 34-55. Malden, MA: Polity Press.

Marchetti, Anne-Marie.

2002 Carceral Impoverishment: Class Inequality in the French Penitentiary. *Ethnography* 3 (4): 416-34.

Mcguire, Randall H., Maria O'Donovan, and Louann Wurst.

2005 Probing Praxis in Archaeology: The Last Eighty Years. *Rethinking Marxism* 17 (3): 355-372.

Sacks, Karen.

1978 Women and Class Struggle in Sebene's God's Bit of Woods. *Signs* 4(2): 363-370.

Saitta, Dean, Mark Walker, and Paul Reckner.

2005 Battlefields of Class Conflict: Ludlow Then and Now. *Journal of Conflict Archaeology* 1(1): 197-213.

Sriskandarajah, Dhananjayan.

2003 Inequality and Conflict in Fiji: From Purgatory to Hell? *Asia Pacific Viewpoint* 44 (3): 305-324.

## About the Author

**Elijah Smith** is a senior with a double major in anthropology and archaeological studies. He hopes to attend graduate school for applied archaeology. This is his first published work.

# Photo Essay: The REARC Conference at Colonial Williamsburg

KIRSTEN DYMOND WITH PHOTOGRAPHS BY CONFERENCE PARTICIPANTS

During the fall 2016 semester, a group of 15 current Anthropology Club members, alumni, Dr. Kruczek-Aaron, and Dr. Messner, travelled to Colonial Williamsburg, Virginia, for the 6th Reconstructive and Experimental Archaeology Conference (REARC). The first day started off the conference with numerous presenters showing us their work in the field of experimental archaeology with breaks throughout and ended with a presentation by the Key Note Speaker, Dr. Linda Hurcombe on experimental archaeology as a testable theory of the past experience. On the second day, some of the presenters set up different stations where students could sign up and experience a technology from another time. The demonstrations were iron smelting, prehistoric cooking, atlatl production, fiber technology, copper smelting and bronze casting, prehistoric stone tool manufacture, prehistoric tanning, Mesolithic bow in a day, and Viking age bow technology. This was an incredible opportunity for everyone who was able to attend. We learned so much during our time at Colonial Williamsburg, Virginia!

**RIGHT:**  
Students from SUNY Potsdam and George Washington College help Dr. Bill Schindler, an experimental archaeologist from George Washington College, start a fire to cook a meal (photo by Tim Messner).



**RIGHT:**  
Student Logan Kneaskern uses a small bellows to maintain air flow during the copper smelting process (photo by Mahala Nyberg).



**FAR RIGHT:**  
Student Michael Maderios working the bellows at the iron smelting station in order to maintain constant air flow through the furnace (photo by Elijah Smith).







FAR LEFT: Group photo of Potsdam students, faculty, and alumni at the pig roast following the conference's completion (photo by Bill Schindler).



LEFT: Students separating large chunks of charcoal to be used at the iron smelting station (photo by Elijah Smith).



ABOVE: Student James Vaught IV stretches hide with Theresa Emmerich at the hide tanning station (photo by Lissa Herzing).



FAR LEFT: Student Mahala Nyberg holds cordage that she made using a natural fiber source at the cordage/textiles station (photo by Lissa Herzing).



LEFT: Students create arrows at the Viking-era bow making station (photo by Timothy Messner).

# Stone Statues: Gravemarkers and Social Position in Potsdam, New York

AUSTIN RAETZ

## Introduction

American cemeteries are often regarded as places of sacred interaction. Graveyards connect the departed to those they left behind. Graveyards are also places of tremendous information as loved ones gather there to reminisce over the deceased's accomplishments, hopes, dreams and fears. The gravestones dotting the landscape hold a wealth of personal meaning for the grieving and act as a way for families to stay connected to those who have died. These spaces also contain useful information for scholars interested in mortuary sciences or cemetery studies. Gravemarker material, size, shape, and even placement convey information to historical archaeologists who desire to learn how the living remember the dead, and how that remembrance varies based on age, gender, or class. Scholars can interpret the differences in how graves are constructed in order to answer questions about the past, especially regarding the nineteenth and twentieth centuries: Is status represented in gravestones? How does this represented status differ based on gender or age? By asking questions like these, archaeologists discover how status was represented in death.

## Cemetery Studies in Context

Gravestones are vital sources of information about the past useful to both historians and archaeologists. In the *Archaeology of American Cemeteries and Gravemarkers*, Sherene Baugher and Richard F. Veit state, "[g]ravemarkers...are the ultimate historical artifact: they are part material culture and part document" (Baugher and Veit 2014:2). Gravestones provide more than basic familial and chronological information about individuals. The size, shape and material of individual gravestones, and gravemarkers as a whole, clue archaeologists into the ways past peoples represented their socioeconomic status in death. Gravemarkers are intended to survive for centuries so successive generations may remember deceased kin, which is

inadvertently beneficial for scholars who take an etic perspective on death. Due to their permanence, stone grave markers survive while other documentary records are lost to time and in this way, historical archaeologists can use cemeteries to fill in holes in the historical narrative (Baugher and Veit 2014).

Due to the materialistic and documentary nature of gravestones, cemeteries contain useful information for historical archaeologists. While cemeteries are prime areas for collecting data on the lives and deaths of individual people, they also bear crucial societal information as well. According to Baugher and Veit, the differences in size, shape and material of gravemarkers inform scholars about gender, status, ethnicity, consumerism and social change (Baugher and Veit 2014). For example, a stone made of granite in 1850 had a higher price index value than a marble stone from the same year. By comparing the two stones, an archaeologist can infer how the two individuals' lived experiences differed: the owner of the granite grave marker might have had a higher socioeconomic status than the person who was able to afford the marble one. The realities of these people's lives may have differed even more depending on their genders or ethnicities. Much of this information can be inferred from the physical characteristics of the gravestones.

Cemeteries are also places where the economy, social structure and religion of a certain community can be determined (Baugher and Veit 2014). For example, the late nineteenth century saw the rise of mausoleums as a form of conspicuous consumption displaying high status for rich Americans. An economic expansion brought on by the Industrial Revolution allowed "captains of industry" to gain wealth and power, and mausoleums became a way for upper-class citizens to show off their prestige that even today stands as a constant reminder of who had access and control of the country's resources (Baugher and Veit 2014:136). The engravings on individual stones also provide insight into the

dominant religious discourse of a time. Baugher and Veit discuss James Deetz's work contextualizing headstone symbols, concluding that changes in symbol design reflect changing religious ideologies. The death's head of 1700's headstones indicated a harsh Puritanical religious climate; cherub's heads show a move into the Evangelism of the Great Awakening of the 1740's; willows and urns emerged in the late 1700's and demonstrate a somewhat secular trend (Baugher and Veit 2014). This example also demonstrates that historical archaeologists use cemeteries to study change over time. The differences in how eighteenth, nineteenth and twentieth-century communities memorialize their dead reflect changes in their sociocultural and economic situations; cemeteries with headstones dating from various centuries are a lens through which scholars can see this change.

Scholars have used the information taken from gravestones as a means of answering a diverse spectrum of questions. Among the range of topics are questions addressing the role of ethnicity, class and gender in determining how individuals' lived experiences were reflected after death. For example, Joseph Inguanti's work on the aesthetic of Italian-American gravemarkers determined this immigrant population was keen to use large commemorative statues and photo-ceramic portraits as grave markers. This trend mirrored the Italian emphasis on prestige and success as well as the connectedness of the living to the dead (Baugher and Veit 2014). The Italian-American gravemarkers reaffirmed their religious and social imperatives, and modern archaeologists can see these values engraved in the stone. In this study, archaeologists used gravemarker information to confirm the role status traditions and religious beliefs played in Italian-

American life.

Other studies employed cemeteries to answer different sets of questions. LouAnn Wurst (1991) used gravestones to discover how the Second Great Awakening impacted material culture in America and concluded that symbols like a hand pointing upward, a laurel wreath, and a Bible signified the impact of that movement. These symbols, however, occupied a small percentage of the stones she surveyed and were predominantly associated with elite rural families. These results indicated that the rural elite were more inclined than the urban elite to highlight economic and spiritual differences between themselves and the lower classes (Baugher and Veit 2014). Thus, Wurst's cemetery investigation yielded information about the religious and social culture of the time. The above examples are but glimpses into how archaeologists use cemeteries to gain a clearer knowledge of lived experiences of past peoples, and similar work can be done at Bayside Cemetery in Potsdam, New York, a graveyard that has been active for 150 years.

*“Due to their permanence, stone grave markers survive while other documentary records are lost to time and in this way, historical archaeologists can use cemeteries to fill in holes in the historical narrative.”*

#### **Bayside Cemetery Gravestone Data and Analysis**

Bayside Cemetery was established in 1865 and performed its first interment in 1867, although roughly 720 graves from earlier cemeteries were transported to Bayside throughout its history. Today, Bayside extends for 80 acres, half of which are still forested. Its rural layout allows visitors to have an introspective and personal connection with the deceased and with nature (Bayside Cemetery Association 2016). In 2016, Dr. Hadley Kruzcek-Aaron's Historical Archaeology students collected gravestone data from select family plots. This data collection will be expanded by future classes

*Stone statuses*

and will give cemetery caretakers a more complete analysis of the contents of the site. The first class analyzed 53 gravestones dating from 1826 to 1987. Of the 53 gravestones, roughly 80 percent were dedicated to either men or women exclusively, while 9 percent were family gravestones and 11 percent of the stones marked people whose sex could not be determined (see figure 1). The men and women buried in these plots varied considerably in terms of age at death, the range being between 2-92 years of age. The average age of death for the selected plots was 59.3 years. These 53 stones, while not a large sample, provide a basis for an analysis of social status in Potsdam. The collected data is helpful in understanding how status was displayed in Potsdam's past, as well as how status was represented after a person died.

In order to compare status between the genders, it is prudent to deconstruct how status is represented in men and women respectively. Female gravemarkers give scholars valuable information on how status differences manifested in terms of age. Of the 22 female graves surveyed, 18 had readable inscriptions from which age could be determined. The 18 graves contained remains for women from ages 2 to 88, which I broke down into five age range brackets: 0-10, 11-20, 21-50, 51-70 and 71 and older. This study uses the gravestone price index in order to analyze how social positions differed for people of different ages. Sixteen stones had discernible price indices. One 1958 stone was made of slate, which has no index value, one stone was made of an unidentifiable material, and four stones had little or no readable inscription, making it impossible to determine when the stone was created or the age of the person when buried. For these reasons, six stones have been left out of this analysis. Of the 16 remaining stones, it is observed that women in the 51-70 age range, on average, had the highest price index value, with the stones for women over 71 having a slightly lower value. The very young had the lowest price index value, their stones having less than half the value of the stones for women in the 51-70 category (see figure 2). Since this analysis includes a relatively small sample size, more data collection must be conducted in order to substantiate whether the dip in price index for the elderly was a continuous trend throughout the cemetery and to determine the

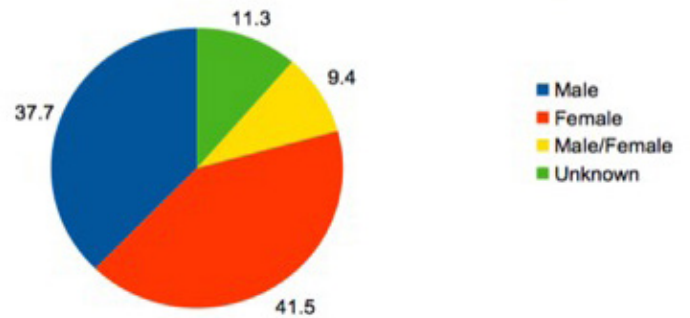


Figure 1. % of gravestones in Bayside sample, by sex.

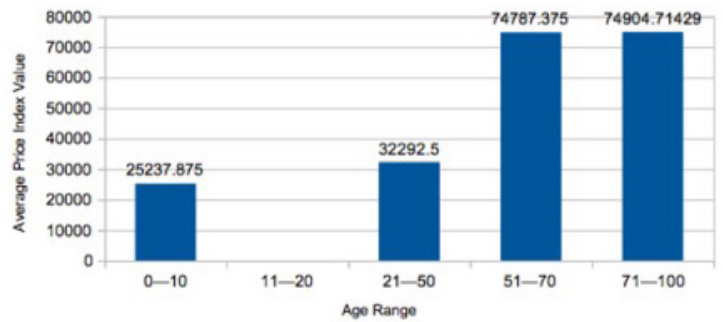


Figure 2. Average gravestone price index value for gravestones of females in Bayside sample, by age.

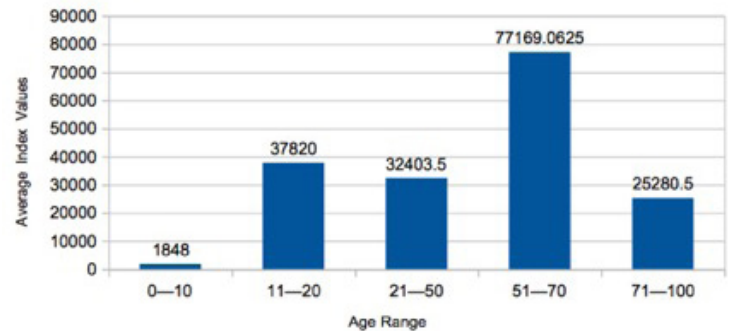


Figure 3. Average gravestone price index value for gravestones of males in Bayside sample, by age.

average price index value for women between the ages of 11-20 (the above sample included no women of this age range).

Men, on the other hand, provided more of a challenge for data analysis. Out of the 20 graves dedicated to males, only half could be used in this analysis because 7 stones lacked the necessary information to calculate age and an additional 2 stones were made of a material that had no price index value. Figure 3 shows that, similarly to female stones, the 51-70 age range had the highest average price index. Unlike the female stones, however, the 71-100 age range had an average price index three times smaller than its predecessor, which is a notable difference. The other three age ranges follow a somewhat expected pattern, with the older men having more prestigious stones. Although more data needs to be collected, one can begin to see a trend of status increasing with age.

With the general trends of age-to-status correlation in mind, one can compare price indices between men and women. Figure 4 shows a graphic comparison of the same price index values for men and women. Excluding the first and last age ranges one can see a trend favoring the men; three of the five ranges show men had greater average price indices, despite the differences for men and women between ages 21-70 not being substantial. Additionally, given the historical context for the time periods, one can argue men had more status in life as well as in death. Sociologist Daphne Spain (1993) argues that the use of space reflects patterned behavior, and that the American norm is to restrict women's access to knowledge and resources. This practice results in an undervaluing of women's spaces relative to men's spaces, creating social inequality in American society (Spain 1993). The general trend towards higher price index values for men than for women in Bayside Cemetery reflects this phenomenon.

Archaeologists using this sample can get a clearer picture of how the family was valued in Potsdam, New York when looking at family stones. While data for overall average volume (size) and price index value for male and female stones is still skewed, their values are nevertheless dwarfed in comparison to family stones. In fact, family stones had an average index value eight times higher than either male or

female stones and had an average volume seven times higher than each individual sex (see figures 5 and 6). These results are due to the presence of obelisks for three families interred at Bayside Cemetery, which confers a high priority on the family unit as a whole. Greater status seems to be given to the family name than to the individuals in that group. The middle-and-upper-class families appear to display their high status within the Potsdam community by erecting large monuments. The height and unique shape of obelisks draw visitors' eyes to them and are among the most memorable structures in cemeteries. For example, the Clark, Smith and Austin families seem to call attention to their familial bond and imply a modest amount of community importance. Most people remembered by these monoliths died after 1860. This fits into the Victorian trend of conspicuous consumption in mortuary practices as well as the middle-class practice of displaying material wealth in places of burial (Baugher and Veit 2014). The families represented by these obelisks may not have been as wealthy or important as the monuments imply, however, as only yards away more bombastic monuments were dedicated to pillars of Potsdam's community such as Julia Crane and the Clarkson family. In this way, the families who commissioned obelisks may have been seeking to heighten their perceived community position after death.

### **Reflection and Conclusion**

In many ways, the results of the Bayside Cemetery analysis were surprising. The discovery that women appear to have had bigger and more expensive gravemarkers was not the expected outcome at the beginning of this project. This finding might be explained by the presence of important women in Potsdam's history. Julia Crane and Helen Hosmer are but two examples of distinguished women who shaped the culture and community of Potsdam, New York into what it is today. The crucial contributions made by women in Potsdam's history may mean the community had a propensity to place women on an equal plane as men. A more probable explanation, however, is that this was not the case. Julia Crane and Helen Hosmer were exceptional women in special positions of power, but nevertheless were still operating in a traditionally

*Stone statues*

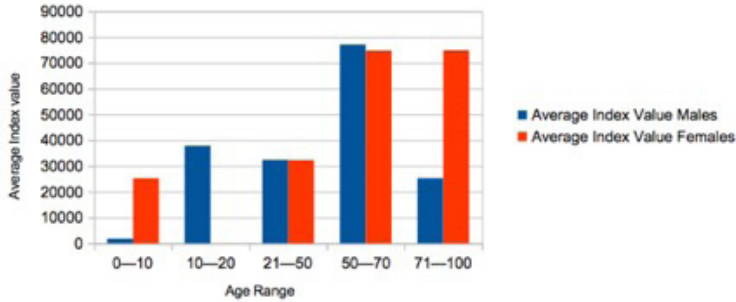


Figure 4. Index values for gravestones in Bayside sample, by sex and age

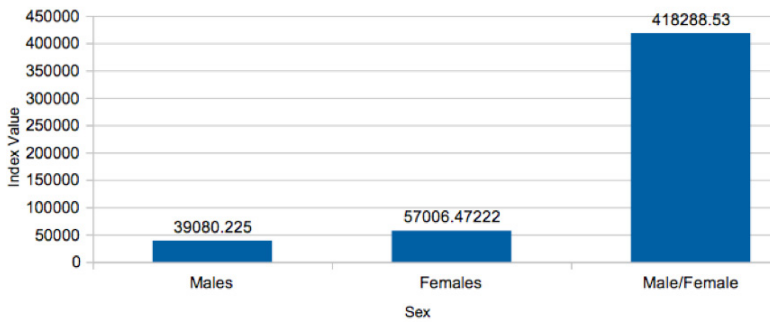


Figure 5. Index values for gravestones in Bayside sample, by sex.

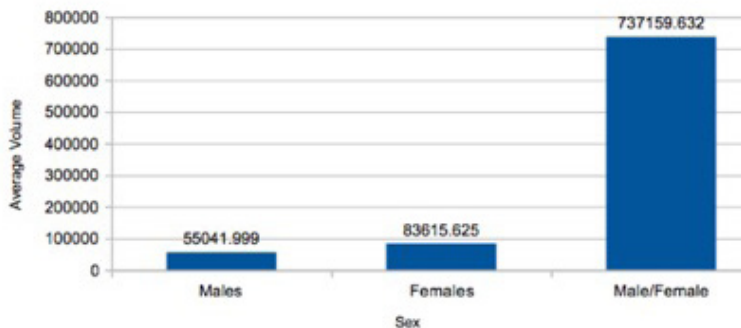


Figure 6. Volume of gravestones in Bayside sample, by sex.



Figure 7. An example of an obelisk-style gravestone that marked one family's final resting place in Bayside (Photograph by the author).



Figure 8. The Crane family stone in Bayside Cemetery (Photograph by the author).

male-dominated society. Starting in 1884, Julia Crane was employed at the Potsdam Normal School (as SUNY Potsdam was then called) and worked to establish the music performance and education programs for which Potsdam would become so famous. Helen Hosmer then expanded upon these programs and served as the Crane School's director for 36 years, before retiring in 1966. Women, therefore, played fundamental roles in the North Country's history, but they still faced a patriarchal system that continually suppressed the voices and advancement of women all over the country (AAUW-St. Lawrence County Branch 2017). The suffrage movement at the turn of the century produced reactionary efforts to reassert men's dominance and complementary attempts to undermine women's power occurred in college towns all over the country (Wilkie 2010). The collected data belies the United States' history of systematically devaluing women, so its reliability must therefore be called into question. While the data could be an anomaly, it is just as likely that the small data set obscures the reality of material culture in North Country towns like Potsdam.

The Bayside Cemetery data collection project nevertheless provides an opportunity for students to learn about the intricacies of above-ground graveyard archaeology as well as a chance to discover more about their community's past. Cemeteries are places where the historical and contemporary collide, and students are connected to the past in an intimate and profound way. Graveyards are sacred spaces, and not just because they connect the living to their dearly departed. They also provide scholars and students a chance to learn about their community's past and the

experiences of those who lived and died there. The specific types of information that can be gleaned from the gravemarkers in cemeteries give students another perspective from which to view the world, as long as they know how to interpret the stones.

### Works Cited

- AAUW-St. Lawrence County Branch.  
1989 Julia Etta Crane, Pioneer Music Educator. <http://stlawrence.aauw-nys.org/crane.htm>. Accessed March 3, 2017.
- 1989 Helen M. Hosmer, Music Educator. <http://stlawrence.aauw-nys.org/hosmer.htm>. Accessed March 3, 2017.
- Baughner, Sherene, and Richard F. Veit.  
2014. *The Archaeology of American Cemeteries and Gravemarkers*. Gainesville: University of Florida Press.
- Bayside Cemetery Association.  
2016. Home. <http://www.baysidepotsdam.org/> Accessed December 2.
- Spain, Daphne.  
1993. Gendered Spaces and Women's Status. *Sociological Theory* 11:137-151.
- Wilkie, Laurie A.  
2010. *The Lost Boys of Zeta Psi: A Historical Archaeology of Masculinity*. Berkeley: University of California Press.

## About the Author

**Austin Raetz** is a junior history major and Presidential Scholar with an archaeological studies minor. After graduation, Austin wishes to pursue a master's degree in European history.

## Advice Column

# Guidance for the Future Anthropology Student

HALEY LANKAU



*Haley met with Jane Goodall when she volunteered with the Jane Goodall Institute at NYU this spring (Photograph courtesy of Haley Lankau).*

As an anthropology major, one seeks to understand the complex and often perplexing idea of the human experience. Whether this is through the biological lens, cultural lens, or through material remains of the past, we are all experiencing this odyssey of human discovery.

Throughout these four years you will experience a metamorphic process, which will transform your thoughts and awareness of the world for the better. Though this change is unique for everyone, it is universal nevertheless. This change will be subtle to you, but those around you will notice. During my almost four years here at SUNY Potsdam, I have endured the sometimes tumultuous and arduous aspects of being a college student.

Despite these challenges, I have also learned an incredible amount. As an incoming student, you will face many ups and downs as well. It is important that through these challenges you remember your reasons for pursuing this path, and remain true to your own intentions.

Through my own experiences, I have gathered pieces of advice that would have helped me in years past. I have been given the wonderful opportunity to share these pieces of advice with you.

In the realm of academics, one of the most essential things I have been told is to say yes to everything. Whether it be an internship or a tutoring gig, just say yes. Even if the opportunity does not fit your particular interests, it's imperative that you experience as much as you possibly can while you have the chance. You will gain beneficial skills that may be valuable to you in the future. You will never regret jumping on the chance to gain more knowledge.

As a student, a point in time will come where you will question why you have chosen to major in anthropology. You may feel the anxiety ridden tension grow in your head as you contemplate whether or not you made the absolute right decision. Do not fret. Do not let that dictate your love of the field. You chose this path for a reason, and whatever is making you question this decision can be overcome. It could be a person putting doubt into your mind, or your own over thinking. Just remember, if you love something, you can make it work. It takes diligence and patience, but with dedication and commitment, you can create a plan for success.

Another vital piece of advice I can give you is to network with others and devise a plan. Have a plan A, B and C. Specialize in something to the point where you can be confident that you can sell yourself within that field in particular. This may include participating in field school, an internship or anything else that will set you apart. Do not be afraid to throw yourself out there. Apply for the job, or to that graduate school. The absolute worst outcome is a rejection, which is just another opportunity to try again, and try even harder.



The stress and confusion of college can sometimes leave you bitter. With this considered, I advise you to still always be kind. Help friends with homework if you understand and they are having trouble. Share knowledge and experience. If you can do this for someone else, it could mean the world to him or her. We are sometimes so wrapped up in our own attempts for success, that we forget how important it is to lift others up as well.

We often hear that we must have respect for one another and this is absolutely true. It is especially true when speaking about our professors. The professors in the Anthropology department at SUNY Potsdam have given us a community and support system unlike any other department on campus. I advise you to give your utmost respect to these individuals as they have given you the opportunity to learn and experience many remarkable and unique aspects of the field.

It is counterproductive to dwell in the past, for it will only weaken you in the present. Be willing to move on from failures and hardships and look towards the future. This is true for academics as well as life. If you do not score well on a test or even in an entire class, you cannot let that be a predictor of your future. Pick yourself back up and continue on the path forward. If you only concentrate on your faults and missteps, you will never grow as a student or a person.

The last piece of advice I will give you is one Polonius gave to Laertes in Shakespeare's *Hamlet*: "This above all: to thine ownself be true" (*Hamlet* I, iii. 55-81, 77). You must stay true to yourself above any other aspect of your college experience. Do not change yourself to fit into a program. Do not change your values to align with someone else's. This is your journey and you are in control of how you navigate through the peaks and valleys of becoming an anthropologist. Keep in mind, while you are discovering the human experience as a whole, you are also unraveling your own human experience as well.

## About the Author

**Haley Lankau** is a senior anthropology major with a minor in biomedical anthropology. Haley recently completed a project on mandibular asymmetry and periodontal disease. This study showed how the presence of periodontal disease could cause bone resorption within the alveolar bone of the mandible. She is now starting a project on bone warping and the effects of groundwater re-charge on skeletal remains. She will be graduating this May with hopes of pursuing graduate school.

## The Collegiate Profile: Dr. Lydia Rodriguez, Linguistic Anthropologist

EMMA WILLIAMS

The SUNY Potsdam Department of Anthropology has a new anthropologist, Professor Lydia Rodriguez. Dr. Rodriguez's area of specialization is linguistic anthropology. Growing up in Spain, she discovered her passion for dancing and language. For years, she trained in classical ballet and earned the equivalent of Major in modern theater dance from the Imperial Society of Teachers of Dancing. Along with her passion for dance, she had an interest and passion for language. When she was younger, she did not know which way her career would go, toward dance or language. She explained, "My passion for linguistics stems from my love for languages and a philosophical interest in understanding who we are as humans, and what makes us unique as a species. Although it is true that I pick up languages easily, linguistics is not just about having a gift for languages; you have to love languages in your heart, but also approach them with an analytical mind. I think language is really what makes us who we are as a species. I feel as though trying to understand language is trying to study who we are as humans."

Though she loved dance, Dr. Rodriguez decided to make a professional career in anthropology. She learned how to speak Chol Mayan and went on to conduct research in linguistic anthropology concerning the Chol concept of time. Rodriguez stated, "Time is something you cannot function without in Western societies – try to think about your day without temporal hallmarks! Choosing to study different notions of time allowed me to stretch my intellectual limits and see how much I could learn from a culture different from my own. I wanted to

deconstruct what we, in Western society, think of as a given. Time is not universal; it is sociologically and culturally constructed."

When she first came to the United States, she studied at the University of Virginia and joined the University of Virginia's ballroom dance team. There, she developed an interest in the study of co-speech gesture. Here she noted, "Dancing has

been such an important part of who I am I couldn't just ditch it. Having danced so much in my life, I was used to looking at the body movements of dancers. That is how I became interested in studying gesture. Doing research on gesture is really where I can bring the best of myself because it brings together my knowledge of dance and linguistic anthropology. Watching gestures is like watching a beautiful, elaborate choreography."

A year ago, Dr. Rodriguez joined Potsdam's Department of Anthropology. I asked her why she chose to bring her expertise and knowledge in linguistic anthropology to Potsdam. Her response was, "I loved the program SUNY had. First, I liked Potsdam because I love interacting and working with students to help them grow in different ways, and this is a student-centered program. Second, for a program that concentrates on undergraduate education, it has people from all the subfields of anthropology, which is unique. I love being in a department where

I can learn from my colleagues and they can learn something from me. It is the multi-field composition of the program and close interaction we have with the students that I like."

Speaking about her experiences as a linguistic



*Dr. Lydia Rodriguez carrying out fieldwork in Chiapas, Mexico (Photograph courtesy of Dr. Rodriguez).*

anthropology professor at Potsdam thus far she stated, "I have learned a lot. When you are trying to understand something, working on a research question, or theoretical interest, the best way to put to the test your understanding of something is to try to teach it to someone else. If you have trouble teaching the subject it probably means you are struggling with the material. Teaching has always helped me learn and understand my field of research better. Teaching also helps me to be a better anthropologist and a more empathetic person, because in order to be an effective teacher you always have to think about the people who are receiving the information, so you are constantly trying to put yourself in other peoples' shoes. I think a lot about the material I want to teach and how to present it to my students."

Both Dr. Rodriguez and I are new to *The Collegiate Anthropologist* this year, so I inquired as to why she wanted to join the publication. She explained, "I have been working with a professional journal since 2003. At the beginning, my role was to interview famous anthropologists. I have done a lot of editing work in my career, and I have some decent experience being involved in the workings of a professional journal publication. I hold a lot of interest for academic publishing. I have these experiences to bring to *Collegiate*."

I followed up her answer by asking how she hoped working with the students in the *Collegiate Anthropologist* would affect her and what she hoped to learn over the course of her time with the *Collegiate Anthropologist*. Dr. Rodriguez replied, "I am going

to learn a lot from you [the students]. I am used to working with students in more of a teaching relationship or mentoring relationship. *Collegiate* is a different setting. What I am going to do is combine my experience as a teacher and my experience in the world of academic publishing to create something new, which is working with students in the *Collegiate*. I want to help the students working on the *Collegiate* to professionalize. What we are doing in *Collegiate* is, ideally, very similar to what you would be doing in the real world, we are trying to recreate an experience from the professional world and bring it here for you guys. This is the first time I am doing this kind of work with students in a journal setting. I want to create a professional and meaningful experience for our students. I am hoping you guys will teach me how to do that. I want to learn from you all as much as you will learn from me. Whether or not you (as a student) decide to go to graduate school, I have friends who have gone into publishing without a Ph.D., so I want students to see that as a career option as well. I think this is a great experience, and I want to be a part of anything that is good for my students."

Dr. Rodriguez has become an influential and vital part of SUNY Potsdam's Anthropology Department. From taking the required anthropology class, *Language and Culture*, taught by Dr. Rodriguez, I can state that her passion and love for language and linguistics is genuine. If one has the opportunity to take a class with Dr. Rodriguez, she teaches: *Language, Magic, and the Supernatural*, *Cultures of Mexico and Central America*, and *Language and Structure*.

## About the Author

**Emma Williams** is a junior anthropology major with a biomedical anthropology minor. She is a member of the Presidential Scholars program in which she is researching and experimenting with natural and artificial mummification processes. This is her first year editing for the *Collegiate Anthropologist*.

## How-to column

# From Sap to Syrup: In Four Steps

KAYDEN MILLER

*In the spring 2017 Experimental Archaeology course with Dr. Timothy Messner, students learned to understand the archaeological record by participating in various activities including flint knapping, ground stone tool creation, cordage manufacturing, using bow drills, and even making maple syrup. In this column, I share what I have learned about maple sugaring so that you too can get in on the action! Below you will find all the steps you need in order to harvest and process your very own maple syrup.*

### STEP 1: GATHERING SUPPLIES

While evidence shows that wooden spiles and bark buckets were used by the first maple syrup producers, the principles for current tappers using modern tools are largely the same. The following is a list of recommended tools you will need in order to collect and process sap into your very own delicious maple syrup:

- Spile with hook
- Bucket
- Large boiling pot
- Saucepan
- Outdoor heat source
- Spoon
- Storage container
- Strainer
- Hammer
- Hand or power drill
- Patience

### STEP 2: TAPPING THE TREES

The best time of year to collect sap is in the early spring (Feb./March), when fluctuating temperatures allow for optimal sap flow. While timing is important, you must also identify the right tree. Though all maples can be tapped, sugar maples have some of the highest sugar content. Sugar maples can be identified by their leaves, which are segmented into five parts with each section splitting off into several pointed barbs. A U-shaped dip divides these barbs.

Once you have identified the tree, use a hand or power drill to make a hole where the spile will be placed. The hole should be drilled at a slight upward angle so that the bit is facing up and into the tree (see figure 1). This will greatly aid the dripping of the sap into your bucket. Once the hole is drilled out and cleared, use your hammer to pound the spile into place. From there you can hang the bucket from the spile's hook, making

sure it is attached securely. Placing a lid over the bucket helps keep out debris and insects (see figure 2). When everything is in its place, it is time to wait for the sap to flow.

### STEP 3: COLLECTING THE SAP

The amount of sap you collect can vary greatly. The flow is largely dependent on the temperature. Because of this, you may have to empty your bucket(s) a couple times a week or even a couple times a day. For a heavy flow, a strong freeze is needed at night with a thawing warmth during the day. With a strong flow, you may only need to collect from a handful of taps for a week. However, a lazier flow producing smaller yields resulting from consistently freezing temperatures can make it so that your collection time greatly increases. While it may seem like you are collecting too much sap at first, it takes 40 gallons of unprocessed sap to make just one gallon of maple syrup!



Figure 1. Drilling the hole (Photograph by the author).



Figures 2-4. Putting a cover on the bucket; straining the sap; boiling the sap (Photographs by the author).

#### STEP 4: PROCESSING THE SAP

The next step requires strategic time management, as the boiling needed to create a gallon of maple syrup can take upwards of 7 to 10 hours depending on your equipment and conditions. Once you have collected the sap, pour it through a strainer (to remove debris) into a large pot placed on an outdoor heat source (see figure 3). Working outdoors for the initial boiling is recommended because a large amount of steam is produced.

On medium heat, bring the sap to a boil in order to evaporate the water from the sap. Use your cooking spoon to remove the white foam that accumulates and crystallizes at the top once the sap boils (see figure 4). Boiling the sap removes the water and leaves you with a much more concentrated product

that will look golden in color. Once boiled down to this golden color, you can finish the boiling of the concentrated sap inside on the stove. You will know when the sap has turned to syrup when it becomes a thick viscous consistency. To test this, you can stick your spoon into the syrup to check for the characteristic stickiness of syrup. When finished, store in a clean sealed container and refrigerate.

#### Works cited

Holman, Margaret B., and Kathryn C. Egan. 1985 Processing Maple Sap Using Prehistoric Techniques. *Journal of Ethnobiology* 5(1): 61-75.

Tap My Trees - Tap Tree - Maple Syrup Supplies. 2017 Tap My Trees - Tap Tree - Maple Syrup Supplies <https://www.tapmytrees.com/pages/tap-tree>. Accessed April 03, 2017.

## About the Author

**Kayden Miller** graduated from SUNY Potsdam in May 2017 with a B.A. in archaeological studies and a museum studies minor. In the years after graduation, he hopes to work in a museum before pursuing his graduate degree. While at SUNY Potsdam, he had the privilege to assist Dr. Tim Messner in teaching his Experimental Archaeology course. It was here that he learned the importance of educating people through experiences. He hopes to apply such interactive experiences in future museum work.

## **Collegiate Anthropologist Editing Team**

### *EDITOR-IN-CHIEF*

#### **Lissa Herzing**

Lissa is a senior anthropology and archaeological studies major with a minor in women's studies. Lissa will be completing her work with the Presidential Scholars program in April 2017, which will result in an exhibit featuring panels and objects to educate the community about the lived experiences of women at SUNY Potsdam throughout history. This is her second year editing for the *Collegiate Anthropologist*. She plans to attend graduate school in the future with the goal of becoming a historical archaeologist.

### *ASSISTANT EDITORS*

#### **Cassidy Johnson**

Cassidy is a senior archaeological studies major with a geology minor. She attended this past summer's field school as part of the Adirondack Archaeology Heritage Project in Tupper Lake, New York. She has also been a devoted member of the Anthropology Club since freshman year. Her interests include prehistoric archaeology and archaeolinguistics. After graduation, she hopes to work in cultural resource management, and later pursue an M.A. in North American archaeology. This is her first year as an editor for the *Collegiate Anthropologist*.

#### **Haley Lankau**

Haley is a senior anthropology major with a minor in biomedical anthropology. Haley recently completed a project on mandibular asymmetry and periodontal disease. This study showed how the presence of periodontal disease could cause bone resorption within the alveolar bone of the mandible. She is now starting a project on bone warping and the effects of groundwater re-charge on skeletal remains. She will be graduating this May with hopes of pursuing graduate school.

#### **Amber Rounds**

Amber is a sophomore at SUNY Potsdam. She is majoring in anthropology and archaeological studies. She is also vice-president of the Anthropology Club on campus. This is her first year as an editor for the *Collegiate Anthropologist*.

#### **Emma Williams**

Emma is a junior anthropology major with a biomedical anthropology minor. She is a member of the Presidential Scholars program at Potsdam in which she is researching and experimenting with natural and artificial mummification processes. This is her first year editing for the *Collegiate Anthropologist*.

## ***SUBMISSION INSTRUCTIONS***

Anthropological research papers, personal reflections or journals on internships and study abroad programs, photo essays, and generally anything pertinent to the study and experience of anthropology is welcomed for submission. Papers should be submitted in electronic form (.doc or .docx please) to [collegiateanthropologist@yahoo.com](mailto:collegiateanthropologist@yahoo.com). Electronic submissions on cd-rom are also welcomed via mail to the following address: *Collegiate Anthropologist*, Anthropology Department, SUNY Potsdam, Potsdam, NY 13676.



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*A view of Tupper Lake captured during the 2016 SUNY Potsdam archaeology field school (Photograph by Cassidy Johnson).*