Undergraduate Research Symposium May 17, 2019 Mary Gates Hall

Online Proceedings

SESSION 1S

USING ANTHROPOLOGY TO UNDERSTAND OUR PAST AND PRESENT

Session Moderator: Stephanie Selover, Near Eastern Languages and Civilization
JHN 111
12:30 PM to 2:15 PM
* Note: Titles in order of presentation.

Petrology of Ancient Pottery

Madelyn Joy Milligan, Senior, Materials Science & Engineering
Mentor: Daniel Cook, Aeronautics and Astronautics
Mentor: Stephanie Selover, Near Eastern Languages and Civilization
Mentor: Tuesday Kuykendall, Materials Science and Engineering

Pottery is ubiquitous across all levels of civilization, with distinct styles and patterns that can be used to give insight into the nation from which it was crafted. Looking deeper than what the eye can see, the mineral and chemical components can also reveal origins by mapping the components of the pottery piece to likely locations of where that mineral or element is commonly found. Ceramics may have many layers of interest, including the glaze, the slip, and the main body, that can be studied with minimal invasion and destruction of the artifact. Holistic analysis and characterization of these historical pieces requires a multidisciplinary perspective, incorporating fields such as materials science, history, and archaeology. The methods involved in this experiment include x-ray fluorescence (XRF) and scanning electron microscopy (SEM) in order to determine chemical composition and microstructure, respectively, of artifacts (circa 8000 BCE to 1250 CE) found in modern-day Iran. However, not all artifacts are made in the area they are found, hence the need to establish provenance. Preliminary XRF data shows certain samples may contain seashells, owing to their calcium components. This suggests that provenance could in fact be from Iran because Iran is not landlocked. In this we see that provenance is established in part by determining the composition of the artifact and where those materials most likely came from.

In attempting to trace the origins of these particular artifacts, a protocol is also developed for mapping other samples and ensuring repeatability while doing so.

Early Arsacid Iconography and Ideology in Royal Coinage

Ryan Robinson, Senior, Near Eastern Studies (Culture & Civilization), Anthropology: Archaeological Sciences
    UW Honors Program, Undergraduate Research Conference Travel Awardee
Mentor: Stephanie Selover, Near Eastern Languages and Civilization

This project is a portion of my honors research, which attempts to decipher the unknown nature of the first Arsacid kings. The Arsacid Dynasty ruled Iran from 246 BCE – 224 CE in the wake of the Hellenistic wave ushered in by Alexander the Great's conquests. This topic is largely dismissed in academia due to general disinterest and the paucity of textual and archaeological data. This is a gross oversight, as the Arsacid empire controlled the land between the Indus Valley and Anatolia and fostered international exchange for over four centuries. Given the lack of traditional data, the primary source for the early Arsacid kings – those who ruled before their empire's relationship with Rome began at the dawn of the 1st Century BCE – is the coinage they minted. These coins show the pictures and words Arsacid rulers choose to represent themselves, which evolve as their state expands. I analyzed detailed sketches of these coins – drawn and compiled by historian David Sellwood in his seminal 1980 volume – with special attention to the kings' image, their titles, and the picture of the royal archer imprinted on the back of nearly every Arsacid coin. I matched the observations I made

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of the coins with what textual and archaeological data exists to conclude that the first Arsacid kings synthesized Hellenistic and Iranian symbology to craft a cultural status quo for their remarkably diverse empire. For this presentation, I focus primarily on the picture of the royal archer. The early Arsacids instilled the figure of the archer with traditional Persian motifs and depicted him seated on a Greek religious symbol (the omphalos) in a move that exemplifies their coinage-based propaganda program.

POSTER SESSION 2

Commons West, Easel 20

1:00 PM to 2:30 PM

Examining Gender Differences in Student Perceptions of Strategies to Establish, Maintain, and Restore Student-Teacher Relationships

Nuradin J Abdalla, Senior, Psychology
Mentor: Jessica Coifman, SMART Center - Psychiatry & Behavioral Sciences
Mentor: Stephanie Brewer, Psychiatry and Behavioral Sciences
Mentor: Larissa Gaias, Psychiatry & Behavioral Sciences, UW Medicine

Establish-Maintain-Restore (EMR) is a professional development training for teachers to strengthen their relationships with their students. Previous studies have shown that the strategies presented in the training have significantly improved academically engaged time and reduced disruptive behavior among elementary and middle school students. The proposed study will examine 9th grade high school student perceptions of the appropriateness and effectiveness of the EMR strategies to improve student-teacher relationships within the school context. Additionally, this study will analyze whether there is a significant difference in these perceptions between the genders of students. It is predicted that male students will tend to perceive the EMR strategies as less effective and appropriate in improving student-teacher relationships compared to their female peers. A focus group was held to present the EMR strategies to 9th grade students at a racially/ethnically diverse high school in the Pacific Northwest. After the strategies were presented, students were asked to provide ratings and comments regarding the appropriateness and effectiveness of each individual strategy. The students were asked about the following items for each of the EMR strategies: appropriateness for school context, appropriateness for both students and teachers, and effectiveness at improving relationships with high school students. Findings from this study will offer insight for improving student-teacher relationships with consideration for the students' genders. Research has shown that strong student-teacher relationships can serve as a protective factor against high school dropout, and this study may help provide information about culturally responsive strategies to reduce the dropout rates among students of color and male students.