Virtual Poster Session 1:

Humanities Collegiate Division
4,000 Years of Learning Cuneiform: A Comparative Study of Cuneiform Digitization Methods on Sumerian Scribal Tablets from Nippur
Eyshe Beirich, 2nd-Year, Near Eastern Languages and Civilizations, Germanic Studies
Clara Mikhail, 3rd-Year, Near Eastern Languages and Civilizations, Music
Mentor(s): Prof. Susanne Paulus, Assyriology, Oriental Institute

This study presents the unique advantages and disadvantages of cuneiform tablet photography and digitization through the example of tablets found in a school in ancient Iraq dating to 1800 BCE. Among the pressing demands of modern scholarship remains the need for accurate digitization practices to facilitate the sharing, publication, and teaching of cuneiform source material. Our research examines specific methods of cuneiform digitization, that being traditional tablet photography, Reflectance Transformation Imaging (RTI), and High Dynamic Range (HDR) imaging, and how these methods can best be used to digitize the Oriental Institute’s corpus of millenia-old Sumerian scribal tablets. The “3NT” tablets are a diverse collection of exercises and literature used to teach cuneiform literacy to aspiring scribes some four-thousand years ago in Nippur. These tablets pose challenges to digitization. They are intrinsically inscribed 3D objects, some with a reflective surface, and written by yet untrained scribes which require a more comprehensive, mixed model of photography to preserve their fine details best. Furthermore, our work on these tablets has allowed for new pedagogical approaches in teaching the cuneiform script in the modern-day classroom, as students can view high-quality, precise images of these tablets as opposed to traditional and often subjective line drawings. Immediately, the implications of this intersection of digitization with Assyriology are apparent: greater access to the source material for independent researchers, institutions, and pedagogical pursuits, as well as more accurate scholarship. We expect to find that a hybrid model of photography mediums allows for the most efficient and precise virtual archiving of the 3N-T Nippur corpus. The virtual preservation of these scribal tablets forms a new chapter in their long genealogies of teaching cuneiform literacy; as scribes once used them to learn cuneiform, so too does this digital humanities scholarship continue that legacy of cuneiform education today.
Ancient Cuneiform in the Digital Age: Curating the Oriental Institute’s Tablet Collection
Madeline (Maddie) Ouimet, 3rd-Year, Near Eastern Languages and Civilizations (Archaeology Track)
Mentor(s): Prof. Susanne Paulus, Assyriology, Oriental Institute

Turn back time over five thousand years. It’s 3200 BCE—in Mesopotamia, a stylus inscribes the first written words in world history. This region, today’s Iraq, produced clay tablets inscribed with cuneiform writing for the next three thousand years, from astronomical and medical treatises to literature like the Epic of Gilgamesh. UChicago’s Oriental Institute (OI) Tablet Collection houses thousands of these artifacts. However, a roadblock plaguing cuneiform studies is publication. Many tablets lack high-quality photographs, limiting their utility for scholarship, whether from digs centuries past like the school exercises of Nippur or recently excavated from the OI’s renewed expedition to the site. My research strives to answer how to most effectively visually convey the copious epigraphic and artifactual data in the Tablet Collection to a global network of scholars and general public. To this end, I develop digital preservation methods for tablets via scanning and photography. This year, my research team added to our methodological repertoire HDR (High Dynamic Range) photography and RTI (Reflectance Transformation Imaging) / PTM (Polynomial Texture Mapping) which allows the viewer to manipulate light sources. I use multiple photo-editing applications to create a composite image simultaneously displaying all faces of a tablet and enhancing visibility of material characteristics. I upload these images to the open source Integrated Database, research each tablet’s historical background, and aid in transliteration and translation of Akkadian and Sumerian textual content. This allows comprehensive presentation of not only text in the abstract but its materiality—form, composition, surface treatment, impressions, color, script and handwriting, organization, state of preservation, and therefore data reliability. Each unique object requires its own methodology for effective presentation. These physical aspects of the text can only be conveyed through photography and must be conveyed if we are to understand the active relationship between written word and material medium.
The 2021 University of Chicago Undergraduate Research Symposium: Abstract

A Phantom Rising: Visual Poems Inspired by the Art and Writing of James Gillray
Mahria Baker, 4th-Year, English Language and Literature
Mentor(s): Prof. Andrei Pop, Art History, Committee on Social Thought

In my role as Professor Andrei Pop’s research assistant I have been responsible for the transcription of a large corpus of documents related to the life and work of the British caricaturist James Gillray (1756 - 1815). Transcribing turn-of-the-nineteenth-century correspondence offered me an experience of the written word that was both qualitatively and visually divergent from much of the textual landscape of the 21st century. Often, the writing we see in the present is mediated by computers rather than the human hand. Further, modes of linguistic expression and conventions around textual correspondence have evolved over time, meaning that both the visual form of late-18th-century writing and the words it contains may reflect a historical difference to present-day readers. These ideas—combined with the visual archive of James Gillray’s oeuvre—inspired me to craft A Phantom Rising: a series of visual poems. Through incorporating images of handwriting, these poems aim to draw attention to the materiality of historical documents and perhaps to inspire other artists to contribute to the growing body of contemporary poetry that bears the direct influence of historical material culture.
Accent as Discordance: Examining Linguistically Coded Implicit Bias in Clinical Interactions

Maya Osman-Krinsky, 4th-Year, Linguistics, Global Studies, Creative Writing
Mentor(s): Prof. Sharese King, Linguistics

Discrimination in U.S. healthcare contexts is racialized, with disparities especially visible in non-white populations (Boulware et al. 2003, Hoffman et al. 2016). Accent discordant relationships between healthcare providers and their patients with limited English proficiency (LEP)—that is, when providers and patients do not share the same accent when speaking in the same language—can be a source of tension and a locus of implicit bias. This study seeks to examine racial prejudice and accent ideologies within hospitals, particularly healthcare networks that serve marginalized and vulnerable populations, through a study based at a hospital with a linguistically diverse patient population. In surveying doctors and nurses who work at Mount Sinai Hospital in New York City, this study addresses the following central question:

How is communication in medical contexts mediated by linguistically coded racial and/or ethnic bias? Using a matched-guise technique comparing social perceptions of a Spanish-accented versus Standard American English (SAE)-speaking patient describing symptoms, I elicit implicit perception responses from medical professionals. On average, healthcare providers perceive the accented patient as more credible than the unaccented patient and assigned higher trustworthiness scores especially if they were a non-native English speaker or had had cultural competence training. Many participants demonstrated hesitancy about evaluating a patient’s sociodemographic based on their voice alone, which bodes well at least for the consciousness factor of implicit bias. Diversifying the linguistic makeup of healthcare providers, as well as making professional interpreter services available for all patients, is crucial in improving health outcomes for LEP patients. Furthermore, providing cultural, linguistic, and structural competence curricula for medical students and moving towards race-conscious medicine will better prepare the next generation of healthcare providers to work with an increasingly diverse patient population.
The Jewish expatriate community of Japan goes back a few centuries, but particularly faced upheaval during the 20th century. As part of a broader nonfiction reporting and essay project, I researched the history of the Jewish community of Japan as documented in news archives and scholarly works. My main research question concerned how Jewish expatriates in Japan saw themselves and their expatriate-heavy communities as fitting in within the global Jewish diaspora. I mainly looked through the Jewish Telegraph Agency’s archives, from 1900 to the present, in order to see how Jewish expatriates in Japan were covered in news, particularly during World War II. Through these archives, I found that Japanese officials and academics were often supportive of the country’s Jewish expatriates, but that Japan’s alignment with the Axis complicated Jews’ position within the country. I also looked for other archival documents online that discuss this community of Jewish migrants, paying close attention to some 1950s-era accounts of the Jewish community of Tokyo from American rabbis around the time when a permanent synagogue opened in Tokyo. In order to place this history in a broader context, I also looked at scholarly works about anti-Semitism and “philo-Semitism” (love of Jews) in Japan. As little has been written about how Japan’s Jewish community fits or does not fit into global dialogues about anti-Semitism and Jewish identity today, this research gave me historical background that ties into my broader BA Thesis essay which is addressing those questions. The broader project also includes journalistic reporting and interviews with current members of the community.
Learning from Premodern Plagues: A Public Humanities Project for the COVID-19 Pandemic
Stephanie Reitzig, 3rd-Year, History, Romance Languages and Literatures
Mentor(s): Dr. Lia Markey, Center for Renaissance Studies, Newberry Library

With the outbreak of COVID-19, many turned to past pandemics to understand the present crisis. Google searches for “Black Death” and “Spanish flu” skyrocketed in March 2020, while sales of plague fiction (such as Giovanni Boccaccio’s *The Decameron*, Daniel Defoe’s *A Journal of the Plague Year*, and Albert Camus’ *The Plague*) surged. The ongoing “Learning from Premodern Plagues” project provides a scholarly introduction to premodern pandemics and their lessons for COVID-19 and beyond. The project, conducted by the Newberry Library, seeks to provide a teaching resource for high school and college courses on pandemic history; to promote engagement with the Newberry’s collections; and to educate the public about the value and relevance of premodern history and culture. The project began as a video series on the Newberry’s YouTube channel, and will soon be accompanied by a Digital Collections for the Classroom (DCC) webpage. Each video features a researcher discussing an object from the Newberry’s collections, offering historical context, and explaining its relevance to the modern day. Previous videos have covered topics such as the *huey cocoliztli* epidemic in sixteenth-century Mexico, the 588 CE Plague of Justinian in Marseilles, and the eighteenth-century introduction of smallpox inoculation from the Ottoman Empire to England. The companion DCC will include photographs and short writeups for each document, as well as discussion questions and a bibliography. The final project will reflect a diversity of time periods, topics, and geographic locations from the premodern world.
Scoring the Deep Sea
Teis Jayaswal, 4th-Year, Fundamentals: Issues and Texts, Philosophy
Mentor(s): Prof. Stephanie Soileau, Creative Writing

At 1,000 meters below sea level where sunlight no longer reaches, there exists an entirely different world or frontier. This sphere of existence known as the deep sea or the midnight zone reflects a world so drastically different from our own that it can be hard for the human mind to fathom. In this project, I took on the challenge of representing this alien frontier of the deep sea through the medium of music. To do so, I rigorously investigated a particular sub-genre of experimental music called underwater music, seeking to understand the ways through which musicians have used water as an instrument to communicate a particular meaning. I used diving narratives and images of the deep sea to form an understanding or interpretation of the mystery of the sea below. I present my findings in the form of a musical composition which attempts to answer the question of how we can use sound and music to represent the unfamiliarity or unknown of the deep sea.
Postscripts and Pederasty: Realizing the Allegorical in Yanagihara’s *The People in the Trees*
Willem *Harling*, 3rd-Year, Gender and Sexuality Studies, Theater and Performance Studies
Mentor(s): Prof. Kris Trujillo, Comparative Literature

Though the works of author Hanya Yanagihara have been lauded for their engrossing novelistic realism, simply accepting them as such can preclude significant and relevant analysis of the themes of desire and power that appear throughout Yanagihara’s writings. My research draws from queer theory, literary studies, and the pederastic literary tradition more broadly in order to illuminate the effects of allegory in Yanagihara’s 2013 novel *The People in the Trees*. I argue that although the form of the novel as a collection of putatively factual evidence (such as newspaper articles, letters, testimony, and footnotes) attempts to root the work in realism, less overt aspects of the book’s structure and content ultimately render it allegorical. By bringing in the queer theories of Michel Foucault and Kadji Amin and by utilizing examples from the broader body of pederastic literature (including authors Jean Genet and André Gide), I posit that this shift from realism to allegory forces the reader to also shift from a critique of the protagonist’s exploitative and pederastic actions to a critique of the larger structures of power that model and enable such behavior. This analysis is part of my research on depictions of pederasty in literature which, in turn, is one approach to my broader inquiry into pederasty and the relationship between desire, power, and autoeroticism.
Implicit Learning of Linguistic Features of ASL Handshape by VQ-VAEs
Zachary (Zack) Crenshaw, 4th-Year, Linguistics and Computer Science
Mentor(s): Prof. Diane Brentari, Linguistics; Prof. Karen Livescu, Computer Science, Toyota Technological Institute

In the United States alone, there are over 500,000 people who use American Sign Language (ASL) on a daily basis. As speech recognition technology continues to develop and becomes ubiquitous in everyday life, it is important to ensure that applications of speech recognition, such as voice-activated assistants, remain accessible to people who rely on communication in a visual modality. However, sign recognition and generation systems can be difficult to develop, as large, labeled datasets of sign language require a great deal of time and energy to construct. Thus, self-supervised models that can be trained on unlabeled data are of the utmost importance. Vector-Quantized Variational Autoencoders (VQ-VAEs) are one such model that has been used both for phoneme extraction from speech and high-quality image generation. Such models learn to encode an input image into a smaller vector space, sample from this space, and then reconstruct the input image from this sample encoding. This project explores two primary research goals: understanding to what extent VQ-VAEs encodings implicitly learn linguistic features of sign language by virtue of being trained on sign language data, and how such features might be used to build automatic sign generation systems. To help constrain the phonological features the model may learn, this project uses data of ASL Fingerspelling, which consists of 24 handshapes with 8 phonological features that vary among them: including the number and flexion of selected fingers, opposition of the thumb, and flexion of non-selected fingers. Based on experiments conducted so far, even with constraints placed on the phonological space the model may learn, VQ-VAEs may not be particularly adept at implicitly learning linguistic features of ASL Fingerspelling, nor do they appear efficient for automatic sign language generation. Ongoing work continues to explore how tuning hyperparameters of such models may improve performance.