Hanna Holborn Gray Undergraduate Research Fellowship
2021 Fellows Abstracts

Emily Aguilar '22   **Classical Languages**

The Womb as Intermediary in Late Antique Platonic Cosmogony

My project examines womb and pregnancy imagery in Plato's *Timaeus* and *Symposium* and two Late Antique cosmogonies participating in the Platonic tradition: *The Secret Book of John* and the *Poimandres.* Because Plato sees the womb as an intermediary between the divine and mortal, the two later texts examined in this paper also use the womb as an intermediary between the divine and mortal, but do so in different ways according to each text's cosmogony and ideal response to the state of the cosmos. There are two directions in which these intermediary-wombs might produce. The first is from a divine parent to a mortal offspring, and is seen in Plato's *Timaeus* and the cosmogonical sections of *The Secret Book of John* and the *Poimandres*. The second is from a mortal parent to a divine offspring, and is found in Plato's *Symposium* and the philosophical sections of *The Secret Book of John* and the *Poimandres*. Through close reading and comparisons between the texts in the first section, we find that a significant amount of power is attributed to the womb, power that can be used either in harmony with the divine or in disharmony and ignorance. In the second section, we find that this power and potential is applied to the humans living in the world created by the first set of wombs, and that humans can use this power to reunite with the divine they have been separated from.

Hannah Appelhans '22   **Latin and German**

Horace's Ode 2.6 through German and English Eyes: Hölderlin and Conington

"Because there are no rules, no laws [for translation], there cannot be an absolute right or an absolute wrong" (William Weaver). Translators argued for centuries about the proper methods and means of translation: how to disclose the meaning without losing the structure; how to transfer sound, rhythm, and rhyme; how to create a good poem *and* a good translation—for these are naturally two very different things. Every translator makes these choices for each of his translations, but what influences him to do so? Especially for translations from Latin, the long history of earlier translations, the culture of translation, and the culture of classics and classical study affect translators immensely. Besides this, the culture of any translator's country changes how he reads the poem: for example, the concept of *Freundschaft* is very different in Germany from the concept of *friendship* in England. When faced with the word *amicus* (friend) in a poem from the Latin poet Horace, a German translator will imagine something an English translator will not. These two countries—while more similar than some—have immensely different literary histories and relationships with the world of classical study, which in turn change their

translation histories. Could various differences in translations point to greater cross-cultural differences? Could we apply these differences to other poems, other translators, other translations? This project explores the effect of culture on the translation of Horace's Ode 2.6 by Friedrich Hölderlin (one of the greatest German translator-poets of all time) and John Conington (one of Horace's most prolific English translators).

Shreya Bhutani '22   **Growth and Structure of Cities**

Deconstructing De-facto Segregation in Suburban School Systems

Exploring the issue of de-facto segregation within the realm of suburban educational systems, this research applies budgetary analyses to qualitative understandings of community spaces. The research is situated in the greater Philadelphia area, with particular emphasis on Montgomery County. This study includes a geographic analysis of race, economics, and class in connection to each educational facility and a historic investigation of suburban Pennsylvania. This study considers how school quality may be expressed through physical facilities, budgets, programs, graduation rates, and test scores. It considers the relationship between perceived quality and the amount of capital accumulated through income tax and whether or not a racial division impacts these values. Overall, the study utilizes the institution of school as an indicator of dynamics between neighborhoods.

Daniel R. D'Elia '22   **Classical and Near Eastern Archaeology**
                                                                      and Physics

Earth, Sky, and Power: How Astronomy Reveals the Influences Molding al-Andalus' Historical Trajectory

Astronomy in al-Andalus was a discipline informed by the religious, political, and cultural environment within the Iberian Peninsula as well as the religious, political, and cultural environment of the wider Arabic-speaking world. Before and early in the establishment of al-Andalus in the 1st century AH/8th century CE, astronomy in West Asia, and subsequently al-Andalus, was faced with tensions rooted in the religious, political, and cultural concerns of the time such as the use of Arabian folk astronomy versus the use of outside traditions including Greek, Babylonian, and Indian astronomical and astrological traditions. As Andalusī astronomy became established as its own unique branch of astronomy in the medieval world, it meshed with a pre-existing Latin astrological tradition, making it a target of the Córdoban jurists who believed such use of the stars was contrary to monotheistic, Islamic belief, often utilizing similar arguments to reject use of astrology that were used in the early 'Abbāsid debates on the inclusion of foreign astronomy in Arabo-Islamic astronomical scholarship and efforts to harmonize

polytheistic folk practices with monotheistic ones. Unorthodox rulers such as the Córdoban chamberlain al-Manṣūr used this rejection of astrology to their advantage through ordering the destruction of astrological works and astronomical works with astrological components, thereby gaining the powerful support of these particular Córdoban jurists. Andalusī astronomical and astrological traditions, therefore, were often used as a means of maintaining power and establishing legitimacy, thus adding to the historical precedence for other works, such as Sufi works, to similarly face public destruction. These periodic book burnings had a far reaching effect of not only galvanizing the wider Sufi community but also providing an impetus for Andalusī astrological works to become increasingly esoteric, ensuring their relevance in al-Andalus and Latin Europe for centuries to come.

George Doehne '22   **Growth and Structure of Cities**

Burning Questions: A Reconceptualization of Fire and Land in California and Abroad

This project compares and contrasts California's wildfire situation with several countries that are also dealing with cultures of fire. Some are managing to do so more successfully (like Spain and Australia), and others less so (like Portugal). This paper uncovers lessons learned from these other societies—things to do, things to avoid doing—and applies them to California in order to discover what political, spatial, and cultural changes might be needed. It tries to answer the question of what California can learn from societies where fire is endemic about the best organizational, cultural, and spatial formations to combat ever-worsening wildfire conditions. It seeks to find answers to how the ways we approach ecology, housing, and more are fueling the growth, danger, and destructivity of fires and megafires, and then what policies and ideas can help avoid placing people and places in the way of fires in the first place. Too much prior work treats these countries' wildfires as unique and isolated disasters, even though *all* these cases share the important traits of being pyrocultures: societies used to fire, living among flammable Mediterranean ecologies in the midst of a growing climate crisis. Lessons from them can and should be applied to each other, and in this project I culminate by doing so.

Cate Farrell '22   **Growth and Structure of Cities**

Conversations About Race: How the Built Environment can Serve as a Catalyst for Critical Thinking

Anna Hsu '22   **Philosophy**

Recovering the Authentic Self – Examining Depression and Treatment in Relation to Autonomy

What makes someone's decisions *their own*? Various theories of identity claim that what constitutes a person is their memory, their physical body, or even their moral system. In my project, however, I employ a more subjective *narrative* identity that we use to distinguish an individual person from others. I assert that autonomy – the capacity to govern oneself – is essential to narrative identity because it is necessary for one to maintain a sense of self, or authenticity. Our ideas about narrative identity, autonomy, and authenticity shape our daily actions and thus have ethical implications, which I will elaborate on using the case of depression. Depression's role in personal identity is significant because it can directly interfere with one's autonomy both during and after a severe depressive episode. Severe depression can rob someone of the ability to make meaningful choices as an agent and disrupt one's sense of authenticity. This disruption often continues even after administering antidepressant medication. Medication, in simply trying to correct a chemical imbalance, not only oversimplifies the complexity of depression, but also may not function in restoring one to a feeling of authenticity as we would perhaps want. I argue that the most common method of treating psychiatric disorders such as depression—medication—fails to promote patient autonomy because it creates the misconception that the agent has no control whatsoever over their mental state.

Esther (Ye Ram) Kim '22   **Comparative Literature, French, & Political Science**

Reclaiming True Multilingualism in the Maghreb: The Production and Development of Written Amazigh Literature

The Maghreb (Algeria, Morocco, and Tunisia) has been facing a phenomenon of unbalanced multilingualism in which Modern Standard Arabic and French occupy an elevated literary space, while Dialectal Arabic and the Amazigh language (Tamazight) are set aside as colloquial languages only. Such linguistic multiplicity can bring about an identity crisis to the Maghrebin because a model of one people, one language, and one identity does not fit in the Maghrebi region. Through an analysis of Amazigh literature written in French and Tamazight, along with interviews with Tunisian Amazigh activists, I identify Tamazight as a "heart language" of the Maghrebins and explore how a writing of Amazigh identity contributes to the larger Maghrebi identity and literary environment. I argue that the significance of Tamazight literature will add to the multilingual writing of Amazigh literature that truly reflects multilingual characteristics of the Maghrebi region. The prevalence of multiple languages in the Maghreb no longer proves to be a reason of linguistic and identity crisis; instead, it can become the force that unites and

strengthens the region to embrace and own all the languages, blur the boundary between orality and the written word, and establish a Maghrebi identity uniquely found in North Africa. Maghreb's multilinguistic and multicultural identity will only be enriched, as a folklorized Amazigh heritage of the past becomes reinstated as a living and development-oriented identity.

Maya Schneider '22   **Anthropology**

Expanding Networks & Creating Space: LGBTQ+ Identifying Young Adults' Experiences with Identity Development Amidst a Pandemic

Since the onset of the COVID19 pandemic which fully reached the United States in the middle of March 2020, people have experienced disruption to their day to day lives. Whether young or old, living in urban or rural areas, and regardless of race, ethnicity, or sexuality, everyone has been disrupted. This disruption's impact was and is still seen within the population of college aged young adults, many of whom were forced to suspend their in-person classes, vacate their campuses, and return home. This profound shift in day to day life impacted the way that young adults socialize with peers, their relationships with others, and their relationship with self. Identity development, while an ongoing process throughout many individuals' entire life, realizes its potential for many young adults at the point which they leave their immediate family and go to college, living away from home for the first time. When young people were removed from their college environment and brought back to their homes, their identity development was impacted, specifically as it relates to sexuality. LGBTQ+ identity development is impacted by a variety of factors including access to peers with similar identity, visibility of role models who share a similar identity, and an accepting environment in which to develop one's identity. Following the changes brought upon by the COVID19 pandemic, many of the ways young adults socialized and connected changed drastically, impacting these factors which influence LGBTQ+ identity development. Less access to peer groups and removal from an environment that fosters individuality and the acceptance of minority identities forced young people to adapt the ways that they socialize, connect, and interact, and in turn impacted identity development. As a direct result of the COVID19 pandemic, the ways in which young adults engaged with social media, their peers, and the world around them ended up influencing LGBTQ+ identity development. This study seeks to identify the specific reasons how and why young adults were influenced by the changes resulting from the pandemic, both generally, and specifically relating to their LGBTQ+ identity development. Through both the recreation and formation of existing and new social spaces, and the expansion of social networks during a time of increased isolation, LGBTQ+ identifying young adults utilized many tools to create opportunities for their identity development.

Shreya Singh '22   **Growth and Structure of Cities and Fine Arts**

Accessibility to living and social spaces in UAE for migrant workers

In this paper, I will argue that citizenship gives individuals a sense of security and legal protection that is crucial to move closer to social equality. The research reported in this paper provides insights into the living and leisure spaces for migrant workers in the UAE. It gives a deeper understanding of how cities, such as Dubai, can change their urban planning design to improve the accessibility to leisure spaces, such as public parks and beaches, and bridge the gap between low-income migrant workers and high-income native groups through social inclusion. While the conditions of the UAE define a limited population, questions of adequate housing, leisure and autonomy recur in the Gulf States and other areas increasingly dependent on migrant labor subordinate to the needs of citizens, ranging from Hong Kong to European countries such as Germany. In all of these places, there are often barriers that limit migrant workers' access to necessary resources, which prevents them from fully participating in economic and social life. In this paper, I evaluate the UAE's social structures to understand how each group constructs a sense of belonging. I use this analysis to explore solutions to achieve better social inclusion for laborers.

Mackenzie Tygh '22   **Interdisciplinary Physics**

Searching for a Dialogue Between Science and the Humanities: Towards a Visualization of the Divine Comedy

This project contemplates an attempt to translate a scientific phenomenon in the cosmology of Dante Alighieri's *Divine Comedy*, the formation of Mount Purgatory, into code with the intention of critically examining the possibilities offered by digital visualization. Through this case study, I propose an agenda for digital humanities in the field of Dante Studies and beyond, urging both humanists and scientists to engage with humanistic theoretical principles and utilize them in the production of computational methods. My work places past engagements with the *Comedy* in a historical context before introducing the term digital visualization and looking at one case of this analytic device in action with reference to Dante scholarship. After detailing the processes associated with coding and visualizing Mount Purgatory's construction, this project expands to a vision of an elaborate worldview desiring a new, digitized form of literary knowledge.

Testing theories of slurs

In linguistics, there are many different theories about slurs and how people think about them, but there is little empirical evidence to back up these claims. My research seeks to close this research gap by asking real speakers about these slur theories with the LGBT+ community as my case study. Over the course of the summer, I made an online survey that asks participants about six different theories relating to slurs and I am currently using it to collect data for my senior thesis.