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Biological Chemistry

David A. Born
Advisor: Rachel Astin

Structural and Mechanistic Characterization of the Integral Membrane Non-heme Diiron Protein, Alkane Monooxygenase, from the Oil-degrading Bacterium Alcanivorax borkumensis

Structural and mechanistic insight into the non-heme diiron proteins will likely lead to advances in bioremediation, biomimetic catalysis, and directed protein engineering. Iron metalloproteins are capable of catalyzing a wide variety of chemical reactions. The non-heme diiron proteins represent a distinct class of metalloproteins able to activate molecular oxygen and perform key reactions in biological systems including alkane C-H bond oxidation, alkene epoxidation, and lipid desaturation. This thesis focuses on the structural and mechanistic characterization of the integral membrane non-heme diiron protein, alkane monooxygenase (AlkB), from the oil-degrading bacterium, Alcanivorax borkumensis. The purification of active AlkB was optimized and crystallization methodology was developed in an attempt at complete structural resolution. In combination with work on the other diiron proteins, it may be possible to develop a coherent model with which to explore the unique chemistry of this metal-binding motif.

Biology

Isabelle Lane Curran
Advisor: Rebecca Sommer

Thymic Morphology and Increased Apoptotic Rates in Juvenile and Adult Female Mice Following Exposure to Low Levels of Arsenic Early in Development

The children of mothers who drank arsenic-contaminated water during pregnancy have been found to have higher morbidity and mortality due to infection compared to children that were not exposed. In both human and mouse studies, these offspring have been found to have smaller thymi and lesser maturation of immature thymocytes into mature T cells, which are key components of the cell-mediated immune response. In the present study, dams were exposed to 0, 50, or 500ppb sodium arsenite in their drinking water during pregnancy and weaning, and the thymi of the offspring were collected at either PND 21 (prepubescent) or 5 MO
(sexually mature adult). Morphological differences were assessed via light microscopy of hematoxylin and eosin stained coronal thin sections of paraffin-embedded thymi. Differences in the density of apoptotic cells were assessed via light microscopy of coronal thin sections of thymi stained via colorimetric TUNEL assay. Because the thymus undergoes significant morphological changes with age, effects of arsenic exposure had to be distinguished from the natural effects of age. Results indicated that there was no significant effect of arsenic exposure on the morphology of the mouse thymus, at both ages. However, there was an approximately two-fold increase in the density of apoptotic cells in both the thymic cortex and medulla at both exposure levels (two-way ANOVA; p = 0.0131 and 0.0030, respectively; n = 3-5), which could result in fewer mature T cells reaching the peripheral lymphoid tissues and contributing to the immune response.

Hansen D. Johnson
Advisor: William Ambrose

Diversity and Characterization of Songs in the Bering-Chukchi-Beaufort Population of Bowhead Whales (*Balaena mysticetus*) during Their Annual Spring Migration, 2011

Bowhead whales (*Balaena mysticetus*) in the Bering-Chukchi-Beaufort (BCB) population are defined by their residence in and migrations between wintering grounds in the Bering Sea and summering grounds in the Beaufort Sea. The regular passage of the majority of the population along the coastline of northern Alaska invites the possibility of answering several questions regarding bowhead song. Marine autonomous recording units were deployed in the Chukchi Sea near Point Barrow, Alaska, and recorded approximately 1200 hours of continuous audio from 12 April to 27 May 2011. We identified 12 unique song types from approximately 95 hours of singing and characterized them quantitatively based on unit order, frequency, and duration. This represents the greatest number of songs ever documented during the spring for this population. General song structure was consistent with earlier descriptions, but none of our song types were previously reported. The repetition of five song types over the course of the season composed 86% of the total duration of recorded song. This suggests a shared song repertoire among individuals. Singing behavior was highly organized: we documented only two instances of overlapping songs despite the passage of hundreds of whales. Total song duration was not influenced by whale abundance or by time of day, although several songs were exclusively recorded during the day (0600-1800) or at night (1800-0600). Singing during early-mid spring, when breeding occurs, supports the common mysticete theory that song plays a role in reproduction, but further study is necessary to draw conclusions regarding the function of song.
Carla G. Tilchin
Advisor: Donald Dearborn

A comparative Study of Songbird Serum Effectiveness against the Causative Agent of Lyme Disease, Borrelia burgdorferi

Lyme disease is the most important zoonosis in the northern hemisphere, and the causative agent, Borrelia burgdorferi sensu lato, circulates between Ixodes tick vectors and a large range of vertebrate hosts, including songbirds. Songbirds are particularly interesting reservoirs because they have the potential to rapidly expand the spatial distribution of B. burgdorferi, and species differ in their ability to transmit B. burgdorferi to uninfected ticks. The sensitivity of B. burgdorferi to serum from eight different songbird species was analyzed by incubating B. burgdorferi with the serum of wild-caught birds for one and four hours and determining the number of live and dead Borrelia using BacLight stain and fluorescence microscopy. In a follow-up experiment, complement pathway activation was assessed by chelating serum with MgEGTA (ethylene glycol-bis(2-aminoethylether)-N,N,N',N'-tetraacetic acid and MgCl₂) to selectively block the classical complement pathway, EDTA (ethylenediaminetetraacetic acid) to block both the classical and alternative complement pathways, and by heat inactivating serum to block both pathways. Reservoir-competent gray catbirds (Dumetella carolinensis) killed 28% more B. burgdorferi than reservoir-competent American robins (Turdus migratorius) at four hours (F₂, 6₂=8.56, pB. burgdorferi than normal serum or serum treated with MgEGTA or heat inactivated (F₄, 7₀=4.51, p=0.003), which contradicts previous findings that the alternative pathway is responsible for borreliacidal activity, but the results of this experiment were somewhat equivocal. It is hypothesized that differences in borreliacidal abilities of different hosts such as robins and catbirds are due to B. burgdorferi’s ability to evade complement-mediated lysis in certain hosts. Studying the processes of pathogen circulation in natural host populations is required for assessing their relevance to ecosystem dynamics and public health.

Chemistry

Jennifer C. Brown
Advisor: Jennifer Koviach-Côté

Synthesis and Antioxidant Activity of Phenylpropanoid Glycoside Analogs

Plants are exposed to a number of stresses including high UV light and nutrient deficiency. In order to combat the effects of these stresses, plants employ a number of naturally occurring compounds. One of the largest subsets of these compounds,
and the subject of this project, are phenylpropanoids (PPs). PPs relieve stress in plants by acting as antioxidants, or free radical scavengers. Because an excess of free radicals in humans has been linked to ailments such as cancer, Parkinson’s disease, and Alzheimer’s disease, the antioxidant power of PPs makes them an important topic of study. This work set out to examine the mechanism by which PPs scavenge free radicals. To do this, ten compounds were synthesized, each containing one, two, three, or four PPs. The compounds were then analyzed for their radical scavenging activity by calculating the number of radicals scavenged after a fixed amount of time in both a proton-rich and a proton-deficient solvent. The experiments in the proton rich solvent showed that an increasing number of PPs increased the radical scavenging activity of the substrates. In the proton-deficient solvent, the compounds had significantly lower radical scavenging activities, indicating that the proton-rich solvent played a role in the radical scavenging mechanism of these substrates.

**English**

Matthew J. Bettles  
*Advisor:* Sanford Freedman

Satire and the Necessity of Locale: Genealogical Readings in Max Beerbohm and Karl Kraus

This thesis focuses on the satirical works of Max Beerbohm’s *Zuleika Dobson* and Karl Kraus’ *The Last Days of Mankind*. The thesis, examining the locality of satire and the particularities of each individual text, asks whether satire ever transcends time and geographical barriers, or whether it necessarily remains local and confined within a particular time period. Beerbohm wrote in Oxford in 1911 and Kraus in Vienna in 1918, and the thesis contends that satire must be grounded in the period in which the satirist is writing. It then questions whether or not there can be specific elements of the texts that can be deemed universal. Such social parameters as power structures, acquiescence, and complicity provide the ground to probe methodologically at the works of Foucault, Russell, Bakhtin, and Hutcheon.

Natalie R. Thompson  
*Advisor:* Lillian Nayder

Jane Austen and the Art of Revision: Reading, Fiction, Feminism

The wealth of criticism on Jane Austen and her fiction—recent feminist criticism in particular—neglects her reading, an insight crucial to understanding her political and literary messages. Austen was an avid and indiscriminate reader—a reader of
novels, poetry, periodicals, didactic works, and history, among other genres. Because the depth and breadth of Austen's reading is often disregarded, the extent to which her reading appears, strategically revised, in her own writing, is largely (or entirely) overlooked in recent criticism. This thesis identifies Austen's dissatisfaction with certain contemporary writings as a primary motive for her composition and aligns her genius with her success in revising and reinterpreting the popular eighteenth-century works she knew so well. Austen's use of her reading—in allusion, parody, and thematic reference in addition to outright revision—reveals the ways in which she differs from her predecessors, in her political and social beliefs as well as her literary style. This thesis uncovers previously unknown or disregarded sources for Austen's work and, in analyzing these sources in concert with Austen's own novels, reveals her criticism of the patriarchy. It traces Austen's attitude toward her predecessors and contemporaries throughout her writing career, from the burlesque of her juvenilia to her more measured use of literature in *Emma* and *Persuasion*. In recognizing the literary context of Austen's work—a context familiar to her intended audience, but often forgotten by modern readers—critics and fans alike can interpret Austen's alleged ambiguities with greater clarity.

French

Maria D. Velasco
*Advisor*: Alexandre Dauge-Roth

**L'écriture comme mise en œuvre et mise en doute de la représentation dans *L'Acacia* de Claude Simon**

At first glance, Claude Simon's auto-fictional novel *L'Acacia* (1989) seems incomprehensible. The disruption of chronology, the original use of analogy, the repetition and circularity of events, the lack of proper names, and the hypothetical tone elude traditional configurations and pose a challenge for readers. This thesis examines the causes and effects of these narrative devices and Simon's unique representation of himself and his ancestors. Simon appears to write an auto-fictional (neither entirely autobiographical nor fictional) work that does not shed a definitive light on who he is. This very refusal of transparency brings a different perspective to his story. I argue that Simon bases his exploration of genealogy, history and identity on the uncertainty of memory as a representation of reality as well as on the questioning of more conventional forms such as photographs, postcards, and testimonies. The emphasis on their complexity and heterogeneity not only generates unprecedented connections between the writer's family history and his present existence, but ultimately invites readers to question their own personal relationship with these representations and with the novel itself.
History

Jacquelyn M. Holmes  
Advisor: Jennifer Adair


This thesis analyzes how shifts in United States foreign policy influenced the Ford Foundation's relationship with the United States government in terms of how they defined and brought ideas of "development" to Latin America. Focusing specifically on Chile, it argues that the Ford Foundation conveniently shifted from a national focus in the early twentieth century to an international focus in the wake of the Cold War and the threat of the spread of communism. Its efforts to spark intellectual pluralism in Latin American state universities in the late 1960s were an effort to promote modernization by combating radical ideologies. Finally, their shift to a focus on reestablishing "popular democracy" and ensuring human rights through enhancing civil society in the early 1990s was deeply influenced by the rise of neoliberalism as a worldview. This thesis uses scholarly secondary sources, United States government documents, and several accounts from Ford Foundation representatives in Latin America to argue that although the Ford Foundation attempted to manipulate their association with United States foreign policy at times in the last fifty years, their identity as an international philanthropic organization with the intention of spreading democracy is inherently and unavoidably political, and therefore deeply influenced by the context of the people they choose to work with and places they choose to work.

Interdisciplinary Studies

Desmond N. Mushii  
Advisor: Elizabeth Eames

Microfinance as Ambivalence: Kilimanjaro Women Experiences of Capitalist Development

Worldwide, microfinance has gained popularity as a way of fighting poverty and enhancing gender equality. By providing women with access to small loans, microfinance is expected to enable women to generate an income and to initiate their own economic and sociopolitical empowerment. This paper questions the received wisdom that the benefits of microfinance start with poverty reduction and are subsequently followed by social emancipation. The focus in such interventions
on the independent, entrepreneurial citizen suggests not only new ways to generate economic growth and sustainable development, but an important recalibration of the repressive social relations thought to be at the root of women’s persistent “underdevelopment.” I explore the economic as well as the social impacts of microfinance through an ethnographic study of three women from Bomang’ombe in Kilimanjaro Tanzania as they undertake a range of microfinance sponsored income-generating settings, and negotiate the consequences of the new subjectivities on which the independent, entrepreneurial citizen is based. I find that economic success and social emancipation has come at a cost for the three women included in this study. The cost of the material gain and social emancipation include family challenges that wives endure with their in laws, as well as been ostracized by their communities for pursuing male dominated businesses.

Japanese

Joanna C. Moody
Advisor: Sarah Strong

The Ainu Speak of Famine: How Oral Traditions Reflect and Inform Historical Analysis of Changing Food Practices and Trade Relations in Early Modern Hokkaido (1603-1868)

The Ainu are an indigenous people who historically inhabited the north of the Japanese archipelago and have the legacy of a culture and completely oral language distinct from their mainland Japanese neighbors. Since the Ainu had no written language, most documentary sources for the premodern period are Japanese. Historians are therefore reduced to viewing Ainu history largely through the eyes of often mistaken and prejudicial Japanese accounts and overlook mutable oral traditions as sources for historical analysis. I claim that the preserved body of Ainu oral narratives, when used with other archeological and recorded historical data, can serve as equally illuminating historical sources, which represent how Ainu viewed their changing circumstances. Unlike the written texts and myths of many cultures which are fixed in time, Ainu narratives have an adaptive quality as a direct result of being from a solely oral tradition. That means that the content of the stories altered as the social, political, and environmental situation surrounding the audience changed. In particular, I demonstrate that Ainu oral traditions of famine mirror and in some cases even clarify historical change in food practices and the nature of Ainu-Japanese trade relations during the Edo Period (1603-1868). I show the persistence over time of basic Ainu concepts regarding the spiritual cosmology of food in the more traditional, metered kamui yukar narratives and then compare it to the changed social, political, and environmental situation depicted in the more modern, unmetered uwepekere genre.
Mathematics

Daniel J. Peach
Advisor: Meredith Greer

Statistical Methods of Wavelet Analysis with Applications to Ecological Time-Series

A wavelet is a window function in both the time and the frequency domains; accordingly, the wavelet transform simultaneously reveals both time- and frequency-localized properties of a signal. Developed rapidly over the past thirty years, the wavelet transform has allowed mathematicians and scientists to better analyze, characterize, and model transient phenomena. This thesis has three aims. First, it provides an exposition of both continuous and discrete wavelet theory. Second, the thesis reviews and articulates recent work on applying wavelet analysis to ecological time-series; special attention is given to methods assigning statistical significance to wavelet power spectra. Finally, these methods are applied to analyze the population dynamics of the cyanobacterium Gloeotrichia echinulata.

Music

Jessica D. Cooper
Advisor: James Parakilas

Classical Music Education: A Transcontinental Comparative Study of Classical Music for Today’s Youth

This thesis is a two-part project, the first being a viola recital performed on 24 April 2013, including a variety of original or transcribed works by Bach, Bruch, Walton, and Handel-Von Halverson. The second part of my thesis, to which the title refers, is a comparative study of the music education programs, particularly the orchestra programs, in the Lewiston Public Schools (Maine), the Farmington Public Schools (Connecticut), and the Foundation of Youth Orchestras of Chile (Fundación de orquestas juveniles e infantiles de Chile). The focus of the study is on accessibility issues, the outside and surrounding environments, and the accomplishments of each of the programs; it explores the reasons for both shared traits and discrepancies. While some of these programs are arguably more successful than others in certain ways, there is valuable information that could be shared and exchanged between all three programs, as in the end, all three share the goal of teaching and raising aspirations of young people through music.
Amna Ilyas  
*Advisor: Peter Steele*

**Hamd and Naat: Muslim Women Singers in Pakistan**

*Hamd* and *naat* form a musical genre that features religious chants set to lyrics praising Allah (God) and the Prophet Muhammad respectively. In the Pakistani society, there are numerous cultural and social dynamics performed through the religious and musical tradition of *hamd* and *naat*. These influences include for example the orthodox and unorthodox attitudes and commercialism. In this thesis, I focus on the gender dynamics in Pakistan performed vis-à-vis this musical genre from the perspective of those participating in this cultural phenomenon. Women should not sing in public according to orthodox Islam. However, female performers of *hamd* and *naat* are emerging rapidly and successfully all over the country. I suggest that women's active participation in this religious music destabilizes the power structures responsible for a woman's subordinate position in the Pakistani society. I also suggest that their participation expands the boundaries of acceptable activities for women under more orthodox interpretations of Islam. The perspectives most critical to my exploration therefore include performers, women, Islamic scholars, general public, producers and other cultural actors. I draw upon the interviews and field notes I took in Pakistan during my fieldwork and research in the summer of 2011 and 2012.

Miles C. Isacke  
*Advisor: Hiroya Miura*

**Requiem Mass for Chamber Orchestra and Choir**

For my thesis I composed a requiem Mass for chamber orchestra and choir. The following texts from the Roman Catholic "Requiem Mass" have been excerpted and set to music: *Introit, Kyrie, Dies Irae* sequence, *Offertory, Sanctus, Agnus Dei, Lux Aeterna, Pie Jesu, Libera Me*, and *In Paradisum*.

**Neuroscience**

Lauren A. Demers  
*Advisor: Nancy Koven*

**Meta-affective Processing and Its Relationship to Serotonin and BDNF Systems**
Emotional intelligence (eIQ), a normally-distributed, multi-faceted construct, describes one's ability to monitor emotions in self and other, discriminate among feeling states, and regulate emotions. As low eIQ is often considered a risk factor for mood and anxiety disorders, there is clinical value in understanding the biological contributions of eIQ. Interestingly, while the neurochemistry of affective disorders, particularly with respect to brain-derived neurotrophic factor (BDNF) and serotonin (5-HT) systems, is well studied, the relationship between these two neurotransmitters and facets of emotion processing across the full continuum of eIQ levels is unknown. In this study, peripheral levels of BDNF and 5-HT, self-report (Toronto Alexithymia Scale, Mood Awareness Scale, Trait Meta-Mood Scale) and performance-based indices of emotional intelligence (Mayer-Salovey-Caruso Emotional Intelligence Test) and other aspects of affective processing (Questionnaire Measure of Emotional Empathy, Reading the Mind in the Eyes Test, Auditory Emotional Stroop Test) were measured in a non-clinical, young adult sample to test the hypothesis that high levels of BDNF and 5-HT are associated with high eIQ and superior affective processing skills. While BDNF was related to poor emotion management, higher serotonin levels were associated with superior self-report and performance-based emotional clarity and perceptive ability as well as better performance-based social management skills. Low levels of both BDNF and serotonin were related to a memory bias to recall or recognize negatively-valenced words. The results of this study suggest that serotonin plays a critical role in emotional clarity and perceptivity.

Samantha M. Landino  
*Advisor: Jason Castro*

**Dominant and Subordinate Male Odors Elicit Different Patterns of Synaptic and Intrinsic Plasticity in Accessory Olfactory Bulb Mitral Cells of Female Mice**

The accessory olfactory bulb (AOB) is a sensory brain region critical for detecting and discriminating between socially relevant chemical signals from conspecifics. Additionally, the AOB is a well-established locus of social memory, with long-lasting, well-localized, and stimulus-specific physiological changes capable of decreasing AOB output upon reactivation by a specific odor. I investigated whether such plastic changes in the AOB are selectively induced by the odors of dominant, but not subordinate individuals, to characterize a hypothesized, but unidentified memory for signals conveying social rank. I established social hierarchies in male mice using the tube test to identify dominant and subordinate individuals. Female mice were reared for nine days on bedding from the cages of dominant or subordinate males. Following rearing, in vitro whole-cell recordings from female AOB slices were used to determine how dominant vs. subordinate male odors alter intrinsic and synaptic properties of AOB principal neurons (mitral cells). I found
that exposure to both dominant and subordinate male odors is sufficient to induce long-term changes in synaptic properties, namely recurrent inhibition. Additionally, dominant odor exposure tended to decrease neuronal excitability while subordinate odors increased excitability. Together, these results indicate that pre-exposure to dominant male pheromones tends to diminish mitral cell firing, which is known to constitute a particular form of memory, while subordinate pheromones may increase the responsiveness of mitral cells, suggesting that the AOB may selectively prioritize odors from dominant individuals.

Laura K. Max
Advisor: Nancy Koven

Peripheral Levels of Oxytocin and Affective Processing in Relation to Schizotypy

Schizotypy is conceptualized as the subclinical presentation of schizophrenic psychopathology, and involves affective, cognitive, and perceptual disturbances, as well as impaired social cognition. The neuropeptide oxytocin, which facilitates emotion recognition, bonding, trust, and attachment, is thought to play a role in the etiology of schizophrenia and evidence suggests that reduced levels of oxytocin contribute to the disease. However, it has not been determined if oxytocin abnormalities are detectible in schizotypy. The present study sought to examine the degree of correlation between peripheral levels of oxytocin and self-report indices of schizotypy in a sample of young adults. Additionally, the influence of oxytocin on the relationship between schizotypy and social cognition was assessed. Tests of social cognition included the Mayer- Salovey-Caruso Emotional Intelligence Test as well as a novel task that assessed emotion recognition derived from the Penn Emotion Recognition Task. Peripheral oxytocin levels were examined with enzyme-linked immunosorbent assay from saliva samples obtained per participant. Correlation and regression analysis indicated that oxytocin levels were positively associated with socioaffective difficulties, and that this relationship was moderated by emotional experiencing abilities as measured by the MSCEIT. This unexpected finding indicates that high levels of oxytocin may contribute to social cognitive impairments in a subset of individuals.
Philosophy

Kate L. Fetrow  
*Advisor: David Cummiskey*

Toward Global Justice: Reconciling Rawlsian Liberalism and Cosmopolitanism in an Interconnected World

In *A Theory of Justice*, John Rawls argues that, in constructing the basic structure of a just society, any social and economic inequalities must be part of a scheme of cooperation that works to the benefit of the least advantaged social class. He calls this principle of distributive justice the difference principle. In *A Law of Peoples*, however, he backs away from this claim, arguing for weaker cosmopolitan duties in constructing an international social order. This thesis does two things: 1) it explores this tension in Rawls’s work, arguing that in order for the *Law of Peoples* to be consistent with *A Theory of Justice*, Rawls must embrace a global difference principle, and 2) it investigates the implications of this conclusion, arguing that a global difference principle would necessitate robust duties of cosmopolitan aid, but would necessitate neither a world government nor open borders.

Politics

Mikayla C. Foster  
*Advisor: John Baughman*

How to Maintain One-Party Control: A Case Study of the Political Strategies Used by New Hampshire Republicans

This thesis is a case study of the strategies used by political parties to maintain one-party control at the state level. The New Hampshire House of Representatives, an unusually large chamber with 400 members, is studied. The Republican Party was able to maintain control of the House for almost 80 years, even when two-party competition arose in the state in the 1990s and Democrats were winning seats at the top of the ticket. To explain how they were able to maintain control, this thesis examines the use of redistricting, floterial districts, and ballot design to highlight the political strategies used by the party. An analysis of both the intended and unanticipated consequences of institutional design as well as the interplay and sequencing of the strategies explain how Republicans manipulated electoral institutions and translated votes into seats in order to protect a party’s majority in the legislature.
Nora M. Hanagan  
*Advisor: Senem Aslan*

**Turkey's Gender Equality Puzzle: Navigating the Difference between Policy and Practice**

Given extensive reforms targeted at improving gender equality in Turkey since the 1920s, one would assume that women and men enjoy a comparable social status, but this is far from the case. To explore this puzzle, I analyze the disparity between what the state wanted to do in regard to women's rights, and what it actually could do on the ground. While the majority of feminist literature relies on a restrictive understanding of the state as uniformly patriarchal, I expand these explanations to consider an assessment of state strength and implementation capabilities. By looking at education and labor reforms from the early Turkish Republic and under the current ruling party, I outline the ways in which the Turkish state simplified the woman question, then failed to adapt their proposed reforms to a variety of Turkish contexts, leading to significant local resistance. By acknowledging the limits to state power and the variety of interactions between state and society, my approach provides more concrete evidence necessary to fairly evaluate states' commitment to gender equality and social change.

Cameron A. Sheldon  
*Advisors: Jason Scheideman and Clarisa Pérez-Armendáriz*

**Getting Away with Murder: Why States Deny Past Atrocities**

The Turkish government's 98-year-old denial of the Armenian genocide presents an unprecedented case of unacknowledged atrocities. Four years after the failed 2009 Protocols between the republics of Turkey and Armenia, and nearly a century after the massacres of Ottoman Armenians, it is now a critical time to understand how and why the Turkish state continues to wash away one of the darkest spots in its history through a sustained policy of denial. Why is recognition of the events of 1915 as "genocide" so vigorously contested in Turkey? After almost 100 years, what sustains the denial of the Armenian genocide as an official policy of the Turkish state? More broadly, why do states refuse to acknowledge past atrocities, sometimes decades after their commission? I investigate this puzzle vis-à-vis the two "faces" of state action and examine competing explanations for why states acknowledge or deny past atrocities. According to the Realist paradigm of international relations scholarship, state acknowledgement and/or denial stems from considerations of power and exogenously given preferences. By contrast, the Liberal paradigm maintains that underlying preferences embedded in domestic politics control and condition the same behavior. Ultimately, I contend that the Liberal paradigm has greater explanatory power in light of the domestic interlocutors that mediate, filter
and reflact the efforts to extract official acknowledgment of past atrocities. This is illustrated in the case studies of Turkey and Japan, where official policies of denial or revisionism are sustained through the playing out of partisan politics geared to the promotion and preservation of national identity.

Psychology

Alexandra W. Abry
Advisor: Amy Douglass

Social Anxiety and Memory Conformity in Eyewitnesses

Two experiments examined memory conformity in an eyewitness context where it can have devastating effects. The aim of these experiments was to determine whether state anxiety (Experiment 1) and trait anxiety (Experiment 2) affect memory conformity. Experiment 1 revealed that state anxiety was resistant to influence from a one-way mirror in the context of an identification decision, precluding a test of state anxiety's effect on memory conformity in this context. Experiment 2 examined anxiety as a dispositional variable by testing the differential effects of social avoidance on memory conformity. In the first phase, participants completed a measure of social anxiety and viewed 60 photographs of faces. Later that week, participants were paired and asked to look through 120 photos and indicate whether the photos were old (previously seen) or new (previously unseen). Participants were randomly assigned to one of three conditions: no motivation, monetary incentive, or forced unanimity. In the no motivation condition, participants were not given any instructions beyond the basic task instructions. Participants in the monetary incentive condition were told that the most accurate participant would receive a cash reward, and participants in the forced unanimity condition were told that they would have to engage in a face-to-face discussion to resolve discrepant answers, should any occur. Overall, socially avoidant participants conformed significantly less than non-socially avoidant participants, and conformity rates were significantly higher in the forced unanimity condition than in the no-motivation and monetary incentive conditions.

Stephanie K. Boyle
Advisor: Michael Sargent

Regulatory Focus Theory and Reactions to Anti-Egalitarian Humor

Regulatory focus theory examines the ways people seek pleasure and avoid pain by proposing two different styles: promotion focused (eager to make positive things happen) and prevention focused (vigilant in avoiding negative situations). Studies
have shown that high regulatory fit, when a person’s actions or experiences match their regulatory focus orientation, increases a person’s enjoyment of an action. The current study examines the role one’s regulatory focus and the framing of egalitarianism (positively or negatively) play in reactions to anti-egalitarian humor. It was hypothesized that those experiencing regulatory fit would react more negatively to anti-egalitarian humor. To investigate this hypothesis, two studies were conducted in which participants’ regulatory focus was primed with a regulatory focus priming task after which they were asked to complete a survey and rate their reactions to different videos, including a public service announcement framing egalitarianism positively or negatively and two anti-egalitarian jokes. While results from Study 1 did not support the regulatory fit hypothesis, results from Study 2 did. A significant effect was found for promotion focused participants where participants who viewed the positive PSA reacted more negatively to the anti-egalitarian humor than those who viewed the negative PSA. By contrast, there was a nonsignificant trend in the prevention focused group in the opposite direction so that participants reacted more negatively to the humor after seeing the negative PSA. Reasons for why the regulatory fit hypothesis was found for Study 2, but not Study 1, and implications of this finding on other fields are discussed.

Stephanie L. Sprague
Advisor: Kathryn G. Low

Fat Talk with Parents and Weight Bias in High School and Undergraduate Students

Weight bias is found in people of all ages, beginning from age three and lasting into late adulthood. Recent research has demonstrated that mothers’ negative attitudes toward overweight and obese persons influence their children’s attitudes toward overweight persons (Holub, Tan, & Patel, 2011). This study sought to expand on these findings by examining whether both mothers’ and fathers’ attitudes toward overweight persons are associated with bias in their high school- and college-aged children. This study also explored “fat talk” as a mechanism through weight bias is transmitted from parents to children. One hundred and twenty-seven high school, 94 undergraduate students, and 82 undergraduate students’ mothers and fathers completed measures on weight bias and fat talk. Women participated in fat talk with parents more than men. Fat talk with mothers appeared to be important in the transmission or perpetuation of weight bias to their high school-aged children. Fat talk was less important for undergraduates, but parental weight bias, particularly toward teenagers, was associated with their children’s negative attitudes toward obesity. This study has potential implications for both understanding the origins of weight bias and for the development of weight bias reduction interventions.
Rhetoric

Holly W. McLaughlin
Advisor: Jan Hovden, Sonja Pieck

Protecting Life: A Metaphorical Analysis of the Pro-Life Anti-Abortion Movement and the Conservation Movement

The 2012 election cycle in the United States was not only saturated with talk of the abortion issue but marked by extreme weather events such as Superstorm Sandy and the costliest drought in United States history. This investigation attempts to understand how the discourse concerning life, both human and ecological, is negotiated in the political sphere. In consulting the theory of metaphor by Kenneth Burke, George Lakoff, and Mark Johnson, a cluster analysis is employed to identify the metaphors that emerge around the word “life.” These metaphors were compared to further understand how the protection of life is negotiated rhetorically. This analysis is limited to two spheres. Concerning anti-abortion rhetoric, the organization The Susan B. Anthony List is used to identify and collect texts from politicians who actively speak out against abortion. Contrastingly, the ongoing case of saving the symbolic Hetch Hetchy Valley in Yosemite National Park is used to identify conservation discourse. Ultimately, a comparative cluster analysis of the word “life” is conducted to distinguish how each respective faction, the anti-abortion movement and the conservation movement, uses the term “life” in order to draw conclusions for why one movement is more successful than the other.

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Constructing the Prophet: Steve Jobs and the Messianic Myth of Apple

On 5 October 2011, the cofounder and President of Apple Inc., Steve Jobs, passed away. His death invoked a tremendous expression of grief from the public, complete with candlelight vigils, shrines, and a surge of digital activity praising his accomplishments. Many of the tributes to and obituaries of the American icon used religious language and motifs. This cooptation of sacred symbols by the media reflects a growing tendency to sacralize technology in the modern era. As traditional religions morph, many individuals search for a different means of spiritual engagement and for some, Apple’s devices are perceived as a way of connecting with the divine. In conjunction with this phenomenon, the mainstream media outlets have delineated Steve Jobs as the central figure of a religious movement by chronicling his life. Utilizing the theories developed by Wilson Moses and James
Darsey on messianism and the rhetorical creation of a prophet, this thesis critically views the construction of The Messianic Myth of Apple. This narrative frames Apple as the heart of a messianic movement grounded in the ideals of change and transcendence through technology. Meanwhile, Jobs assumes the role of prophet, the savior who provides devices of individual, social, and mystical satisfaction.