

Wilkes Honors College 2009 Research Symposium

April 3, 2009

Talk Abstracts

Robert Adams

The Representation Paradox

Advisor/Professor: Dr. Mark Tunick

There is a paradox inherent in the concept of political representation in America's democracy. A representative is expected to act on their own knowledge, expertise, and discretion. However, the representative is also expected to be the mouthpiece for the constituency, and there are times when these two responsibilities directly conflict. I seek a way out of this paradox by examining the concept of political representation as it applies to varying democratic models. I argue that if a representative uses their expertise and discretion to craft multiple plausible resolutions to conflicts and then leaves the ultimate choice with the people, the paradox may be significantly remedied. Representatives could utilize many of the bill-drafting practices currently in place, but could not vote to enact a bill without consulting the people their vote represents.

Elienne Anoriscat

Capital Punishment v. Life Imprisonment

Advisor/Professor: Dr. Mark Tunick

I critically examine the death penalty as opposed to life imprisonment without the possibility of parole for the most serious crimes, drawing on constitutional case law, empirical studies, and philosophical accounts of punishment. Three major arguments for capital punishment are deterrence, incapacitation and retribution. I explain how all three of these aims can be achieved without the execution of the criminal. The exhaustive execution process severely diminishes the usefulness of capital punishment as a deterrent. Life imprisonment without the possibility of parole adequately incapacitates the criminal; it should be sufficient punishment for a retributivist. Life imprisonment without the possibility of parole would let us reverse such cases of mistaken punishment.

Allison Bailey

Quine on Underdetermination and Realism

Advisor/Professor: Dr. Amy McLaughlin

In this paper I discuss the philosophical theories of underdetermination and realism as they are discussed by Willard Van Orman Quine. Quine's underdetermination thesis states that theories are not completely determined by empirical evidence. This thesis implies that all theories compatible with empirical evidence have an equal chance of being true (or false). But truth or falsity are usually understood in terms of the way the world really is. Realism is the belief that the world exists and has characteristics independently of our ideas about it. Quine accepts both underdetermination and realism. Underdetermination, however, implies that empirical evidence is insufficient for proving a theory whereas realism suggests that such proof should be possible. I will explore the strength of Quine's realism, whether underdetermination and realism can be reconciled, and what is implied by our acceptance or rejection of them.

Brian Betterman

Armar el rompecabezas: La memoria y la tortura en La muerte y la doncella de Ariel Dorfman y La escuela de Alicia Partnoy
Advisor/Professor: Dr. Mary Ann Gosser Esquilín

The twentieth-century Latin American political landscape can be characterized by cyclical democracy and dictatorship. Cooperative dictatorships emerged in the 1970s that employed state-sponsored terror tactics to thwart a perceived subversive threat. In order to attract national and international attention, several survivors have converted their experience as desaparecidos or “disappeared” into powerful narratives that chronicle their struggle. This thesis will analyze the theatrical work of Ariel Dorfman entitled *La muerte y la doncella* (1992), and the creative non-fiction work of Alicia Partnoy entitled *La escuela* (1986). The core of the thesis will examine how torture affects memory, and how the preservation of these memories through literary texts shapes the collective history of Chile and Argentina specifically. Moreover, this examination will explore the manner in which each text functions as an intermediary in the memory transference process from the individual to the collective. The authors and their respective texts were selected because of their primary experience with the subject matter: torture. Dorfman and Partnoy were both victims of the disappearance campaigns and have become preeminent authors by chronicling the Latin American torture epoch they survived.

Amber Butyn

Investigation of Talin Head-Tail Interaction
Advisor/Professor: Dr. Nicholas Quintyne

Talin is a ubiquitous, high-molecular-weight, flexible protein that plays a critical role in focal adhesions by activating, as well as connecting, integrins to the actin cytoskeleton. Talin’s inactive auto-inhibitory state is speculated to be one of its modes of regulation inside the cell and is achieved through its head-tail interactions. In order to decipher the stability of this interaction, the head domain (residues 206-405) was cloned into a modified pET28m vector while the tail domains (residues 1654-2344 and 2225-2344) were cloned into the pET32a vector to obtain octa-histidine tagged and un-tagged protein, respectively. Neither co-expression nor pull-down using the His-tagged head domain was successful in purifying a stable head-tail complex. Our results indicate rather weak interactions between the talin head and rod domains and hence, under our experimental conditions, do not lead to a stable auto-inhibitory complex that can be purified for further studies.

Kristen Chase

Old Enough to Kill; Too Young to Die? Evaluating Public Opinion of the Juvenile Death Penalty
Advisor/Professor: Dr. Martin Sweet

In 2005, the United States Supreme Court found the execution of juvenile offenders to be unconstitutional, based in part on a “national consensus” against the death penalty for juveniles. I examined state minimum age requirements for execution, public opinion polls, and surveyed 156 Florida Atlantic University students. This triangulated approach considers the Court’s review of legislative tallies, the level of public support for the abstract notion of executing juvenile offenders and an experiment regarding the difference age makes in sentencing. My

results suggest that while revealed public opinion is against the juvenile death penalty, state statutes and my experiment reveal a higher level of support for the juvenile death penalty.

Steve Clanton

Real Composition Algebras

Advisor/Professor: Dr. Ryan Karr

Most students of math are familiar with the addition and multiplication of real numbers and complex numbers. The real number line and the complex plane have dimensions one and two, respectively. On October 16th, 1843, the Irish mathematician Hamilton carved, into the side of the Brougham Bridge, equations that described a new four-dimensional system of numbers having addition and multiplication. These numbers are called Quaternions. One may ask, "Are there any more such systems of higher dimension?" I will introduce the definition of a normed unital algebra and describe why there exists exactly one more such system of numbers.

Kimberly Copeland

The Celebration of Uncertainty through Gothic Moments in Emily Bronte's Wuthering Heights

Advisor/Professor: Dr. Hilary Edwards

While critics have argued that the Gothic moments in Emily Bronte's *Wuthering Heights* merely illuminate the psyches of her characters, I show that these moments allow Bronte to reveal a unique tension and overflow of emotion that arises between her two main protagonists. Blurring the lines between fantasy and reality, these displays—scenes of ghostly hauntings, bloody violence, and excessive emotion—create a desirable uncertainty about the limits of life and love in this novel. This uncertainty constitutes an escape from and an alternative to the conventional romantic relationship prescribed by social and narrative standards in which two people fall in love, get married, have children and die. In my thesis, I argue that the revelation of this desired uncertainty is made possible by Bronte's use of Gothic devices and could not have been achieved by any other literary mode.

Kathryn Cruikshank

"Of Things Invisible to Mortal Sight": The Subordination and Glorification of God the Son in Paradise Lost

Advisor/Professor: Dr. Michael Harrawood

This thesis considers the function and empowerment of God the Son in the anti-Trinitarian system John Milton fashions within *Paradise Lost*. Departing from the conventional notions of an equal Trinity, Milton deliberately writes of the Son as a secondary character throughout the poem and deprives Him of many powers – omniscience and omnipotence, principally- which Trinitarians have traditionally attributed to him. Despite this apparent degradation, Milton still elevates the figure of the Son, though only after the Son has proven His obedience to the Father. This thesis argues for the possibility that subordination is precisely what leads to privilege, and ultimately power, as it is the Son who controls and moderates the relationship between fallen man and a Father who is frequently characterized as light. Since the Father exists primarily as an invisible source, the Son demonstrates His influence through His ability to mediate and make visible an unapproachable Father.

Amanda D'Arrigo

Religious Faith within the Scientific Revolution: A Struggle throughout Baconian Literature
Advisor/Professor: Dr. Michael Harrawood

This project considers the dual nature of early English thinker Francis Bacon as both a man of science and a devout Christian, through the texts *Advancement of Learning*, *A Confession of Faith*, and *Of Gardens*. Regardless of Bacon's preaching that the progression of scientific knowledge brings one closer to God, in fact human dominance over the natural world undermines religious faith. In particular, Bacon's own interest in early English gardening is used to illustrate the degradation of religious mysticism due to the rise of scientific discovery. Historically, Bacon has been credited as the catalyst of the scientific revolution due to his proposition of a new system of scientific inquiry based on empirical and inductive principles and the development of new arts and inventions. However, Bacon's embrace of the physical sciences and support for human advancement contradicts his alignment with religion. This tension is at the heart of the paper.

Jeremy DeChario

Blue Houses and Red Minotaurs: Media and Narrative in Mark Z. Danielewski's House of Leaves
Advisor/Professor: Dr. Laura Barrett

Due to the changing technologies of media, namely the rise of the internet as a vehicle for narrative, the novel has adapted to remain culturally relevant. This change is illustrated in Mark Z. Danielewski's novel, *House of Leaves*, where the novel's form borrows techniques common in digital narratives. These technologies, such as hyperlinks, a web-like network structure, and an encyclopedic knowledge base, are used throughout *House of Leaves* to create a novel that takes effort to navigate, similar to a web page. Much critical attention has been paid to the novel's structure, which is said have the positive effect of revitalizing the print novel for the digital age. It can be argued, however, that the narrative itself, which is overlooked by critics, expresses trepidation about the shift from analog to digital as a means for recording narrative.

Caitlin Farinelli

A Middle Way Between Universalism and Relativism in Ethics and Epistemology
Advisor/Professor: Dr. Amy McLaughlin

Ethics are the principles that we use to guide our choices. In order to decide which ethical position is better we need to look to epistemology, the study of what we know and how we know it. There are two extreme approaches to both ethics and epistemology: universalism and relativism. I will focus on the relationships among ethical universalism, ethical relativism, epistemological universalism, and epistemological relativism. There are good reasons both in favor of and against each of these approaches. I look in depth at several arguments relevant to each approach, particularly those made by Martha Nussbaum, Richard Rorty, and Hilary Putnam. After examining these authors' arguments, I formulate my own argument that the best position is not an extreme version of either epistemological or ethical relativism or universalism. The moderate position that I advocate incorporates the advantages of the extreme positions and avoids their pitfalls.

Edward Fulton

Dynactin is Critical for the Processive Movement of the Dynein Motor Protein

Advisor/Professor: Dr. Nicholas Quintyne

Dynein is a motor protein responsible for microtubule-based minus-end directed trafficking in eukaryotic cells. Dynactin is a protein complex involved in mitosis, embryonic development, intracellular trafficking and anchoring microtubules at the centrosome. While dynactin is widely recognized to improve the array of cargo with which dynein can associate, there has been some dispute over whether dynactin, which binds both dynein and microtubules, improves the distance that dynein can travel processively in the act of cargo trafficking before it dissociates from its microtubule. In this study, we compare movement parameters of wild type dynein-based vesicle movements with movements in cells where expression of dynactin's microtubule binding subunit, p150^{glued}, has been knocked down. We find that dynactin does act as a processivity factor for dynein by increasing the distance that dynein can travel smoothly in a single movement event, but does not increase dynein's velocity.

David Holz

Seeing the World Through Shadows

Advisor/Professor: Dr. Eugene Belogay

We present techniques for 3D imaging and light tracking based on the analysis of shadows. Illuminating an unknown object with lights of different colors and positions, we use the shadows it casts to estimate its position and shape. The beautiful and surprising geometry of the elliptical shadow of a sphere allows us to calibrate the imprecise positions of the lights with remarkably few measurements.

Amanda Hoogkamp

Analyzing the Growth of Protestantism

Advisor/Professor: Dr. Timothy Steigenga

There are several competing theoretical explanations for why Pentecostal Protestantism is growing rapidly in Latin America including affinities with the indigenous religions of the region, a recent increase in the supply of Pentecostalism due to missionary movements, a reduction in government regulation of religion, social anomie theory, and the pull of economic upward mobility through conversion. This study analyses the growth of Pentecostal Protestantism in the case of Mexico utilizing state by state comparative data measuring these variables. While measures of poverty, higher percentages of indigenous residents, and government regulation are correlated with Pentecostal growth, social anomie and economic explanations for Pentecostal growth likely over-predict conversion, as many individuals are exposed to the same external factors and only some choose to convert. Theories explaining Pentecostal growth should be revised to reflect these convergent factors and move beyond the role of anomie and economic motivations.

Jacob Keltner

The Effect of Remittances on Labor Supply: A Case Study of Mexico

Advisor/Professor: Dr. Keith Jakee

Latin Americans who have chosen to immigrate to the United States and other developed countries often send money home in the form of remittance payments. Remittances are a significant source of external household income for many families in Mexico. Economic analysis suggests that by increasing a household's income we can expect a reduction in that household's supply of labor, like in a welfare transfer. Using data from the National Survey of Income and Expenditure of Households (ENIGH) to create an econometric model we can estimate if changes in remittance income affect the labor supply. Results will be presented at the symposium.

Kathryn Klaas

Help or Hype? The Role of Internet Marketing in Rural Development Strategies

Advisor/Professor: Dr. Timothy Steigenga

International development literature suggests that Internet marketing has the potential to play an important role in rural development. Despite the abundant theoretical support for incorporating Internet marketing into development strategies, there is little empirical evidence regarding whether Internet marketing actually generates development. This thesis helps fill this gap in the literature by investigating whether one Internet marketing application associated with development, competitive-online auctions (COAs), contributes to growth and poverty reduction. An analysis of price premiums earned in Latin American specialty coffee auctions and interviews with participating coffee farmers suggest that this application's strength lies in its ability to catalyze development; it provides the foundation from which farmers can pursue above-market prices, access new markets, and improve local living conditions. However, evidence also emphasizes that COAs do not inevitably advance development goals because their ability to do so is contingent on external factors, including the actions taken by individual farmers.

Sandra Lazo de la Vega

Catholic Church Activism on Immigration Issues in the United States: Testing the Religious Economy Model

Advisor/Professor: Dr. Timothy Steigenga

This study tests the religious economy model for predicting Church behavior which predicts that religious firms will become more politically active on behalf of potential members in areas where competition for those members is most fierce. An analysis of data from a survey of 106 U.S. Catholic dioceses and archdioceses on outreach to Hispanic immigrants does not support this hypothesis. Religious competition and Church activism on immigration issues did not correlate. Rather, demand for services (measured as Hispanic presence within each diocese) was a better predictor of Church activism on immigration issues. This finding suggests that the "inelastic demand" assumption of the religious economy model must be dropped, re-opening demand side explanations for Church behavior across national and local contexts.

Alicia Leeper

Personality, Decision-making, and Human Lives

Advisor/Professor: Dr. Kevin Lanning

Prospect theory describes decision making between alternatives involving uncertainty in the context of psychology. I distributed an online survey asking participants to make decisions about a series of questions that resulted in either ‘saving lives’ or ‘losing lives.’ A measure of the Big Five was used to assess personality. My hypotheses are that people who score higher on Extraversion would be more inclined to choose riskier options to procure gains and that people who score higher on Neuroticism would be more likely to choose riskier options to avoid losses. Since I used scenarios involving lives rather than financial risks, I also hypothesize that the results will differ from previous research because human lives and money are valued differently. This research could be used to clarify the difference between making decisions that involve money, such as in the stock market, and those concerning people, such as in war.

Jan Loeffler

Living Green: Healthy Homes for a Sustainable Future

Advisor/Professor: Dr. William O'Brien

Homes account for 21% of all energy consumption in the United States. The average household water consumption is between 100-200 gallons per person per day. Most homes are built with materials that are loaded with toxins causing indoor air pollution and a wide range of serious health effects. The end of the era of cheaply available fossil fuels and abundant fresh water, and the threat of global warming and environmental degradation makes the sustainable redesign of our homes an absolute necessity. This project presents one such possible home design tailored to South Florida’s unique climate and local resource availability. Onsite renewable energy generation, energy efficient design, water efficient fixtures, rainwater capture, gray water recycling, and nontoxic building materials are incorporated into homes for healthy people and a healthy planet. An analysis of energy use, water use, CO₂ emissions, and chemicals avoided in this design compared to standard home design is included.

Uriel Lotarynski

Democracy and Economic Growth in Argentina

Advisor/Professor: Dr. Keith Jakee and Dr. Kanybek Nur-Tegin

By now, a vast literature has attempted to answer the question of whether democracy is conducive to economic growth. The empirical side of the literature has not come to any consensus on this issue. My thesis examines Argentina’s economic and political history from 1960 to the present; the latter includes particularly volatile episodes with many military regimes since 1930. Specifically, I attempt to contribute to the democracy-growth literature by examining whether Argentina’s level of democracy affected its economic growth. Controlling for a number of factors, I construct an econometric model that focuses on GDP as the dependent variable and democracy as the independent variable of interest. I claim that there is no correlation between Argentina’s economic growth and its level of democracy.

Ricardo Martin

Construction of Mitochondrion-targeted Telomerase for Analysis in Saccharomyces Cerevisiae

Advisor/Professor: Dr. Paul Kirchman

Telomerase is associated with telomere production and nDNA protection. However, studies by Santos et al. have demonstrated that human telomerase has a mitochondrial entry sequence and in the presence of hydrogen peroxide it has been found inside the mitochondrion and may cause mitochondrial DNA mutations. *Saccharomyces cerevisiae* contains telomerase, but it does not have the mitochondrial entry sequence. To determine if the presence of telomerase in the mitochondria can induce mutations an experiment was developed in which a mitochondrion entry sequence would be fused to the *S. cerevisiae* telomerase enzyme. This fusion could then be screened in *S. cerevisiae* with an *ade2* mutation for a simple color assay of mitochondrial activity. To date, no successful transformant has been identified. The frequency of incorrect ligations has been recognized and may indicate that the desired fusion is lethal to *E. coli* cells.

Mario Mayes

Nuclear Suppression of Mitochondrial Defects in Saccharomyces cerevisiae

Advisor/Professor: Dr. Paul Kirchman

In eukaryotic cells, there are two localizations for genetic material: the nucleus and the mitochondria. Alterations in either genome can be detrimental or lethal, but can sometimes be advantageous. We induced random mutations in the nuclear DNA of yeast after removal of their mitochondrial DNA. Following mutagenesis, deficient mitochondrial DNA was returned to the mutants. The mixture of mutants underwent several rounds of competitive growth to enrich for mutants with increased growth rates. Individual clones that appeared to be quick growers were assessed for doubling times. We isolated strains that outgrew the original parent by an average time of thirty minutes. Further analysis of this mutant will be necessary to confirm that the mutation is nuclear and then to determine the specific location of the mutation providing enhanced growth.

Emily Miller

The Relationship Between Humanity and Technology in William Gibson's Neuromancer and Pattern Recognition

Advisor/Professor: Dr. Laura Barrett

When William Gibson published his first novel, *Neuromancer*, in 1984, he could only suppose what a technologically-infused future would evolve--or devolve--into, and how humanity might adapt into such a world. Through *Neuromancer*, Gibson suggests that technology has the power to literally take over the body and redefine subjectivity, and that human relationships are likely to suffer as a result. In a novel written nearly twenty years later, *Pattern Recognition*, Gibson adopts a new perspective on technology, and shows how, in our present era, technology proves to be less threatening to both human identity and relationships, oftentimes strengthening both. By connecting *Neuromancer* and *Pattern Recognition* through the similar names of the novels' protagonists, Case and Cayce, I believe that Gibson shows how, as time and technology progress, humanity adapts and learns how to utilize technology to strengthen its identity rather than undermine it.

Spencer Miller

Presidential Term Limits: If You Want to Run Again, Try a Marathon

Advisor/Professor: Dr. Mark Tunick

The Twenty-Second Amendment to the United States Constitution, ratified in 1951, enacted a limit of two terms for most people serving as president (there is an exception for then-President Truman and for vice presidents who assume the office of presidency more than two years into a term). I examine the justification of that amendment by looking at arguments both for and against term limits, term limits for other elected offices in the United States, and term limits in other countries. By looking at democratic theory, I will argue that presidential term limits are not necessary insofar as they interfere with the right of the people to choose whomever they want as their president.

Katherine Mockler

Caught Red-Handed, But Not Guilty: The Entrapment Defense and Culpability

Advisor/Professor: Dr. Mark Tunick

There is a debate among scholars regarding how courts should judge defendants caught in government decoy and sting operations. As a retributivist, I believe we should only punish those who are culpable. Following this assumption, I argue that courts should punish entrapped people if they are culpable and that the subjective test, which holds that a defendant is culpable if he was predisposed to commit the crime, should be the standard by which courts judge defendants who claim entrapment. The objective test, which focuses on the propriety of the government conduct, fails to accurately assess culpability because, under this test, the guilt of the defendant depends largely on what the average person would have done under the same circumstances. I also propose that if government conduct was outrageous, defendants found to be predisposed may claim that the government violated their right to due process.

Daniel Ohm

DNA Profiling and Fourth Amendment Privacy

Advisor/Professor: Dr. Mark Tunick

DNA profiling is a newly developed technique used by law enforcement agencies in the United States as a form of individual identification to prove whether a suspect is guilty. Due to the fact that it is a newly developed technology there is little legislation to regulate its proper uses and restrictions. Therefore restrictions are largely determined by court decisions as to whether DNA profiling violates constitutional rights. Current decisions in state and federal district courts tend to permit use of DNA profiling without a warrant. These decisions violate principles of privacy guaranteed by the US Constitution as interpreted in pre-DNA fourth amendment cases. By drawing on fourth amendment case law and commentaries, I shall argue that while in some cases no warrant is required for DNA profiling—when it is conducted upon people who have been convicted of a felony—for all other people, a warrant should be required.

Claire Oliver

'Teaching Bodies': The Feminization and Racialization of the American Teacher

Advisor/Professor: Dr. Wairimu Njambi

The 'teacher' is an elusive but critical character in the creation of American schooling. Within their classrooms educators are leaders. Their ability to influence, however, is limited to their direct contact with students. Institutional construction and reform limit the role of teachers to classroom settings and deny them autonomy. The current role of teachers seemingly values their ability to carry out curriculum put forth by a 'ruling order'. In this way, teachers are wanted for their physical bodies, but not their minds: they are not included in the process of knowledge-making and are stripped of accountability and professionalism. Teaching work, a 'feminized' profession, is a low-status career that seems to be constructed within the societal notion of 'womanhood'. This paper discusses not only the ways in which 'teaching work' became classified as 'women's work', but also how race and gender entwine in order to construct the specific type of 'body' appropriate to engage in this profession.

Cori Ouellette and William Severa

From Textbook to Reality: Was Torricelli Right?

Advisor/Professor: Dr. Eugene Belogay

How does water leak out from a tank? Evangelista Torricelli (of barometer fame) discovered the answer in 1643: the square of the rate at which the tank drains is proportional to the current water level in the tank. Does the law "hold water" for real water and real tanks? We checked: real flows follow the law surprisingly well, but only after adjustment by an (unknown) experimental "fudge factor", called the Borda coefficient. Even though the reason, called vena contracta, is well known -- real flows contract around the hole, which slows the drainage -- the Borda coefficient has no universal value. By fitting experimental data from draining various bottles through various holes, we estimated the Borda coefficient and verified Torricelli's model.

Amanda Puehn

Shifting Identities in "The Return of Martin Guerre"

Advisor/Professor: Dr. Michael Harrawood

In *The Return of Martin Guerre*, commented on by Natalie Zemon Davis, identities are created, destroyed, and change hands. Furthermore, individual identity creates the community's identity which then becomes supreme. Jean-Paul Sartre speaks directly to the postulation that the individual creates the community in his essay "Existentialism is a Humanism". He recognizes that the individual is only validated by the community, thus bestowing great transformative and creative power on the community. Identity, once developed, becomes independent of the original physical individual, but never independent of the social system in which it was first created. This separation allows for the identity to be inhabited by another individual, thus making identity something transferrable.

Erik Raborn

Centrosome Recruitment: A Four Dimensional Map

Advisor/Professor: Dr. Nicholas Quintyne

The centrosome is a dynamic and highly active organelle within the cell. It plays a pivotal role in mitosis driving several of the physical changes that are taking place. The centrosome self-replicates before mitosis in order to set up two spindle poles on opposite sides of the cell. This leads to the creation of a mother and daughter centrosomes within a cell that have distinct components. This project will create a 4 dimensional map describing the recruitment of proteins to the centrosome as a cell progresses through the cell cycle. The proteins examined are γ -tubulin, β -tubulin, ϵ -tubulin, Nek 2, Centrin2, p150^{Glued}, EB-1, and dynein intermediate chain. In addition, chromosome arrangement was determined. By examining these proteins we hope to establish a logical order for the interactions of these proteins and their key contributions to cell cycle progression and completion, specifically dealing with the development of the mother and daughter centrosomes.

Laura Ray

Before and After NAGPRA: The Effect of the Native American Graves Protection and Repatriation Act on Archaeological Practices in the United States

Advisor/Professor: Dr. Jacqueline Fewkes and Dr. Martin Sweet

The Native American Graves Protection and Repatriation Act (NAGPRA) was approved by Congress on November 16, 1990 after years of American Indian lobbying due to the unfair treatment of American Indian remains. Since the enactment of NAGPRA there have been multiple complaints from the archaeological community that the way in which they conduct their jobs has been severely limited by the implementation of NAGPRA. In this study I compare data from the Secretary's Report to Congress questionnaire, conducted by the National Park Service's Federal Archaeology Program, to determine whether NAGPRA has caused an increase or decrease in the amount of archaeological administrative, laboratory, and fieldwork completed between 1985 and 2005. The comparison shows that there was a significant increase in specific archaeological practices in the years following the implementation of NAGPRA. Looking at the changes in work patterns of archaeologists allows us to assess the success of NAGPRA and it provides empirical evidence to evaluate the claims made by parties affected by the act.

Jared Roeckner

Knockdown of Dynactin's p150^{Glued} Subunit Abrogates Microtubule Organization

Advisor/Professor: Dr. Nicholas Quintyne

Dynactin is a multifunctional protein complex composed of at least 11 different subunits. Dynactin functions as a cofactor for cytoplasmic dynein facilitating long-range vesicle movements, microtubule anchoring, endomembrane localization, and mitotic progression. Previous studies have shown that dynactin binds to microtubules at the centrosome maintaining a radial array in interphase. The p150^{Glued} subunit contains two distinct microtubule-binding sequences named CAP-Gly and Basic. While both domains can interact with microtubule, CAP-Gly has a much greater affinity for binding to microtubules, suggesting that the two domains may be active for different dynactin-based functions within the cell. Using siRNA, we

found that knockdown of p150^{Glued} was sufficient to alter the maintenance of radial microtubule arrays, cause an increase in centrosome number and mitotic index. In the future we will replace the endogenous protein with versions lacking the CAP-Gly or Basic domains to investigate the contribution of each to microtubule anchoring and cytoskeletal architecture.

Stephen Rowe

Invariant Subspaces and Orbits of Operators

Advisor/Professor: Dr. Terje Hoim

We discuss orbits of operators and their connection to invariant subspaces. Starting with a point x in a normed space and repeatedly applying an operator T on x , the sequence $\{x, Tx, T^2x, \dots\}$ is an orbit. We will analyze the existence of certain types of orbits and solutions to the invariant subspace problem.

Victoria Ryan

Satan's Imprisoning Words: Questioning the Value of Language in John Milton's Paradise Lost

Advisor/Professor: Dr. Michael Harrawood

Paradise Lost is fundamentally about the truth-value of language, and I will argue that John Milton writes the epic poem to urge that language be made to conform to the physical world and truth. By showing that Satan is trapped by his own rhetoric, Milton makes the greater argument that language can only be true when it coincides with the actual nature of God's creation. Satan falsely believes he can rewrite or unmake God's reality if he can only write a new narrative. He attempts to deny the supremacy of God by rhetorical argument and narrative invention. Milton, in an age characterized by repeated religious and political upheaval largely spurred through pamphleteering, exposes the dangers of falling prey to the seductively malleable properties of language.

Therese Rytz

Cloning SOD2 from the Red-Eared slider (*Trachemys scripta*)

Advisor/Professor: Dr. Paul Kirchman

The red-eared slider turtle, *Trachemys scripta*, has the ability to survive conditions that result in oxidative damage in other organisms. The turtle seems to have enhanced antioxidant defenses, of which manganese superoxide dismutase (Mn-SOD) is a component. Mn-SOD removes superoxide radicals in the mitochondria. We are wondering if the red-eared slider's Mn-SOD has any mutations that might give it a higher activity level than superoxide dismutases from other species, allowing the turtle to better prevent damage to its tissues. To study this, I am cloning the turtle's Mn-SOD gene, in order to sequencing it, and do sequence comparison to homologs (other SOD's) from different species. Two approaches have been taken to isolate the gene. A cDNA library was created and used to complement an *E. coli* SOD mutant. The second method employed degenerate PCR primers able to recognize a conserved segment of the gene to isolate SOD from the library.

Tanya Sahin

Bribery by Firm Characteristics

Advisor/Professor: Dr. Kanybek Nur-tegin and Dr. Keith Jakee

Most economists would agree that corruption is detrimental to economic efficiency. While several studies analyze this detrimental effect, there is less research on the causes of corruption, in particular at the micro level. In this paper, we estimate how firm characteristics affect

bribery. That is, we investigate what types of firms tend to bribe most. Using extensive data on 8,462 firms from 28 countries in Eastern Europe and Central Asia, we find that firms in the construction industry, in the mining and quarrying industry, with a large percentage of sales going to government agencies, and with large overdue payments tend to bribe more. Moreover, firm size, a higher bureaucracy burden, lower confidence in the legal system, and a less educated workforce tend to increase bribery of public officials. These findings appear robust across various estimation specifications.

Eric Simon

The Supreme Opinion: Analyzing Public Opinion in the Short-run Following Supreme Court Decisions on Affirmative Action

Advisor/Professor: Martin J. Sweet

In 2003, Sandra Day O'Connor ruled in two separate, but related, affirmative action cases involving the University of Michigan. In one case she voted to uphold the affirmative action program, and in the other she voted against the affirmative action program. While researchers on public opinion and the Supreme Court have said that the Supreme Court has a polarizing effect on the public in the long-term, much is uncertain in the short-term following change in public opinion following a specific case. By comparing opinion polls before and after the decisions reached by the Supreme Court on the two affirmative action cases, data indicate that immediately following a case, the overall distribution of public opinion may not change, but the rationales supporting those opinions are affected by Supreme Court decisions.

Sara Stout

We Are Limestone Creek: An Oral History of the Limestone Creek Community of Jupiter, Florida

Advisor/Professor: Dr. Christopher Strain

Limestone Creek is an unincorporated community existing within the planning and zoning boundary lines of Jupiter, Florida. Contrasting the economically flush and rapidly developing surrounding municipality of Jupiter, Limestone Creek is predominantly an African American community with an apparent economic gap leaving the community untouched by development. This research is an attempt to capture the voices of Limestone Creek and Jupiter residents pertaining to their accounts with an unincorporated area surrounded by a much wealthier municipality. Interviews were conducted with the residents of the community, Palm Beach County and the Town of Jupiter residents and officials, in an effort to explore the existence of an isolated African American community. The research resulted in varied responses to the idea of incorporation because of lack of funds. Conclusions to the research reveal that, to the members of the community, the issue is not about race; it is about equal opportunities for development.

Margaret Taylor

The Quickening Ingredient: Intellect, Sex, and Photographs in Jude the Obscure

Advisor/Professor: Dr. Hilary Edwards

In my thesis I argue that the source of the major conflict in *Jude the Obscure* – the traumatic relationship between Jude and Sue – is Jude's viewing of his cousin's photograph early in the novel. Because of his tendency to idealize the individuals around him, Jude projects a fantasy onto a photograph of Sue before meeting her in real life. This projection takes on an aspect of reality from which Jude cannot escape, despite Sue's efforts to disillusion him and make him recognize her actual self. Though other critics have discussed the importance of Jude and Sue's

incompatibility and Jude's refusal to recognize Sue as she is, none have addressed the ways that the photograph inspired Jude's fantasy. I present the argument, then, that the photograph provides the initial impetus for Jude and Sue's conflicted relationship and the tragedy of the novel overall.

Daniel Velasquez

Analysis of Lifespans of Yeast Strains Harboring Mutations Affecting Metabolism

Advisor/Professor: Dr. Paul Kirchman

Mitochondrial or nuclear DNA mutations can have an effect on longevity. For the budding yeast *Saccharomyces cerevisiae*, which we use as a model for cellular aging, its lifespan is a measure of its total metabolic output. To force yeast to use respiration and forego fermentation, glycerol was made the only carbon source available. We compared different strains' lifespans to determine if particular mutations are beneficial or detrimental to a strain's longevity. We tested YPP10, a fast growing strain, with a reversion of the *ade2-1* nuclear gene, against W303 H4R15, the strain from which YPP10 stemmed. Additionally we analyzed W303 CKWT, H4R5, and M273T; strains varying in only single mitochondrial DNA mutations. While growth rate varied among strains, no variation among lifespans was noted.

Zachary Virgin

Generation of Hyperactive Manganese Superoxide Dismutase Mutants by Error-Prone PCR

Advisor/Professor: Dr. Paul Kirchman

The accumulation of free radicals in the form of reactive oxygen species, ROS, is a contributor to the aging process. ROS are known to be a common byproduct of metabolic pathways. One of the enzymes responsible for detoxifying ROS is Superoxide dismutase. Previous analysis of organisms with deleterious mutations in this gene show premature aging. Therefore, mutants with increased activity might have extended longevity. In this experiment error-prone PCR was used to mutate a 700 base pair fragment of SOD2 from *Saccharomyces cerevisiae* in order to obtain a more processive enzyme. Previously isolated mutant alleles with increased activity and the wildtype SOD2 gene were mutated and used to generate a library. An *Escherichia coli* SOD mutant was transformed with this library to screen for mutants with a proliferative advantage. M9 minimal media containing paraquat, an ROS-inducing chemical, was used to screen for optimal proliferation. Several faster growing strains were isolated.

Kelly Walsh

The Intended and Unintended Consequents of Democracy Promotion in Latin America

Advisor/Professor: Dr. Timothy Steigenga

Democracy promotion is an important tenet of United States foreign policy. However, U.S. democracy promotion efforts are conditioned by geopolitical concerns, economic goals, and security interests. This thesis analyzes the impact of U.S. foreign policy in Chile, Nicaragua, El Salvador, Colombia and Venezuela. Evidence from these cases suggests that United States foreign policy has contributed to the growth of unhealthy or pseudo-democracies in Latin America because frequently the policy reinforces the political and economic power of entrenched elites or the military. These groups, whose interests more closely align with U.S. interests, are often uncommitted to supporting policy that corrects socioeconomic ills or that demands universal political liberties. Democracy is promoted rhetorically rather than in practice, and consequently is unresponsive and illegitimate. Future democracy promotion efforts by the United States, if they are to be successful, must overcome this illegitimacy by compensating for the conflicts that conditioned democracy produces.

Robert Wicks

Sentinels of Liberty: Captain America, His Doubles, and the Dilemma of American Identity
Advisor/Professor: Dr. Christopher Strain

The Marvel character Captain America was created in 1941 as an unabashed, patriotic icon that was meant to inspire Americans in the face of war. At the end of World War II, however, American identity underwent a split between diplomatic “prophetic realism” and aggressive “zealous nationalism.” The inherent dilemma for Captain America quickly became which side of the American psyche he was to represent. Marvel has dealt with the problem of representation by allowing the original Captain America to be a prophetic realist, while introducing “doubles” of Captain America who act as zealous nationalists. In each era of Captain America’s publication, the conflict between the real Captain and his zealous doubles has provided a dialogue on the American spirit, while allowing for meaningful speculation on what the future holds for this country.

Thomas Zeichman

The Media's Impact on the FDA
Advisor/Professor: Dr. Martin Sweet

Is there a relationship between the media and the FDA? To answer this question I considered the number of news stories, print and televised, that discussed the FDA and the number of drugs approved by the FDA each month. After running regressions on this data it appears that the FDA, an executive agency, is insulated from the pressures of the media. There is little correlation between the number of drugs passed each month and the number of stories addressing the FDA.

Poster Abstracts

Raquel Borges-Garcia

French Influences on Spanish Language Acquisition
Advisor/Professor: Dr. Julie Earles and Dr. Alan Kersten

According to Johnson and Newport (1989) and Birdsong and Molis (2001), second language acquisition is typically ideally achieved before the “critical period,” which is around 13 years of age. Since college students are past the critical period, could their acquisition of French be facilitated by their knowledge of another romance language? There was a significant correlation between speaking another foreign language and comprehension of overall grammar. There was also a significant positive correlation between knowledge of a foreign language and knowledge of vocabulary. Also, familiarity with another romance language did not seem to influence participants’ scores on the vocabulary pre-test, though it did correlate positively with their scores on the post-test. It seems that knowing a romance language did help overcome some of the constraints of attempting to learn another romance language after the critical period.

Raquel Borges-Garcia

Just Grin and Bear It? Proactive Coping, Gratitude, and PTSD in College Students

Advisor/Professor: Dr. Laura Vernon

Past research has found that among traumatized undergraduate women, proactive coping style and posttrauma gratitude were independently negatively associated with posttraumatic stress disorder (PTSD) symptom severity. The present study tests whether there are significant gender differences in reported proactive coping style and posttrauma gratitude and seeks to replicate the findings of Vernon et al. in a sample of both men and women. This study replicated this result and found it to be true for men as well as women and independent of reported life threat and trauma recency. Not surprisingly, given past studies, women tended to report higher PTSD scores and men tended to report more life threatening trauma situations. Both genders reported similar levels of proactive coping styles and similar feelings of posttrauma gratitude. It is possible that a proactive coping style and posttrauma gratitude could be a contributing factor to a rapid recovery from PTSD or even its prevention.

Melinda Florscher

Solvent-free Diels–Alder Reactions of in Situ Generated Cyclopentadiene

Advisor/Professor: Dr. Veljko Dragojlovic

The Diels–Alder reaction is one of the most important methods for formation of six-membered rings. Cyclopentadiene is one of the dienes frequently used in Diels–Alder reactions. It is unstable under ordinary conditions and, at room temperature, dimerizes into dicyclopentadiene. A solvent-free Diels–Alder reaction was carried out by heating a mixture of dicyclopentadiene and a dienophile. Cyclopentadiene, formed in situ, reacted with the dienophile in a thermodynamically controlled reaction. Besides being solvent-free, the described procedure allows for almost complete utilization of dicyclopentadiene and avoids handling of noxious and hazardous cyclopentadiene. The reaction worked well with dienophiles such as maleic anhydride and unsaturated esters. However, unsaturated acids were not suitable dienophiles, yielding Diels–Alder adducts in a low yield.

Christina Luffman

Manipulation of Normal Cells to Produce a Cancer-like Mitotic Phenotype

Advisor/Professor: Dr. Nicholas Quintyne

Most tumors contain multiple karyotypes due to genomic instability gained through chromosomal segregational defects. The variability of genomic changes within a population makes it difficult to study specific processes without the existence of confounding mutations. My project is to create a model system for observation of mitotic defects, specifically multipolar spindles, in a normal cell line, where the genome is intact. Induction of centrosome amplification is required for formation of multipolar spindles. Treatments with colcemid showed a 6% increase in abnormal centrosome numbers over control. However, treatment with hydroxyurea and transfection of hMPS1 showed little increase. Extra centrosomes are insufficient to drive multipolarity, therefore, I am using siRNA-mediated knockdown of Nek2 or HSET to decluster the extra centrosomes. Successful declustering will preferably show an

increase in multipolar frequency, allowing us to study the formation and resolution of these structures to better understand how they contribute to aneuploidy and tumor progression.

Wesley Mathieu and Jessica Newton

“You Seem Awfully Familiar”: Conjunction Errors in Memory for Eyewitness Events

Advisor/Professor: Dr. Julie Earles and Dr. Alan Kersten

This study examined binding errors for eyewitness events in younger and older adults. The study compared a sample of younger and older adults who were shown 16 events, each consisting of four sub events performed by different female actors. Participants were instructed to watch the actors performing each event and were then tested on their memory for the actors in conjunction with the action they performed. At retrieval they were shown 16 previously viewed events, 16 conjunction same events, 16 conjunction different events, and 16 new events. The results indicated that the older adults indeed showed significantly more binding errors than the younger adults. Both younger and older adults were more likely to make conjunction errors in the same than in a different context. These results show a tendency in older adults to make more conjunction errors and more often to incorrectly identify the actors involved in an eyewitness event.

Deborah Morris

Alternate Applications of Anticancer Drugs on COS-7 Normal Cells and Human Cancer Cells

Advisor/Professor: Dr. Nicholas Quintyne

Anticancer drugs, including nocodazole and vinblastine, work by disrupting the dynamics of microtubules. Unfortunately, these drugs often produce numerous side effects, including nausea, vomiting, loss of appetite, loss of hair, increased chance of infection, and fatigue. My thesis research evaluated the efficacy of using repeated low doses of microtubule drugs instead of a single high dose, in an attempt to minimize side effects. Using nocodazole and vinblastine, I first established the minimum effective concentration that disrupts the microtubules in normal human cells grown in vitro and treated cells with those concentrations over a period of several days. Next, I tested a combination of nocodazole and vinblastine at low concentrations in addition to alternating the drugs over several days. Currently, I am examining the effects of these two drugs on human cancer cells.

Amy Peebles, Stephanie Linley and Katherine Hughes

Parachloroamphetamine Impairs the Performance of Rats on an Odor-Texture Discrimination Task

Advisor/Professor: Dr. Julie Earles

We studied prefrontal aspects of learning and memory that are neurochemically and anatomically specific. P-chloroamphetamine (PCA) selectively damages ascending serotonergic systems arising from the dorsal raphe while leaving projections from the median raphe intact. Dorsal raphe innervates the prefrontal cortex, an area highly involved in a number of aspects related to learning and memory. Rats received intraperitoneal injections of various doses of PCA or physiological saline. Fourteen days post treatment rats were tested for odor texture discrimination. Test measurements include latency to complete trials, mean latency per correct trial, a total of attempted trials, as well as the number of errors and aborted trials. Both dose regimens of PCA produced widespread loss of serotonin fiber forebrain expression. PCA

rats also exhibited impairments in acquisition of simple discrimination learning, attentional set shifting, and reversal learning.

Shaina Rowell and Johanna Berger

Conjunction Errors in Memory for Manner and Path of Motion

Advisor/Professor: Dr. Alan Kersten and Dr. Julie Earles

Conjunction memory errors occur when people falsely recognize new items that are composed of parts of previously seen items. We examined conjunction errors with events involving particular manners and paths of motion. The difference between false recognition of manner conjunctions and new manners was less than the difference between path conjunctions and new paths. This suggests that when a manner was remembered, which actor performed that manner was remembered more often than which actor followed a path when the path was remembered. It is possible that manner of motion is more strongly associated with a particular person because of the unique way that he/she moves, whereas a path is the same regardless of who follows it. The results of this study suggest that manners and paths of motions are represented differently in memory by English speakers, which is consistent with what is known about the structure of the English language.

Jenny Santos

Chemical Analysis and Identification of Non-Prescription Drugs by Gas Chromatography-Mass Spectroscopy

Advisor/Professor: Dr. Eugene Smith

Physical dependence on a drug is not necessary. It is simply a side effect of using high concentration of drugs over a prolonged period of time. However, many people subject themselves to illegal drugs and become addicted. Many employers and sports managers perform analysis of bodily fluids on the people they work with. Gas chromatographic-mass spectrometric (GC-MS) procedures for the systematic toxicological analysis of several categories of drugs relevant to clinical toxicology are typically used in order to check for illegal usage of drugs. I tested the efficacy of this procedure in this study by analyzing six different non-prescription drugs with previously unknown identity. I derivatized the samples with BSTFA, diluted them with methylene chloride and then injected the samples in the GC-MS. The results showed that using gas chromatographic-mass spectrometric techniques are useful in identifying unknown drugs, since the given mass spectrum matched with their actual chemical composition.

Rachel Scarafia

Species Diversity of the Foraminifera of Twin Cays, Belize, Central America

Advisor/Professor: Dr. William O'Brien and Dr. Susan Richardson

This study was performed as baseline research to aid in determining the environmental make up of the Twin Cays, Belize, Central America. The distribution and diversity of the shelled protists, foraminifera, were surveyed at three different locations in the Twin Cays. Foraminifera were specifically surveyed living on the sea grass commonly known as turtle grass (*Thalassia testudinum*). The Twin Cays area is densely populated with mangroves, and varies between a salt marsh mangrove ecosystem and an open marine ecosystem. For each of the three sites, specific indices were calculated, including species evenness, mean and standard deviation, Shannon's index, and percent composition. Species composition differed between the three

sites, due to the different locations of the sampling. The results obtained will show which types of foraminifera populate the Twin Cays in specific locations.

Karenia Soto and Kevin Pels

Reaction of Bromine with 4,5-dimethylcyclohexa-1,4-diene-1,2-dicarboxylic acid: A Green Chemistry Puzzle for Organic Chemistry Students

Advisor/Professor: Dr. Veljko Dragojlovic and Dr. Chitra Chandrasekhar

Bromination of an alkene is a typical addition reaction covered in an introductory organic chemistry course and laboratory. Drawbacks of a traditional experiment include the use of highly toxic bromine in a chlorinated solvent as well as a predictable reaction outcome. In this laboratory exercise, students studied the bromination of a 4,5-dimethylcyclohexa-1,4-diene-1,2-dicarboxylic acid. The reaction has an unexpected outcome as bromination yields the aromatic product, 4,5-dimethylphthalic acid. Green chemistry modification involves application of a “bromide/peroxide reaction” with NaBr/H₂O₂ in an acidic medium as an in situ source of bromine. The experiment was run as a two-day exercise and the students integrated molecular modeling, interpretation of mass spectra, stability of organic compounds and a detailed knowledge of the reaction mechanisms of addition and elimination to explain the experimental outcome.

Jodi-ann Thomas

Child Acquisition of Nouns: Attention to Intrinsic Motion

Advisor/Professor: Dr. Alan Kersten and Dr. Julie Earles

The initial vocabulary of English-speaking children is predominated by nouns (Tardif, Gelman, & Xu, 1999). Kersten and Smith (2002) note that when learning novel nouns, children were more likely to focus on the appearance of the object and ignore the intrinsic and extrinsic motion of the object. There is evidence to suggest that intrinsic motion is associated with nouns whereas extrinsic motion is associated with verbs (Kersten, 1998). This suggests that nouns are associated with the appearance as well as the intrinsic motion of an object. However, this has not been demonstrated in findings with children (Kersten & Smith, 2002). In this study, we investigated whether children focused on the appearance and intrinsic motion of an object when learning a novel noun, or whether they focused exclusively on the appearance of an object. The findings suggest that appearance and intrinsic motion are fundamental features in noun learning.

Nathan J. Van Zee

Phase-Vanishing Reactions with PTFE as a Phase Screen

Advisor/Professor: Dr. Veljko Dragojlovic

Phase-vanishing reactions are triphasic reactions, which involve a reagent, a liquid perfluoroalkane as a phase screen and a substrate. The reagent in the lower layer diffuses through the perfluoroalkane layer, reaches the top layer and reacts with it. Since the rate of diffusion is relatively low, the reaction proceeds at a moderate rate, as opposed to a vigorous reaction that would occur if the two reactants were mixed directly. We have developed a phase-vanishing reaction with PTFE tape as the phase screen instead of the expensive perfluoro compound. Thus, there is no limitation related to the density of a phase, and the denser phase can be in the top layer. One can use conventional glassware, which makes running sequential

reactions easy and convenient. The reactions are faster compared to traditional PV reactions. After completion of the addition, the addition tube can be reused as the PTFE tape is intact.

Travis Yates

Correlation Between Specific Carcinogenic chemicals and Specific Mitotic Defects and the Restorative role of Antioxidants

Advisor/Professor: Dr. Nicholas Quintyne

The progression of cancerous cells towards a more aggressive tumor can be linked to external elements called carcinogens. The goal of this project is to examine the correlation between exposure to specific carcinogens and an increase of mitotic defects. These defects can manifest as lagging chromosomes, multipolar spindles, and anaphase bridges. Some of these instabilities are associated with the formation of reactive oxygen species (ROS), which are known to damage DNA. The potential for damage to the genome can be averted via antioxidants. Using the oral cancer cell line UPCI:SCC103, we established a baseline for the mitotic defects in the absence and presence of various ROS-inducing carcinogens using DAPI-stained fixed cells examined by immunofluorescent microscopy. The cells were treated with varying concentrations of the antioxidants Vitamin C, b-Carotene, and Vitamin E. The reactive oxygen scavengers significantly reduced the number of mitotic defects.

Visual Arts

Amanda D'Arrigo

Monkey

Advisor/Professor: Professor Dorothea Lemeh

This 10 ½” x 16” portrait of Anthony Borgia created on cold-pressed watercolor paper is my first time using watercolor paints. I was inspired to create this portrait by a photograph taken of Anthony in his Halloween costume. I thought painting the portrait using bright watercolor hues make it playful and fun. I used various brushwork techniques to achieve texture on the monkey costume and obtain the feeling of fur. With Anthony’s facial features, I worked very hard to enhance the life like effect in his eyes by making his pupils slightly larger. The solid green background as a flat wash was planned to provide the viewer with a feeling of the outdoors. The flat wash was used to enhance the figure, rather than having other elements take away from the portrait.

Jeremy DeChario

The American Dream and the Reality of the Promise Beyond the Nuclear Age

Advisor/Professor: Professor Dorothea Lemeh

From the hope of the Obama Inauguration to the shuttering of Main Street businesses, to the decay in urban environments and the excesses of the pristine suburban environment, it is my goal to capture fleeting moments in American life. By using vintage medium format and 35mm cameras and film, I experiment with natural light and cast shadow that appear through the lens of my camera. It is through this tonal haze that I see the people of the streets—as individuals and groups—become intertwined with the surroundings. The highlights reflecting

off the surfaces of people's faces of the people, monuments, and objects within the urban setting helps one to see the promise we all seek.

Nicole Henken

Reflections

Advisor/Professor: Professor Dorothea Lemeh

Reflections is a watercolor self-portrait created to visually juxtapose my personal identity with the roles created for me as a woman in society. By using pages from an encyclopedia and painting a picture of a reflection over them the viewer is forced to closely evaluate what's going on in the painting. The size of the painting is around 18 by 24 inches and is a combination of collage and watercolor media.

Cara Kissell

Miserere

Advisor/Professor: Professor Dorothea Lemeh

The primary colors have a kind of Trinitarian significance for me, because they are the three colors from which all others come. I knew I wanted to work mainly with these colors. The painting has a linear flow from the barbed wire, piercing the heart, to the blood flowing from the heart, to the vines and flowers growing out of it. The religious significance here is obvious: out of Christ's love (the heart) came His death (the blood) and resurrection (the flowers). The flowers contain a dual meaning: we are able to live and "blossom" because of His death. Therefore the flowers are us as humans also.

Claire Oliver

Fish in the Water

Advisor/Professor: Professor Dorothea Lemeh

A self identity project: I am a fish in the water, not out of the water. A fish out of water cannot breathe and will eventually die. I, however, feel most at home in the water. The piece is constructed out of multiple mediums of paper, watercolor paint and gel medium.

Renata Rodrigues

Your Mouth and Our Ears

Advisor/Professor: Professor Dorothea Lemeh

"Your Mouth and Our Ears" is an artwork concerning the war of words that is gossip. Gossip as a catalyst concerning psychological warfare— an intimate war—that negatively uses words to address public and private matters of groups of people as well as individuals. This artwork highlights the obvious transparency of gossip, its degenerating power, and how it effects both public and private viewing of the individual or group being targeted. Each plexiglass sheet has straight forward (and very objective) message that may appear to the viewer as being hidden or at the very least a camouflage of others intent. The transparency of gossip is always limited to its environment.

Therese Rytz

Mr. and Mrs. Smith

Advisor/Professor: Professor Dorothea Lemeh

Mr. And Mrs. Smith. Conte Crayon and Charcoal on paper. 2008.

In my artwork, I try to focus on shape and value. I am interested in how light and dark shadows interplay to give rise to the shape and form of the subject. In these two portraits, I focused on how the values of the face develop a person's characteristics. Using the Conte and charcoal mediums in black and white allowed me to portray this effect.

Sara Stout

IMPACT

Advisor/Professor: Professor Dorothea Lemeh

Political Art is a class designed to evoke exploration of political artists while attempting to create a definition for 'Political Art'. The goal was to create a piece that moved outside of the realm of propaganda and used art as a pure form of communication. This piece, Impact, combines the use of text and language in the form of forty-one individual letters with text painted on each letter. The painted text serves as an element of texture while also creating a continuous movement across the piece, ultimately binding the individual parts together to form a unified impact upon the viewer. The phrase used in the pieces originates from the National Domestic Violence Billboard Campaign. The materials used are 150 weight watercolor paper and watercolor paint.

Emily Taylor

Brother

Advisor/Professor: Professor Dorothea Lemeh

This painting contains watercolor, primarily thalo blue and alizarin crimson, to create the foreground and main subjects as well as ink to create the background. The entire piece is a twenty-two inch by thirty inch piece of watercolor paper. The subject is the artist's one brother as a reflection of himself based on a photograph of him as a child. The work is intended to capture the heterogeneity of the subject as well as within the viewer.