Wagner College Forum for Undergraduate Research

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EDITOR'S INTRODUCTION

The Wagner Forum for Undergraduate Research is an interdisciplinary journal which provides an arena where students can publish their research. Papers are reviewed with respect to their intellectual merit and scope of contribution to a given field. To enhance readability the journal is typically subdivided into three sections entitled *The Natural Sciences*, *The Social Sciences* and *Critical Essays*. The first two of these sections are limited to papers and abstracts dealing with scientific investigations (experimental, theoretical and empirical). The third section is reserved for speculative papers based on the scholarly review and critical examination of previous works.

As has become a tradition, the fall edition commences with a reprint of the abstracts of papers and posters presented at the Eastern Colleges Science Conference this past spring. The interested reader will then encounter the identification of very high molecular weight proteins that bind Siglec-8-Fc and Siglec-9-Fc recombinant proteins potentially providing a means of halting the misdirected immune responses that cause lung inflammation. Moving on, one will explore the presence and causes of trauma in the human remains excavated from the Huacas de Moche site and address the underlying social structure within complex societies in the broad context of the Andes. This is followed by an investigation of how globalization and the widespread use of the internet has influenced free press and media rights throughout the world. Be sure not to miss the case study of the 2003 invasion of Iraq or the essay on William McKinley and the Spanish-American War that occurred a little over a century before.

Read on and enjoy!

Gregory J. Falabella, Ph.D.
Editor-in-Chief

Section I: Eastern Colleges Science Conference[1]

Abstracts

[1] Papers and posters presented at the 68th Annual Eastern Colleges Science Conference held in Poughkeepsie, NY on April 5, 2014.

Section II: The Natural Sciences

Full Length Papers

Section III: The Social Sciences

Full Length Papers

Section IV: Critical Essays

Full Length Papers

Section I: Eastern Colleges Science Conference

Computational Modeling and Thermodynamic Trends for a Family of Palladium Antimicrobial Agents

Joseph R. Persichetti (Chemistry), Valeria A. Stepanova (Physical Sciences),and Joseph K. West (Physical Sciences)

Organometallic palladium complexes display valuable antimicrobial properties, particularly towards Gram(–)microorganisms, however, their mechanisms of action are not transparent. We undertook a fundamental study of thermodynamic properties for a family of cyclopalladated complexes to reveal the connection between their structural features and desired biological properties. The target cyclopalladated complexes shared a common organic backbone which varied in the type of heteroatom in the donor arm. As leaving groups, halides and acetate were chosen. Optimal geometric configurations, relative charge on the palladium center as well as Gibbs free energies for the hydrolysis reactions were calculated using a HF/PCM method. The effects of variation for each structural feature were compared and analyzed. Correlation between trends observed for the calculated thermodynamic and observed antimicrobial properties have been uncovered. These data were used to predict a candidate with desired biological properties. Comparison of the observed antimicrobial activities and the expectations based on theoretical estimates are provided.

Antimicrobial Effectiveness and Limitations of Novel Transition Metal-Based Remedies

Lynn Tay (Biology), Christopher Corbo (Biological Sciences), and Valeria A. Stepanova (Physical Sciences)

The importance of antibiotics in medicine is beyond doubt; however, the use of antibiotics is limited by the development of bacterial resistance and in addition is usually limited to specific types of microorganisms. Transition metal complexes allow a combination of small organic molecules and inorganic metals and leaving groups together in one substance with the possibility of varying each and every part to combat antibiotic resistance and various bacteria types. We studied a family of palladium(II) compounds that contain varied organic backbones, donor groups and leaving groups. Our findings show that structural features do allow for selective targeting of specific organisms. S. aureus, E. coli, and P.aeruginosa were used during the course of this study. Inhibition of bacterial growth in the presence of target compounds was analyzed using

the disk diffusion method. The effectiveness of tested complexes was compared by measuring zones of inhibition. Distinct antimicrobial activity against all three types of microorganisms was observed depending on the compound chosen. Possible explanations for the dependence of antimicrobial effectiveness on structural features of used complexes were proposed.

Pilot Study of Science Apathy Intervention in Public Elementary Schools on Staten Island[1]

Noura Hassan (Economics), Jennifer Lauria (Education), and Valeria A. Stepanova (Physical Sciences)

This research project was developed to address needs for both enhancement of science pedagogy in support of the Common Core State Standards (CCSS) initiative, which aims to prepare students for college and career readiness, as well as to foster enthusiasm for learning and improve levels of engagement in the elementary grades. Wagner College students developed several chemistry experiments to demonstrate interactively with young learners in elementary school classrooms. These chemical activities were designed to connect with topics outlined in K-12 curriculum. Two urban elementary schools participated in the study. In the first, a 5th grade class of poor academic performance was chosen, and in the second, a 1st grade honors class was involved. Students in both groups were exposed to activities and their perspective was gauged using pre- and post attitudinal surveys. Various teaching materials were prepared by Wagner students to help K-12 teachers to replicate, conduct, and encourage hands-on chemistry experiences in their own classrooms. In addition, the recording of in-person demonstrations by Wagner students was initiated as an additional resource for students or educators who wish to participate in the project in the future.

Neural Synchrony of Cortical Regions Devoted to Spatial and Auditory Components of Working Memory in Musicians

Philip Fomina (Biopsychology) and Laurence J. Nolan (Psychology)

Musicians may have better working memory than non-musicians. Electroencephalography (EEG) suggests that musicians exhibit larger amplitudes on the left cerebral hemisphere

[1] Recipient of Excellence Award

when processing music, particularly in the temporal region where the primary auditory cortex is located. Shifting to the left hemisphere from the right (or lateralization) may occur when listening to music transitions into processing of music, which may aid in their cognitive control over working memory. The gamma frequency (30-100Hz) appears to be distributed more in the brains of trained musicians than non-musicians; a frequency known to demonstrate neural binding and synchrony between cortical regions, and most likely at regions serving the visual sketchpad and phonological buffer components of working memory. The interaction between these regions may contribute to musical-visual abstraction, which in turn may be enhanced by musical training thus increasing musical visual abstraction ability and thereby working memory. Male and female musicians of varying training levels and control participants were tested. EEG recordings were made while each completed the AMVI test, a putative measure of musical-visual abstraction and working memory, to determine whether enhanced working memory in musicians is a result of stronger binding between working memory cortices, lateralization, and musical-visual abstraction.

Missing High Energy Afterglows of Gamma-ray Bursts[2]

Carrie E. Holt (Physics), J. Racusin (CRESST/UMBC), and D. Kocevski (NASA Goddard Flight Center)

The largest explosions in the Universe, Gamma-ray Bursts (GRBs), are short-lived signatures of a rare type of end stage of stellar evolution. We study the X-ray and gamma-ray emission of these events with the Swift and Fermi observatories. High energy gamma-ray (>100 MeV) emission from these objects is rare, only present in ~8% of GRBs. We investigate whether or not there are bursts in the Swift sample that should have been detectable by Fermi-LAT, in the scenario in which the observed x-rays and gamma-rays share a common spectral component.

[2] Recipient of Excellence Award

An Analysis of the Fibonacci Sequence

Daniela DiMeglio (Mathematics), Dr. Raths (Physical Sciences), and Dr. Shahvar (Mathematics and Computer Science)

The Fibonacci Sequence can be used as a model to describe a variety of phenomena in mathematics, science, art, economics and nature. In mathematics, the Fibonacci sequence leads to the golden ratio, spirals and curves. This talk will present some of these ideas.

Duration of Golf Ball From Initial Impact

Leobardo N. Dominguez (Physics) and Dr. Otto Raths (Physical Sciences)

In discovering a ratio in loss of kinetic energy, one can calculate the time it takes for a ball to stop bouncing upon impact of a surface. It is difficult to assume the time it takes for a ball to come to rest from the very first bounce, but provided a surface remains somewhat uniform it is possible to approximate time duration. Understanding the time it takes for a ball to come to rest may give an individual an idea as to how long they would like to have their a particular ball in motion. Using the physic's equation for kinetic energy and the equation to calculate position, statistics were attained using data that was observed. The use of an air track was essential in proving the validity of computing a time lapse from these equations. It becomes interesting to see how angle, height, and the surface upon which the ball makes impact have influence over the results obtained. Having a better understanding of the motion of a golf ball may allow an individual to better analyze and outline each situation, especially in a game of golf.

The Biodiversity of Algae in Staten Island Lakes with Response to Seasonal Change, Lake Size, Lake Depth, and Sunlight

Gregory M. Forsyth (Biology) and Dr. Brian Palestis (Biological Sciences)

Research on the determinants of species diversity is a major focus of community ecology. The basis of my experiment was to observe the biodiversity of algae in Staten Island lakes under different environmental parameters. These parameters include: seasonal change, the amount of sunlight, differences in water depth, and the overall size of the body of water. I made observations based on collections of water and algae samples from

three different lakes, each of varying size, at different depths and exposed sunlight, throughout the months of the summer and fall. To view these samples I created slides with the water samples and observed them under a light microscope. The results varied under the different conditions. Water samples from the largest lake had higher biodiversity, followed by the smallest lake and finally the middle-sized lake. Greater biodiversity was also found at deeper depths and on sunnier days. Finally, the biodiversity of algae was higher in the summer months, and eventually died off during the fall months.

Phototactic Responses of the Water Flea *Daphnia magna* to Different Light Intensities of 520-nm and 690-nm Light[3]

Salma Metwally (Biopsychology) and Donald E. Stearns (Biological Sciences)

Under controlled laboratory conditions, individual *Daphnia magna* were exposed to selected light intensities of 520-nm and 690-nm light. Phototactic responses were recorded and used to determine the animal's degree of photoresponsiveness to different light cues. At 520 nm, all tested light intensities (range = .015 to 1.6 µEm-2s-1) showed positive phototaxis when compared with dark controls, with no significant differences among the tested light intensities. At 690 nm, however, the photoresponses, while not significantly different from the dark controls, trended towards positive phototaxisat 1.6 µEm-2s-1 and towards negative phototaxis at .015 and .44 µEm-2s-1. These results indicate that the direction and degree of phototaxis in *D. magna* depends on the specific combination of wavelength and light intensity.

Comparison of the Population Growth of Oral Bacterial Colonies When Introduced to Popular Brand Toothpastes

Thomas K. Nolan (Biopsycholgy) and Kathleen A. Bobbitt (Biological Sciences)

Oral hygiene has become such an important health factor for many individuals in recent years. With this build in popularity, nice teeth have become a pinpoint staple of what is considered to be attractive. Every year more and more people elect to take better care of their teeth by getting braces at a young age, or even choosing to have their teeth

[3] Recipient of Excellence Award

whitened. However, to prevent the “unattractive” yellowing of your teeth the most basic step of oral hygiene, brushing your teeth, must always be taken. However, with so many different brands of toothpastes, how is one supposed to know which brand will get the job done. This research study was designed to test which brands of toothpaste will allow the least amount of bacterial growth at different time intervals. The toothpaste brands that were chosen for this research were Crest, Colgate, Aquafresh, Tom’s of Maine, and MasticDent. After comparison the toothpaste which allowed the largest bacterial growth was Colgate’s Cavity Protection. The toothpaste which allowed the least amount of bacterial growth was Crest’s Cavity Protection Gel Toothpaste.

The Effect of Na+/H+ Exchanger 6 on Tau Protein Aggregation

Pakinam Mekki (Biology), Hari Prasad (Johns Hopkins University, School of Medicine), Kalyan Kondapalli, Ph.D. (Johns Hopkins University, School of Medicine), and Rajini Rao, Ph.D. (Johns Hopkins University, School of Medicine)

Na+/H+ exchangers are highly conserved ion transporters found in all branches of the evolutionary tree. Members of the NHE family are classified based on their subcellular localization, either residing in the plasma membrane or in the membrane of intracellular organelles. Specifically, isoform NHE6 regulates the luminal pH of early/sorting and recycling endosomes. Patients with loss of function mutations in NHE6 have a form of Angelman syndrome, characterized by epilepsy, mental retardation, and deposition of tau protein in the brain. In this study, the effect of NHE6 overexpression on tau-expressing HEK 293 cells was investigated using immunofluorescence, confocal imaging, and Western blotting. Our preliminary results indicate that NHE6 levels have a direct effect on tau protein levels in HEK 293 cells.

Thermodynamic versus Kinetic Control in the Syntheses of Amino Acid Derivatives of Cyclopalladated Complexes

Samantha G. DeStefano (Biopsychology) and Valeria A. Stepanova (Physical Sciences)

The discovery of cisplatin initiated research towards metal complexes bearing similar properties. Although many of them were synthesized only few are used. One of the main

drawbacks of metallotherapeutics is their low water solubility. We suggested that use of amino acids as metal auxiliaries will allow for enhanced water solubility and, in addition, improve stability towards hydrolysis. For this study we chose a dimeric cyclopalladated complex based on N,N-dimethylbenzylamine organic ligand that bears a chloride or acetate leaving group. Glycine was used as an amino acid auxiliary due to its high solubility in water and very simple structural features. The syntheses of these derivatives were performed under kinetic control, using room temperature and solvent-based methodology, as well as under thermodynamic control, using elevated temperatures and a solvent-free approach. The comparison of obtained products' structures and their yields was performed. The study of biological effectiveness of formed substances using microorganisms was initiated.

Analyzing the Effect of the Putative Endocrine Disrupting Chemical, Dipentyl Phthalate on the Development and Viability of Male and Female *Drosophila Melanogaster*

Kristiana R. Kalibat (Biopsychology), Heather A. Cook (Biological Sciences), Zoltan L. Fulop (Biological Sciences), and Donald E. Stearns (Biological Sciences)

The ubiquitous nature of endocrine disrupting chemicals (EDCs), has created a growing concern of the reproductive and developmental effects these chemicals have on living systems and their progeny. EDCs disrupt normal hormonal signaling through a variety of mechanisms, including mimicry of hormonal action and blockage of binding to target receptors. Encompassing a diverse range of both natural and synthetic chemicals, EDC exposure can occur through ingestion, inhalation, and dermal exposure. The goal of this project was to examine the effect of the plasticizer dipentyl phthalate (DPP) a putative EDC on the viability and development of the fruit fly *Drosophila melanogaster*. A previous study found high concentrations of DPP is toxic to fruit flies (Emilio and Cook, unpublished). For this current study, cultured fruit flies were fed low concentrations of DPP (1, 10, and 100 ppm) over a period of 14 days and compared to control flies. The effect of low doses of DPP on viability, pupae formation and metamorphosis was assayed. The data indicate no decrease in viability across any of the tested concentrations, but preliminary data suggest that DPP may act as a reproductive stimulant at very low dosage. Further experiments are needed to confirm this observation.

Photobehavioral Responses of *Daphnia magna* to Selected Light Cues

Thomas Maher (Biology), Daniel Zaccariello (Biology), and Donald E. Stearns (Biological Sciences)

Photobehavioral responses of the freshwater crustacean *Daphnia magna* were recorded at selected combinations of wavelength and light intensity. The daphnid show negative phototaxis to 430 nm light at an intensity of 1.6 μEm-2s-1. When the wavelength was changed to 450 nm or 590 nm, however, the response was a positive phototaxis, even though the light intensity was not changed. In addition, the daphnid showed negative phototaxis at 430 nm, 450 nm, and 590 nm when tested at a light intensity of 0.01 μEm-2s-1.These results indicate that the direction and degree of phototaxis depends on the unique combination of wavelength and light intensity for this crustacean.

Study of Thermodynamic Properties of Cyclopalladated Complexes Bearing Fatty Acid Auxiliaries

Saad Idrees (Biology), Valeria A. Stepanova (Physical Sciences), and Joseph K. West (Physical Sciences)

Several platinum compounds have shown outstanding antimicrobial and antitumor properties, and although numerous platinum complexes were synthesized only few are used. Palladium analogues are known for their fast decomposition rates and decreased biological effectiveness. We suggested that the use of a fatty acid delivery system for the palladium atom will allow controlling the rate of their hydrolysis providing desired biological properties. For this model a cyclopalladated N,N-dimethylbenzylamine was chosen since it alone has shown biological activity. Additional stabilization of the palladium center was ensured using pyridine as a ligand. The fourth coordination site on palladium was varied using short-, medium-, and long-chain fatty acid carboxylates. Molecular geometries of target palladium complexes have been constructed using the Avogadro program. Cis and trans conformations (for unsaturated fatty acids) of resulting complexes were taken into account as well. Optimization was conducted in the aqueous solution phase using GAMESS (General Atomic and Molecular Electronic Structure System) program in the RHF/PCM model. Gibbs free energies for the first hydrolysis reaction were recorded for each complex after the optimization. Observed correlations between found Gibbs free energies and length of the fatty acid are discussed.

Spectrual Sensitivity of *Daphnia magna* at Four Selected Wavelengths (470, 490, 630, 650 nm)

Samantha L. Kyvik (Biology), Rayna A. Silva (Biology), and Donald E. Stearns (Biological Sciences)

Using phototactic behavioral responses to different light cues, this research examined the photosensitivity of the freshwater crustacean *Daphnia magna*. This research involved the exposure of *D. magna* to four different wavelengths (470, 490, 630, 650 nm). For each wavelength, the animals were tested at five light intensities (1.6, 0.58, 0.44, 0.04, 0.01µEm-2s-1), as well as a dark control group. During each experiment, the location of the organism after light exposure indicated whether that particular organism responded to the light cue. The collected data were analyzed using analysis of variance, and sometimes followed by the Tukey Test to determine which group significantly ($p<.05$) differed from other groups. It was generally found that at higher light intensities, the organisms were positively phototactic for red wavelengths (630, 650 nm). However, at low light intensities, the test organisms were positively phototactic in the blue wavelengths (470, 490 nm). The results from this research are comparable to findings from past research regarding wavelength and light intensity factors in determining photoreactivity of *D. magna*.

The Effects of Dolasetron and Dapoxetine on the Feeding Behavior of Larval Yellow Fever Mosquitoes (*Aedes aegypti*)

Enri Citozi (Biology), Edward M. Medina (Biopsychology), and Horst Onken (Biological Sciences)

It is known that serotonin (5-HT) stimulates anterior midgut alkalinization, posterior midgut re-acidification, midgut nutrient absorption and midgut peristalsis in larval yellow fever mosquitoes (*Aedes aegypti*). This study investigates the role of serotonin in regulating larval feeding behavior. The diving frequencies of fed and unfed larval mosquitoes were observed in different water depths. The observations were repeated in the presence of 10µM Dolasetron (antagonist of ionotropic 5-HT3 receptors) dissolved in DMSO and in the presence of 10µM Dapoxetine (SSRI). DMSO alone had no effect on diving frequencies. Dolasetron decreased diving frequencies for fed larvae in 2, 5 and 10cm depths, had no effect at 20cm, and increased diving in 30cm depth. Diving frequencies in unfed larvae were unchanged for 2, 5, 10 and 20cm, while it increased

diving in 30cm depth. Dapoxetine decreased diving frequency for fed and unfed larvae in 2, 5 and 10cm depths. In deeper depths (20 and 30cm), Dapoxetine increased diving in fed larvae, but decreased diving in unfed animals. The observations of the present study may indicate that serotonin influences feeding dives in complex ways. Further studies are necessary to elucidate the role of serotonin in larval mosquito feeding behavior.

Digital Microphotographic Atlas of the Adult Zebrafish Cerebellum

Kristen M. Lee (Biopsychology), Megan B. Landy (Biopsychology), Ashton Cline (Biopsychology), Christopher Corbo (Biological Sciences), and Zoltan Fulop (Biological Sciences)

Sagittal, coronal and horizontal, one micron thick plastic (semithin) sections of adult zebrafish (*Danio rerio)* brain were cut serially using an ultramicrotome, mounted on glass slides and stained with toluidine blue. Each cerebellar region of the brain sections were photographed in 40X using a computer assisted Olympus light microscope, montaged and arranged in series. Roughly 10 slices from each sectional orientation were selected. The resulting pictures are presented in pairs, so the three dimensional anatomical relationships of the zebrafish cerebellum can be visualized. The final product resulted in a digital microphotographic atlas of the adult zebrafish cerebellum. This research was done as a partial fulfillment of the student author's senior thesis work for biology and/or biopsychology majors.

Analysis of Oxidation Site Preferences in P-bridged Cyclodiphosphazanes

Rabije Cekovic (Physician Assistamt) and Joseph K. West (Physical Sciences)

Cyclodiphosphazanes, four-membered, P-, N-containing ring systems are useful ligands for transition metal catalysts, due to their steric shielding, chelating tendencies and structural varieties. Direct oxidation of the phosphorus centers (via O2, S8 or Se8) is one of several ways to affect these ligands' electronic properties and binding-site preference. We have conducted a detailed, investigation of the preferred thermodynamic pathway for the partial and complete oxidation of the bridged cyclodiphosphazane, P(NtBu)]2(NtBu)2PCl, with the commonly applied chalcogenic oxidants. Furthermore,

we have investigated solvent polarity effects on these pathway preferences by modeling these reactions in both toluene and DMSO.

The Effects of Endocrine Disrupting Chemical Dimethylphthalate on the model organism *Drosophila melanogaster*

Sara Mfarrej (Biology) and Dr. Heather Cook (Biological Sciences)

Endocrine disrupting chemicals (EDCs) have become a foundation of major concern on wildlife and human health. EDCs are compounds that disrupt the production of chemical messengers known as hormones. Current studies illustrate that dimethyl phthalate (DMP), an endocrine disrupting chemical, greatly affects the viability of adult fruit flies and the formation of fly pupae. However, it is still not clear if DMP is directly interfering with their development, or if the decrease in the pupae number is due to the decrease of fly viability. The purpose of this research was to examine the effect DMP has on the model organism Drosophila melanogaster. Thus, students hypothesized that feeding the fruit flies high concentrations of DMP may influence their development. First off, in day 0, 0-48 hr old flies were exposed to varying concentrations of DMP : 0ppm, 5,000 ppm, 10,000 ppm, and 15,000 ppm. On day 10, the pupae born were counted. From days 12-16, the newly enclosed flies were also counted and examined carefully in each ppm concentration. In the final results, the total pupae formation and total newly eclosed flies decreased significantly in the higher ppm concentrations, which illustrated how DMP had a negative impact on the fruit flies.

Comparison of Transition Metal-Based Antimicrobial Agents and Traditional Aseptic Techniques

Joseph D. Cuomo (Microbiology), Christopher Corbo (Biological Sciences), and Valeria A. Stepanova (Physical Sciences)

Compounds containing transition metals have shown valuable antimicrobial properties. In our group we focus on organometallic compounds of palladium(II), namely cyclopalladated complexes. These complexes combine two organic ligands, a metal center, and leaving group, which is usually a halide. Several structurally different cyclopalladated complexes were obtained and the study of their antimicrobial effectiveness was undertaken using the

disk diffusion method. *L. monocytogenes*, *S. aureus*, *E. coli*, and *P. aeruginosa* were chosen as the test microorganisms, providing an array of Gram(+) and Gram(–) bacteria. In comparison the inhibition of growth for these organisms using traditional antibiotics, such as streptomycin, vancomycin, bacitracin, and penicillin was examined and analysis of observed zones of inhibition was performed. The tested cyclopalladated compounds showed either similar or enhanced inhibition of growth, especially for Gram(–) microorganisms. A detailed comparison of effects for certain structural features of cyclopalladated complexes and their resulting antimicrobial properties is entailed.

Comparison of Solvent-Free and Traditional Approaches to Palladium and Cobalt Complexes of Bis(carboxymethy)trithiocarbonate

Colleen N. Withers (Chemistry), Joseph K. West (Physical Sciences), and
Valeria A. Stepanova (Physical Sciences)

Bis(carboxymethyl)thrithiocarbonate ligand possess three different binding modes that are seen in the corresponding transition metal complexes. Theoretical calculations of target ligand binding modes with Pd(II) and Co(II) metals showed thermodynamic preference for the tetradentate complex formation. We proposed that using two different synthetic approaches, such as solvent-based and solvent-free methodologies, the ligand's coordination mode towards metals can be controlled. After isolation, purification, and characterization of the products, comparison of the outcomes for the two synthetic approaches with theoretical data was made.

Development and Molecular Analysis of *L. monocytogenes* Infecting the Central Nervous System of the Adult Zebrafish

Cira Cardaci, Monica Cipriani (Microbiology), Corey E. Gaylets (Microbiology), and
Christopher P. Corbo (Biological Sciences)

Listeria moncytogenes is a gram-positive, intracellular pathogen that causes listeriosis. Listeriosis is particularly dangerous for pregnant women, newborns, elderly people, and the immunocompromised and in extreme cases leads to death. The goal of this work was to establish a model where *L .monocytogenes* enters the central nervous system in zebrafish. To accomplish this, the iris of the each fish was injected with a 24-hour *L. monocytogenes*

cells. We hypothesized that the Listeria travels along the optic nerve subsequently entering and infecting the optic tectum. Zebrafish brains were analyzed 2, 3, 7 and 14 days post infection. The brains were extracted and sonicated to isolate total protein. A western blot was done using primary antibodies against Listeria surface proteins as well as the ActA virulence factor. This protein is used for actin recruitment and as a way to escape the host cell. It is only expressed when the organism is causing an infection and is therefore used as a marker of pathogenesis. From this study, we conclude that Listeria was able to infect the central nervous system of the zebrafish. Additionally, we showed that not only were *L. monocytogenes* cells present in the tissue, but the ActA protein was expressed.

The Effects of Leaf Size and Misting on the Reproductive Success of the Lemur Frog, *Agalychnis lemur*, in Captivity

Karina Roinestad (Microbiology), Patrick Connelly (Microbiology), Cathy Eser (Staten Island Zoo), and Dr. Christopher Corbo (Biological Sciences)

The *Agalychnis lemur*, (Lemur Frog) is a nocturnal frog species found in the humid lowlands of Costa Rica. The sample to be used in the experiment are the offspring of parents collected from the wild by Staten Island menagerie keeper, Cathy Eser. The Lemur Frog is a critically endangered species due to habitat loss from deforestation. Two experiments will be conducted in order to test the effects of certain variables on breeding rate and success. One experiment will test the effects of using broader leaved plants while the other experiment will test the effects of increased misting levels. Each experiment will be conducted in a separate vivarium. The same control vivarium and the same frog sample will be used for both experiments. The Lemur frogs will be monitored for 30 days during mating season. Reproductive success will be measured by the number of eggs laid and the total number of viable eggs produced. These experiments aim to increase breeding success in the species by providing a better environment for egg laying and development. The experiment also aims to exemplify how the loss of the appropriate environment for reproduction is leading to population decline in the Lemur Frogs.

The Physics of Golf

Jason A. Hopkins (Physics) and Otto Raths (Physical Sciences)

The statistical distribution of golf shots using various clubs (Lob Wedge through Driver) are analyzed and presented.

Composite Gel Electrophoresis Resolves Large Human Lung Glycoproteins (Mucins) that Control Lung Inflammation[4]

Melanie Krongold (Biology), Steve M. Fernandes (University of Arizona), Anabel Gonzalez Gil (Johns Hopkins University), HuiFeng Yu (Johns Hopkins University), Yadong Wei (Johns Hopkins University), and Dr. Ronald L. Schnaar (Johns Hopkins University School of Medicine)

The immune system is highly regulated, in part by cell-cell interactions that either activate or inhibit immune responses. When these interactions are disrupted, the resulting misdirected immune responses can lead to immune diseases such as allergic asthma and chronic obstructive pulmonary disease (COPD). Siglec-8 and Siglec-9 are cell surface molecules on eosinophils and neutrophils, respectively, that normally inhibit immune responses. They recognize and bind to specific sialylated glycans on target tissues (like the lung), then induce immune cell apoptosis. Large (>500 kDa) sialylated proteins called mucins on the surface of human lung tissues were identified as likely Siglec counter receptors. The goal of my research was to resolve, transfer, and identify these large mucins, or Siglec-8 and Siglec-9 counter receptors, from human lung tissue using detergent and/or guanidine extracts of human lung parenchyma, bronchus and trachea. I have developed SDS-urea agarose polyacrylamide composite gel electrophoresis as a tool to identify very high molecular weight proteins that bind Siglec-8-Fc and Siglec-9-Fc recombinant proteins. Their identification will help us understand the control of lung inflammation in allergic asthma and COPD, and perhaps develop new ways to halt misdirected immune responses.

Study of Complex Formation of Palmitic Acid and Transition Metals using Experimental & Computation Approaches

James P. Catalano (Chemistry), Joseph K. West (Physical Sciences), and Valeria A. Stepanova (Physical Sciences)

Data regarding the synthesis and antimicrobial potential of compounds based on fatty acids and transition metals are scarce. We suggest that these substances can be particularly useful against Gram(–) bacteria due to the presence of a fatty acid chain in both complexes and the lipid barrier of those microorganisms. Synthesis of fatty acid transition metal complexes have been accomplished using either solvent or solvent–free

[4] Recipient of Excellence Award

approaches. For the solvent–free methodology silica gel was used to conduct the reaction. The synthetic outcomes of the two approaches were compared. The obtained products were isolated and purified. The purity check and structure elucidation using IR, 1H, and 13C NMR spectroscopy, as well as melting point tests were undertaken. The theoretical calculations of Gibbs free energy for several possible products were performed using GAMES. The observed theoretical thermodynamic preferences were compared to the observed experimental data. The study of antimicrobial properties of obtained complexes was initiated using Gram (+) and Gram (–) bacteria.

Use of Morphological Techniques to Detect and Analyze *Listeria monocytogenes* in the Optic Tectum of Adult Zebrafish[5]

Brandon J. Kocurek (Microbiology), Anthony P. Spano (Microbiology), Corey E. Gaylets (Microbiology), and Christopher P. Corbo (Biological Sciences)

Listeria monocytogenes is a food bourne, intracellular bacterium, which is known to enter the central nervous system. Listeriosis, the infection caused by *L. monocytogenes*, is usually cleared by a patient's immune system normally, however the immuno-compromised, the very young, very old and pregnant women are prone to a more serious infection. In extreme cases, listeriosis leads to death. To model a central nervous system in adult zebrafish, a 24-hour *Listeria monocytogenes* culture was injected into the eye. Being an intracellular pathogen, we hypothesized that Listeria would enter the optic tectum via the optic nerve. At certain time points post injection, zebrafish brains were fixed, frozen sectioned or embedded in resin and sectioned using glass knives and analyzed using various microscopy tools. We found that Listeria did enter the optic tectum via the optic nerve. The cells of the periventricular grey zone of the optic tectum were infected with *L. monocytogenes* cells. Additionally, evidence of *L. monocytogenes* leaving the host cells was present.

[5] Recipient of Excellence Award

Section II:
The Natural Sciences

Composite Gel Electrophoresis Resolves Large Human Lung Glycoproteins (Mucins) that Control Lung Inflammation[1]

Melanie Elizabeth Krongold (Biology)[2]

The immune system is highly regulated, in part by cell-cell interactions that either activate or inhibit immune responses. When these interactions are disrupted, the resulting misdirected immune responses can lead to immune diseases such as allergic asthma and chronic obstructive pulmonary disease (COPD). Siglec-8 and Siglec-9 are cell surface molecules on eosinophils and neutrophils, respectively, that normally inhibit immune responses. They recognize and bind to specific sialylated glycans on target tissues (like the lung), then induce immune cell apoptosis. Large (>500 kDa) sialylated proteins called mucins on the surface of human lung tissues were identified as likely Siglec counter receptors. The goal of my research was to resolve, transfer, and identify these large mucins, or Siglec-8 and Siglec-9 counter receptors, from human lung tissue using detergent and/or guanidine extracts of human lung parenchyma, bronchus and trachea. I have developed SDS-urea agarose polyacrylamide composite gel electrophoresis as a tool to identify very high molecular weight proteins that bind Siglec-8-Fc and Siglec-9-Fc recombinant proteins. Their identification will help us understand the control of lung inflammation in allergic asthma and COPD, and perhaps develop new ways to halt misdirected immune responses.

I. Introduction

The Human Trachea and Lung

The human trachea and lungs are structures of the respiratory system. The trachea is made mostly of cartilage and lined by epithelial cells with both mucus and cilia, which obstructs the migration of foreign particles to the lung. There is both a right and left lung in the human body; each is divided into lobes (Figure 1, Lynch, 2006 & Van De Graff, 1992). Each lobe contains an extension of the trachea, which is referred to as

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[2] Research performed under the direction of Dr. Ronald Schnaar, Johns Hopkins University School of Medicine.

the right and left primary bronchus. As the bronchi divide deeper into the lungs, they branch off to form the secondary and tertiary bronchi (Van De Graff, 1992). Smaller branches from the secondary and tertiary bronchi, called bronchioles, are lined by layers of thick smooth muscle, which allow constriction and dilation. Even deeper into the lungs, the end of the bronchioles, referred to as the terminal bronchioles, lead to the alveolar sacs which encase the alveoli (Van De Graff, 1992). Lung parenchyma incorporates the main tissues of the lung (Figure 1).

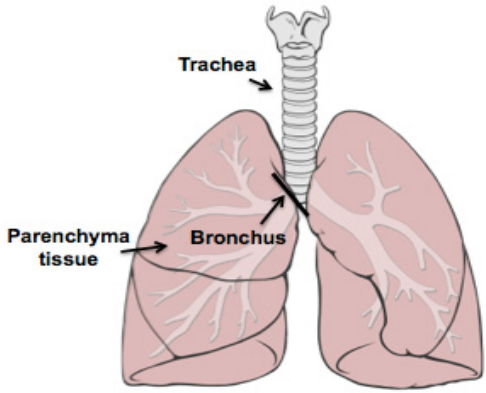

Figure 1: Analysis of human lung compartments (Modified from Lynch, 2006)

The functions of the respiratory system, as a whole, include gas exchange as well as providing a defense against antigens. Obstruction of any part of the respiratory system by antigen-antibody interactions may lead to disorders characterized by inflammation.

Allergic Asthma/ COPD

Allergic asthma is typically associated with eosinophilic lung inflammation (Lung Inflammatory Disease Program of Excellence in Glycoscience-LIDPEG). Chronic obstructive pulmonary disorder (COPD) is characterized by the obstruction of airflow due to inflammation of the airways and is associated with neutrophilic lung inflammation (LIDPEG). The primary cause is smoking (Leach, 2011). Both allergic asthma and COPD may be detrimental to one's health as they may lead to difficulty in breathing due to the narrowing of the air passages during inflammation. COPD is complicated by inflammatory destruction of air sacs, or alveoli (LIDPEG).

Both allergic asthma and COPD involve an inflammation of the small airways and alveoli, while the upper respiratory tract may also be affected. With a healthy immune system, the body is able to respond to antigens associated with pathogens, so it may rid the body of unwanted materials; however, by doing so, the body may elicit an immune response upon ligation with these antigens, which can lead to the onset of chronic inflammation (LIDPEG). Inflammation of the respiratory system may lead to airway obstruction, making breathing a daunting task for patients who are affected. The study of the cellular processes that involve immune cell interactions in the human body may provide new treatments for the respiratory disorders allergic asthma and COPD.

The Role of Siglec-8 and Siglec-9 in the Immune System

Siglecs (Sialic-acid binding immunoglobulin-like lectins) are proteins present on the surface of human immune cells that are able to recognize and bind sialic acids, which are found on the termini of cell surface glycoconjugate structures (Figure 2, Crocker *et al.*, 2007). According to Varki (1999), sialic acids have been found to have the ability to inhibit both intermolecular and intercellular interactions. Siglecs are extremely specific and bind only to certain sialic-acid containing glycans. There are fourteen known human Siglecs (Farid, *et al.*, 2012); each one has its own unique specificity for different ligands containing sialic-acid. This tells us that each Siglec most likely carries out a particular function when bound to a specific type of sialylated glycan (counter receptor) (Crocker *et al.*, 2007).

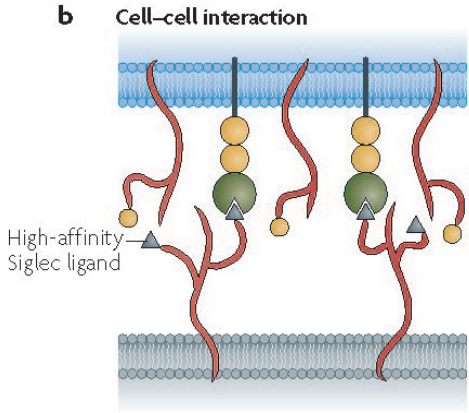

Figure 2: Siglecs, located on immune cells, recognize and bind sialylated glycans (counter receptors) on specific ligands. (From Crocker *et al.*, 2007).

The focus of this research was on Siglec-8 and Siglec-9, which are expressed on eosinophils and neutrophils, respectively. They are able to recognize and bind to (ligate) glycoproteins and glycolipids, which function as 'counter receptors' for Siglecs, as well as many other glycan-binding proteins (Crocker *et al.*, 2007). According to Crocker, many immunoreceptor tyrosine-based inhibitory motif (ITIM)- containing receptors are recognized for their inhibitory effects of the immune system. Upon ligation, immune cell membrane receptors containing (ITIMs) become phosphorylated, recruiting SHP phosphatase. As a result, it is believed that SHP will stimulate inhibitory signaling, ultimately leading to apoptosis of the immune cell (Crocker, 2009). Inducing inflammatory cell death by targeting eosinophils and neutrophils may provide us with a new method of allergic asthma and COPD treatment, respectively.

Using SDS-Urea Agarose Polyacrylamide Composite Gel Electrophoresis

To separate macromolecules such as proteins, a technique called SDS-PAGE (sodium dodecyl sulfate- polyacrylamide gel electrophoresis) was used. SDS is a detergent used to denature proteins to their primary structure, to make them more linear and easily recognizable when run on the gel. The SDS provides the primary structure proteins with a negative charge, ensuring that they will all run towards the same direction (the positive pole when a current is induced). The polyacrylamide in the gel will provide an environment that will allow sieving of our proteins of interest to separate them by size. Separating proteins by size can help us to identify different proteins in a sample, as well as identify how large or small their size is. In the case of this study, we intended to separate very large proteins.

In this study, glycoproteins were isolated from human lung tissue and trachea samples that were extremely large, most being greater than 500 kDa. At this high molecular weight, these proteins needed to be run on a stable gel with relatively large pores that could separate them, even with very small differences in their large molecular weights, while maintaining a good resolution so that they could be identified.

Previous studies in the lab showed that resolution on the commercial 4-12% Tris-Acetate and 3-8% Bis-Tris gels was difficult to achieve due to small pore size and gel instability. Using a procedure adapted from Karlsson *et al.* (2011), agarose was incorporated into the polyacrylamide gels to maintain a more sturdy gel even with very large pores, for handling purposes, as well as to introduce urea into the gel mixture so that one could cast these delicate gels at room temperature. The addition of urea was

shown to have no effect on the migration of mucins down the gradient gels (Karlsson *et al.*, 2011). The SDS- Urea Agarose Polyacrylamide composite gels were used to run human lung and trachea samples containing very large molecular weight proteins (>500 kDa) to enhance resolution compared to gels previously used.

II. Objectives

The purpose of this research was to develop an enhanced method of protein resolution through the preparation and utilization of SDS- Urea Agarose Polyacrylamide composite gel electrophoresis. The addition of agarose into the gel mixture allowed for better reproducibility of the gel, as it provided stability for very large pore gels and made them easier to handle when transferring. The polyacrylamide was used in order to accurately regulate the pore size in the gel, which is ideal when attempting to resolve large macromolecules. Urea was incorporated into the gel mixture in order to avoid casting gels at an elevated temperature. The urea was able to help slow the polymerization of acrylamide, which was an important factor when determining if the gels were polymerizing uniformly. Using this method, we hope to be able to identify large human lung counter receptors (ligands) for two specific Siglecs (sialic-acid binding immunoglobulin-like lectins), Siglec-8 and Siglec-9, which are proteins found on immune cells. A main function of Siglec proteins is the control of inflammation (Siglec-8 on eosinophils, and Siglec-9 on neutrophils). The identification of these proteins' ligands may aid in the development of new treatments for allergic asthma and COPD.

III. Materials and Methods

Biological Material

Samples were obtained from human lung tissue including the parenchyma, trachea, and bronchus. All samples were processed in the same fashion and stored under identical conditions.

Human Lung Tissue

Human lung parenchyma, trachea, and bronchus were obtained from three individuals, identified as donors, 10, 12, and 17 (D10, D12, D17). Donor 10 was a 45 year old female who smoked only half a pack to one pack of cigarettes throughout her adult lifetime. Samples were obtained from the left lung. Donor 12 was a 53 year old male who smoked a half a pack to one pack of cigarettes daily for forty years. Samples

were obtained from the right lung. Donor 17 was a 26 year old male with an unknown smoking history. Samples were obtained from the right lung. The cause of death for all donors was head trauma/ blunt injury. Donors 10 and 12 had a slightly blackened appearance, while the lung of donor 17 was mostly pink in color.

Siglec-8 and Siglec-9

Siglec-8 and Siglec-9 chimera, each produced with a human Fc "tag," were pre-complexed with anti-human Fc to probe western blot membranes after gel transfer. "Fc," or fragment crystallizable, is a region on an antibody that is able to bind to a cell surface receptor (Czajkowsky, 2012). 1.5 µL Homologous Recombination Repaired (HRR)-Fc was added to 500 µL 0.1% phosphate buffer saline with Tween (PBST). This was then separated into two aliquots of 300 µL and 200 µL. Then, 10 µL Siglec-8-Fc and 30 µL Siglec-9-Fc were added to each aliquot, respectively. These were left for one hour on the shaker and brought to 5 mL with 0.1% PBST.

Other Materials

Homogenization Buffers

Lung parenchyma and trachea samples were prepared by homogenizing in either detergent lysis buffer (pH 7.4) or 6M guanidine-HCl Extraction Buffer (pH 6.5). Detergent lysis buffer (pH 7.4) contained 20 mM Tris-HCl, 150mM NaCl, 1.0mM $CaCl^2$, 2.0mM $MgCl^2$, 0.3% CHAPS, 1% NP-40. Protease inhibitors were added freshly to obtain a 1:1000 dilution of protease inhibitor mixture.

Detergent lysis buffer was used in order to extract the desired proteins from lung tissues. Detergent lysis buffer uses a mild detergent so that the proteins of interest will not undergo denaturation (Thermo-Scientific). 6M guanidine-HCl buffer (pH 6.5) contained 5 mM EDTA, 10 mM sodium phosphate buffer, adjusted with NaOH. PMSF (protease inhibitor) was added freshly with a final concentration of 0.1 mM. Guanidine-HCl buffer, a known homogenization buffer, was used as a second homogenizing agent. We compared the binding expression in our western blots between homogenized samples in their respective buffers (parenchyma tissue in detergent lysis buffer [Pcy], trachea sample scraped in detergent buffer [TrSD], and trachea sample in guanidine-HCl extraction buffer [TrDG]).

Composite Gel Upper and Lower Solutions

Casting of composite gels was done at room temperature. Two gel solutions, an upper and a lower gel, were prepared to create an agarose-acrylamide gradient for each the 5% and 1-2% acrylamide gels.

Both the 5% and 1-2% gels contained the same upper gel solution. Upper gel solution for the SDS-UA PAGE gels contained (in an 80 mL beaker) 1.1 g agarose, 10.31 mL 2M Tris-HCl buffer (pH 8.1), 27.5 mL 8M urea, and brought to 55 mL with ddH_2O. Following addition of all components, the upper gel was heated in the microwave to dissolve the agarose, being careful not to boil over. Finally, 18.3 µL TEMED was added. Upper gel solution was then covered with aluminum foil and placed in a 60°C incubator until gels were poured.

The lower gel solutions for both the 5% and 1-2% acrylamide gels differed only in the concentration of acrylamide. To both lower gel solutions (55 mL), 1.1 g agarose, 10.31 mL 2M Tris-HCl buffer (pH 8.1), and 27.5 mL 8M urea were combined in separate 80 mL beakers. Each solution was brought to 55 mL with ddH_2O after the addition of 30% acrylamide/bis-acrylamide 19:1 (Bio-Rad) to a final concentration of 5% and 1-2%, respectively. Before addition of acrylamide, the solution was heated in the same fashion as the lower gel solution, and stored in a 60°C incubator until the gels were ready to be poured. Acrylamide was added once air bubbles were removed (after allowing to set about 10 minutes in the incubator).

Techniques

Sample Processing

Parenchyma samples were obtained from two individual donors (D10 and D17). In a sterile hood, all tools and glassware were sterilized with 75% ethanol. Parenchyma was placed in Carnoy fixative (60% methanol, 30% chloroform, 10% acetic acid) over night at room temperature. The next day, the parenchyma samples left over night in Carnoy fixative were divided into five 0.3 g sections and stored at -80°C. To process parenchyma samples, each 0.3g sample was pulverized using a mortar and pestle. Liquid nitrogen (stored at -100°C) was added as needed to assist with pulverization. Once a powder sample was obtained, 3 mL detergent buffer (1 mL per 0.1 g sample) was added to the mortar to obtain a liquid sample (Pcy). Samples were placed into individual Eppendorf tubes at 80°C for storage.

Trachea samples were obtained from two individual donors (D12 and D17). Samples were either scraped in detergent buffer (TrSD) or pulverized using liquid

nitrogen to produce a powdered tissue sample (TrDG). To the powdered samples, 6M guanidine-HCl extraction buffer was added to the tissue with a ratio of 1 mL of buffer per 100 mg of powdered tissue. This tissue was then incubated over night while being rotated on a stirrer.

Dialysis

Samples were dialyzed against 1M urea, 50mM Tris-HCl (pH 7.0). Dialysis was done to purify samples, which was noted when running both a dialyzed sample and un-dialyzed sample next to each other on a 4-12% Bis-Tris gel.

Protein Quantification

Proteins in each sample were quantified using Pierce™ BCA Protein Assay Kit. BSA standards (A-H) were prepared in Eppendorf tubes, each with a decreasing BSA concentration (Table 1).

A working reagent was then prepared by adding 10 mL reagent A with 200 µL reagent B in a 15 mL Falcon tube. This was mixed by inverting the Falcon tube a few times. The working reagent was then pouring into a plastic boat. In a 96-well plate, 20 µL of each sample (D12 TrDG, D10 Pcy, D12 TrSD, D17 TrSD and D17 Pcy) were pipetted into different wells and labeled. Next, 200 µL of the working reagent was added to each well that contained a sample, and was pipetted up and down to ensure thorough mixing. Once mixed, the microplate was covered and placed into a 37°C incubator for 30 minutes. After 30 minutes, the 96-well plate was uncovered and placed into a Filter Max F3 microplate reader, with the absorbance set at 562 nm using the Multi-Mode analysis software. The concentration of our crude samples was calculated in µg/µL for the determination of how much crude sample to add when loading the wells of the gels (Table 2).

Table 1: BCA Assay prepared BSA Standards (Pierce, Thermo-Scientific)

Tube	**Volume of Diluent (µL)**	**Volume/Source of BSA (µL)**	**Final BSA Concentration (µg/mL)**
A	125	375 of stock	1500
B	325	325 of stock	1000
C	175	175 of tube A dilution	750

D	325	325 of tube B dilution	500
E	325	325 of tube D dilution	250
F	325	325 of tube E dilution	125
G	400	100 of tube F dilution	25
H	400	0	0= Blank

Table 2: Crude sample dilution

Sample	**Crude (µg/µL)**	**Loaded (µg)**
D12 TrDG	2	1
D10 Pcy	9.7	15
D12 TrSD	2.4	10
D17 TrSD	6	10
D17 Pcy	5	15

Preparation of Composite Polyacrylamide Gels

Gels were prepared from upper and lower gel solutions. Once acrylamide had been added to the upper and lower gel solutions, the 55 mL solutions in the 60°C incubator were pipetted into 13.75 mL aliquots (in 15 mL Falcon tubes). These aliquots were kept in a 100°C water bath prior to gel casting.

To prepare the gel casting station, a two-chamber column with an open/close valve attached to the bottom was used (Figure 3). This allows one to evenly mix the upper and lower gel solutions while creating a uniform gel. The upper gel solution (one Falcon tube containing 13.75 mL) was placed into the left chamber, and the lower gel solution (one Falcon tube containing 13.75 mL) was placed into the right chamber. A gradient mixer was placed into the right chamber, which contained the lower gel solution (Figure 3). The chamber was attached to a plastic tube, which carried the mixed gel solutions through the tubing and into the gel cassette. The solution was carried through the tube via a peristaltic pump (Figure 3). Prior to pouring the upper and lower gel solutions into the chamber, 24 µL 40% APS (polymerization initiator) was added to the upper gel solution and 4 µL 40% APS was added to the lower gel solution of the 5%

acrylamide gel solutions (directly into the Falcon tube); 24µL 40% APS was added to both the upper and lower gel solutions in the 1-2% acrylamide gels.

Once the 40% APS had been added to the gel solutions, they were each poured into their respective chambers. The peristaltic pump (Gilson Minipuls 3) was turned on at a speed of 9.30 rpm. The free end of the tubing was placed into an empty gel cassette and slowly raised as the gel level rose. Once full (each cassette held 10 mL), a 15-well comb was placed into the top of the cassette. Gel cassettes were allowed to sit at room

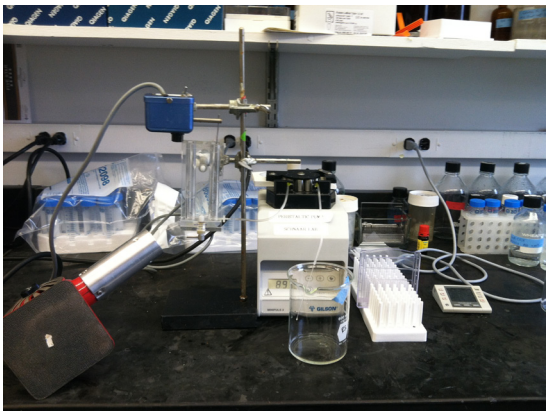

Figure 3: Layout of gel preparation station. Shown (from left) are the gradient mixer, 2-chamber column, peristaltic pump, and cassette holder.

temperature for two hours to polymerize before being placed in the 20°C refrigerator. To store, gel cassettes were wrapped in towels dampened with 0.192M tris-borate buffer (pH 7.6).

Loading Samples into Wells

The amount of crude sample that was loaded into wells varied (Table 2). Results of previous data allowed for the determination of how much crude sample was needed to obtain optimal results when running the gels.

Crude samples were diluted in their respective buffers (either detergent buffer or 6M guanidine-HCl buffer) in separate Eppendorf tubes. NuPAGE solubilizing buffer was added to samples in a 1:1 ratio and their respective buffers to solubilizing buffer. The samples were then vortexed and heated at 80°C for 2-3 minutes. Samples were vortexed

again after heating and were then ready to be loaded into the gel wells. In each well, 10 μL of the sample plus solubilizing buffer mixture were loaded.

Electrophoresis Methods

(4-12%) Bis-Tris

Samples D12 TrDG, D10 Pcy, and D12 TrSD were run on commercial 4-12% Bis-Tris gels. Gel was run using MOPS SDS buffer (pH 7.7). To make this buffer, we prepared a 1X buffer from a 20X stock solution (50mL 20X stock in 950 mL ddH_2O. An antioxidant was prepared by adding 200mL MOPS SDS running buffer with 500 μL NuPAGE antioxidant; this was poured inside of the electrophoresis container (between the gel cassettes). The running buffer was poured on the outside of the electrophoresis container. Gel ran for 1 hour and 15 minutes at 200 V.

(3-8%) Tris-Acetate

Samples D12 TrDG, D10 Pcy, and D12 TrSD were run on commercial 3-8% Tris-Acetate gels. Gel was run using a 1X tris acetate SDS running buffer (pH 8.2). Gel ran for two hours at 100V.

5% and 1-2% Composite Gels

Samples D12 TrDG, D10 Pcy, D12 TrSD, D17 TrSD, and D17 Pcy were run on 5% and 1-2% composite gels using 0.192M tris-borate running buffer (pH 7.6) with 1mM EDTA and 1% SDS. These gels both ran for two hours at 100 V.

Western Blotting

After unloading the gel, it was carefully taken out of the cassette and placed into a Petri dish with water to maintain moisture. To transfer to PVDF membrane, iBlot Western blot transferring system was used. The gel was placed on top of the filter paper and the sponge. The membrane was placed on top of the gel. Another filter paper and sponge were placed above the membrane (Figure 4). The iBlot was closed and allowed to run for seven minutes.

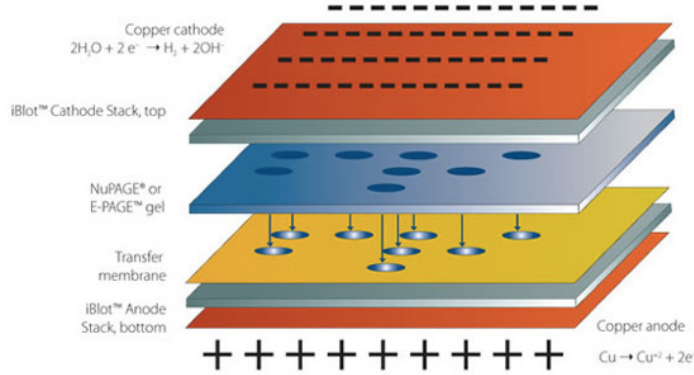

Figure 4: Western blot technique using iBlot (*Western Blotting Using the iBlot® 7-Minute Blotting System*, 2009)

Membrane was then cut and removed after seven minutes and blocked with 0.05% blocking solution (0.5 g Blotto non-fat dry milk powder, 100 mL 0.1% PBST) for one hour.

Membrane was then placed into a prepared pre-complex. The pre-complex contained either Siglec-8-Fc or Siglec-9-Fc. Then, 4 mL blocking milk was added to the pre-complex and the membrane was probed with either Siglec-8 Fc or Siglec-9 Fc plus blocking milk. This solution was left overnight at 20°C on a rotator.

Chemiluminescence of Western Blot

The next morning, the membranes being probed in either Siglec-8 Fc or Siglec-9 Fc were washed in PBST three times, for 15 minutes each wash. The ECL PRIME Western Blot Detection Reagent kit was used. In a 15 mL Falcon tube, 1 mL of reagent B and 1 mL of reagent A were combined and pipetted up and down to mix. In 1 mL aliquots, the combined A and B reagent solution was dispersed over the membranes and allowed to sit for about two minutes in the dark (reagent A is light sensitive). Once two minutes had passed, the membranes were placed in a plastic holder and excess reagent was blotted with a paper towel. An image of our western blot was captured using the GelLogic 4000Pro Imager. Transferred gels were also captured as an image after they had been stained in Sypro Ruby Stain over night, in order to make sure we had a complete transfer of proteins.

IV. Results

Western blot membranes clearly showed enhanced resolution when transferred from both 5% and 1-2% composite gels as compared to western blot membranes transferred from either 4-12% Bis-Tris and 3-8% Tris-Acetate gels after being probed with either a Siglec-8 or Siglec-9 pre-complex. We can see this enhancement by comparing the western blot of Figures 5&6 (A and B) to Figures 5&6 (C and D). According to the markers in Figures 5 &6 (C and D), the observed protein binding occurred between Siglec-8 and Siglec-9 and their corresponding counter-receptor proteins larger than 220 kDa. In fact, these proteins seem to have been about 500 kDa or larger; however, we cannot accurately predict the exact kDa range from Figures 5 and 6 since our high molecular weight marker actually ran off of the 5% and 1-2% composite gels.

TrDG samples from donor 12, while having loaded only 1μg of crude sample as compared to having loaded 10 μg or 15 μg of the TrSD samples, expressed the most significant ligand binding when overlaid with a Siglec-8 Fc probe (Figure 5). This is an interesting observation, as it tells us that certain crude samples in different buffers, or in different locations of lung and/or trachea samples being tested contain a higher binding affinity of specific Siglec protein ligands. TrSD samples from donor 17 also identified itself as a promising location for potential Siglec-8 counter receptors in the composite gels, but not as significantly as TrDG samples from donor 12. TrSD samples from both donors 12 and 17 expressed the most ligand binding when overlaid with a Siglec-9 Fc probe (Figure 6). Parenchyma lung tissue samples exhibited ligand binding, but not significantly for either Siglec-8 or Siglec-9 (Figures 5&6).

Upon observing the transferred gels and their corresponding western blot membranes, we concluded that both the 5% and the 1-2% composite gels helped resolve the mucin-like proteins from the crude tissue sample preparation as compared to the 4-12% Bis-Tris and 3-8% Tris-Acetate gels. We know that our protein of interest was present on the western blot membranes as we observed a complete transfer of high molecular weight proteins (>220kDa) for all composite gels when transferred to the PVDF membranes using a western blotting technique. In the commercial 4-12% Bis-Tris and 3-8% Tris-Acetate gels, a complete transfer of proteins was not observed after western blotting, which contributes to the benefits of using the 5% and 1-2% composite

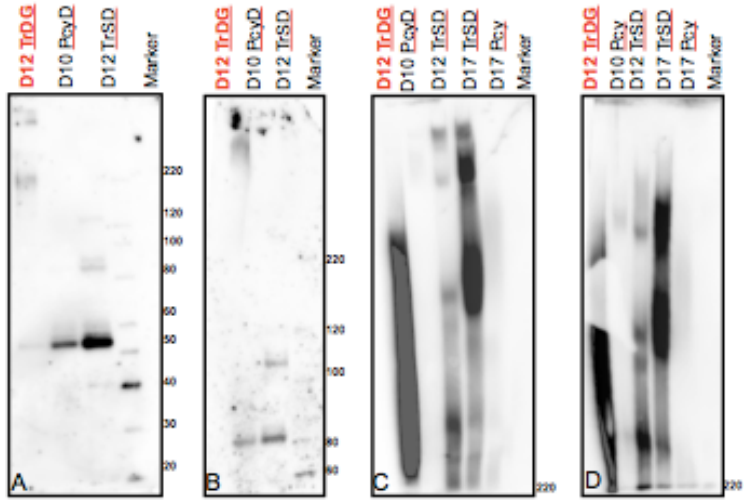

Figure 5: (A) 4-12% Bis-Tris; (B) 3-8% Tris-Acetate; (C) 5% composite; (D) 1-2% composite. Transferred membranes probed with Siglec-8 Fc pre-complex.

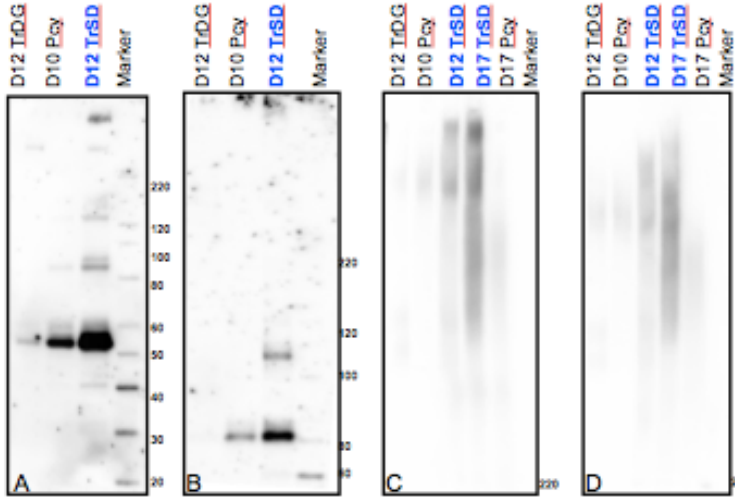

Figure 6: (A) 4-12% Bis-Tris; (B) 3-8% Tris-Acetate; (C) 5% composite; (D) 1-2% composite. Transferred membranes probed with Siglec-9 Fc pre-complex.

gels. The complete transfer of proteins was shown by the images taken from all transferred composite gels after they had been stained in a Sypro Ruby stain over night, as compared to the images taken of transferred gels in a Sypro Ruby stain from the commercially made gels.

When analyzing the western blot membranes after transfer, it was apparent that Siglec-8 Fc overlay recognized possible large molecular weight counter receptors within guanidine human trachea (TrDG) samples, as there was substantial ligand binding on these membranes when probed with Siglec-8 Fc. Crude TrDG samples proved to contain the best possible results for identifying a Siglec-8 counter receptor on the human lung due to the fact that only 1µg of crude sample was loaded into the wells of the gel as compared to 10µg or 15µg of crude TrSD. Even with only 1µg of crude TrDG sample, proteins within TrDG displayed significantly more ligand binding than any other lung sample used when overlaid with Siglec-8 Fc; however, we did observe possible Siglec-8 counter receptor binding in donor 17 TrSD samples in both composite gels, although slightly less significantly than TrDG samples.

We can conclude that the large molecular weight counter receptors of interest were present in certain compartments of the human lung due to the observed binding patterns on western blots (Figures 5 and 6); Siglec-8 present on eosinophils targeted ligands present in the guanidine-treated trachea sample, and Siglec-9 present on neutrophils targeted ligands present in the trachea scraped in detergent buffer samples. Knowing where these counter receptors are located within the human lung and trachea will potentially prove beneficial in further isolating and identifying these glycoprotein ligands (mucins).

V. Discussion

Findings

While only a small amount (1 µg) of crude guanidine-treated trachea sample (TrDG) from donor 12 was loaded into the wells of the composite gels, the observed Siglec-8 ligand presence on the transferred western blots showed a significant amount of binding using this sample (D12 TrDG, Figure 5 C&D). On the other hand, while a larger amount (10 µg or 15 µg) of crude trachea sample scraped in detergent buffer (TrSD) was loaded into the wells of the composite gels, the observed Siglec-9 ligand presence on the transferred western blots showed the most binding of all of the human lung compartments in TrSD samples from donors 12 and 17 when overlaid with Siglec-9 Fc, but not as

significantly as the Siglec-8 D12 TrDG samples. This tells us that when attempting to identify our counter receptors present on the human lung, the guanidine human trachea samples may prove more effective to research further when identifying the counter receptor(s) of interest for allergic asthma, as this area of the human lung proves to be much more concentrated with potential counter receptors for Siglec-8. Similarly, this tells us that the counter receptor(s) of interest for COPD should be located primarily in the trachea scraped in detergent buffer samples, as Siglec-9 ligand binding was most apparent in the TrSD samples.

Upon observation of our results, we can conclude that the SDS-UAPAGE composite gels did in fact resolve Siglec-8 and Siglec-9 counter receptors. As compared to the commercial 4-12% Bis-Tris and 3-8% Tris-Acetate gels, both the 5% and 1-2% composite gels showed a visually enhanced western blot, with proteins being spread out over a large molecular weight kilo-Dalton range. According to our high molecular weight gel marker, the resolved proteins were around 500 kDa, possibly even larger, which is the molecular weight range that Siglec-8 and Siglec-9 ligands are most likely present. This allows us to know for further research that these composite gels will be helpful when identifying these large Siglec counter receptors.

Corresponding Literature

Using an adaptation of the protocol from Karlsson, *et al*. (2011), urea was incorporated into the upper and lower gel mixtures to cast the SDS-Urea Agarose Polyacrylamide gels at room temperature. Commercially, typical polyacrylamide gels are cast at higher temperatures (Karlsson, *et al*., 2011*).* Maintaining a higher temperature of around 60°C proved difficult, as we had to adapt our gel casting method to fit the confined space of an incubator. By incorporating urea into the upper and lower composite gel mixture, gel casting was conveniently performed at room temperature on a lab bench. This adapted protocol using urea also decreased gel-casting difficulties by slowing down the polymerization of the acrylamide, which was necessary in the composite gel mixture to achieve a uniform polymerization. The research from Karlsson *et al*. (2011) showed that the addition of urea into the composite gel upper and lower solutions did not have any effect on the migration of the large molecular weight proteins. This information provided the reassurance that despite the difference in gel casting conditions, our composite gels would remain uniform as well as provide an ideally porous environment for the large migrating mucins.

Future Directions

Using this research, pending the identification of a Siglec-8 and Siglec-9 counter receptor, we will be able to use this knowledge to aid in the development of new allergic asthma and COPD treatments. We have resolved what we believe to be a Siglec-8 counter receptor most prevalent in the TrDG samples, and a counter receptor for Siglec-9 most prevalent in the TrSD samples. This information may be advantageous when identifying the counter receptor(s) of interest, as it tells us where in the human lung these Siglec-8 and Siglec-9 ligands are most concentrated. Further research to identify these proteins can use samples from these specific areas, as well as samples from areas that have not been studied, in the hopes of locating a portion of the human respiratory system where Siglec counter receptors are most prevalent.

It may be beneficial to, while still sampling different portions of the human lung, have a better idea of the smoking or drug history of the donor. While all three donors coincidentally had a similar cause of death, the effects of long-term, and possibly even short-term smoking may have led to alterations in the results obtained. We cannot say with confidence that the donors, even with a known smoking and/or drug history, provided an accurate reading when protein samples were quantified using the BCA assay, due to the fact that we did not study the effects of these conditions on the human lung; however, obtaining a healthy human lung sample may prove to be difficult, when we consider circumstances such as the limited availability of organ donors, as well as the fact that a healthy human lung can be used in an organ transplant. The differences in age of the patients may have contributed to different protein counts as well, but this study did not focus on the effects of age on human lung tissue.

It is our hope that these new and improved SDS-UAPAGE composite gels will aid with the identification and resolution of high molecular weight molecules in all areas of scientific research. With this new protocol, Siglec-8 and Siglec-9 counter receptors have been resolved and have led us one step closer to their identification.

From our western blots overlaid with either Siglec-8 Fc or Siglec-9 Fc on the SDS-Urea Agarose Polyacrylamide composite gels, we can directly locate and isolate our counter receptor(s) of interest. We can then use identification methods such as mass spectrometry in order to accurately identify potential Siglec-8 and Siglec-9 ligands. These ligands may be used for further research to develop a new therapeutic treatment for allergic asthma (using a Siglec-8 counter receptor) and COPD (using a Siglec-9 counter receptor). If these counter receptors are identified and used in a new drug, they may allow for Siglec recognition and binding of these ligands on patient's immune cells and lead to apoptosis

of the cell, which is what we have observed using gel electrophoresis and western blotting of composite gels. The discovery of new drugs for inflammation associated with these respiratory disorders will be very beneficial to patients who suffer from chronic inflammation, and may alleviate much of their discomfort and pain due to irritation of the affected area(s).

VI. Acknowledgements

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Appendix A: Abbreviations and Symbols

APS	Ammonium persulfate
BCA	Bicinchoninic acid assay
BSA	Bovine Serum Albumin
CHAPS	3,3-Cholamidopropyl- dimethylammonio-1-propanesulfonate
COPD	Chronic Obstructive Pulmonary Disease
ddH_2O	Double distilled water
EDTA	Ethylene-diamine-tetra-acetic acid
ITIM	Immunoreceptor tyrosine-based inhibitory motif
kDa	Kilo-Daltons
PAGE	Polyacrylamide Gel Electrophoresis
PBST	Phosphate Buffer Saline with Tween
Pcy	Parenchyma lung sample
PVDF	Polyvinylidene fluoride
SDS	Sodium dodecylsulfate
SDS-UA PAGE	Sodium dodecylsulfate- Urea Agaros polyacrylamide gel electrophoresis
Siglec	Sialic-acid binding immunoglobulin-like lectins
TrDG	Trachea in guanidine buffer
TrSD	Trachea scraped in detergent buffer

Section III:
The Social Sciences

Distinguishing Trauma: An Analysis of Those Interred in the Tombs at Huacas De Moche[1]

Nicholas C. Gibaldi (Anthropology)[2]

The human remains excavated from the Huacas de Moche site are among the most well known in the Andes. However, our understanding of trauma in the Moche valley is based solely on the sub-sample of sacrificial victims recovered from Huaca de la Luna. In order to expand our understanding of trauma in the valley an extensive examination was conducted targeting the remains of individuals who were interred in tombs located in the urban sector (N=57) and the plazas of Huaca de la Luna (N=47). This paper documents the presence of trauma in this sample, examines possible causes of this trauma, addresses themes of the underlying social structure within complex societies, and places these cases in the broad context of the Andes.

I. Introduction

"The analysis of fractures on the population level can be very informative in addressing questions of prehistoric behavior" (White 2000). Trauma is an important manifestation of social relations; therefore tracking trauma can be used to help us understand life among the prehistoric Moche of north coastal Peru. The Early Intermediate Period, dating at approximately A.D. 300-800 was a time of great social and cultural innovation in the Andes. The Moche Valley (Figure 1) is agreed to be a core area of political and social stratification, exploitation of labor, intense agricultural production and monopolization of trade and productions on the north coast of Peru (Bawden 1995). Additionally, various scholars argue that inter-group warfare and territorial conquest served as prime movers in the emergence of social stratification in Peru (Lau: 2003; Carniero 1970; Lanning 1967 Lumbreras 1974; Wilson 1988). The archaeological record suggests that the Southern Moche State centered in the Moche Valley was as a strong, conquest empire that controlled large amounts of territory and commonly engaging in war-like activity (Lau 2004; Shuler-Shomig 1979, 1981; Reichert 1989). Moche groups and their neighbors had complex social interaction that ranged from friendly trading to hostile encounters. It is believed that Moche and their neighbors were stratified social

[1] Presented at the Northeast Conference on Andean Archaeology and Enthohistory, November 15, 2013.

[2] Research performed under the direction of Dr. Celeste Gagnon.

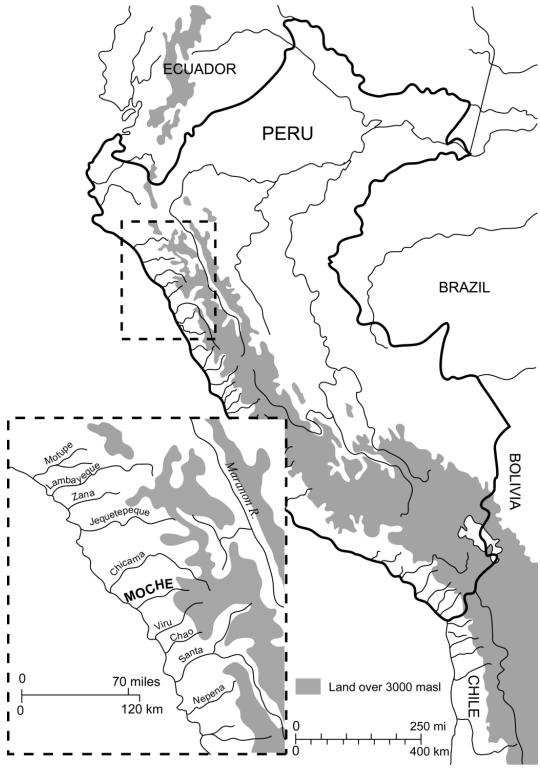

Figure 1: Map of the Peruvian north coast with principle identification of the Moche Valley and neighboring valleys.

systems characterized by a number of shared features, including the extensive use of irrigation and the construction of large adobe huacas that served as the center of ceremonial activity and the resting place of elites. By mechanisms such as functionalism and materialism, Moche societies were known to produce a series of definable social stages, commonly seen by archaeologists in the development of most social civilizations. The ways in which ancient states were integrated and interconnected often varied noticeably over space and time. Additionally the differences in organization and integration provide the construct of profound effects on state size (Feinman 1998). Though state size cannot be definitively implied, some argue that the contextual data recovered and interpreted in archaeological reconstructions supply accurate range of complexity in relation to size and social organization. In more detail, conflicting political structures negotiate subjective interests, and thus increasing the dynamic in social change

within the civilization(s) (Bawden 1995).

In this analysis I examined the remains of individuals recovered from the largest of the Moche urban complexes – the Huacas de Moche, identify problems involved in data interpretation from this case in addition to others, and address several underlying components of social structure that inform researchers as to why participants of complex societies may act as they do in this context within the Andes.

This investigation included the in-depth examination of all analyzable individuals recovered from the urban core located between the huacas and Cerro Negra (Figure 2). In addition, the remains of non-sacrificial individuals recovered from tomb contexts in Plazas 2B, 3B, 3C and Platform 1 of Huaca de la Luna (Figure 3) were examined. In total, 104 tomb and non-tomb contexts were studied of which 57 were excavated in the Urban Core. Included in this sample were 55 analyzable individuals. We also examined 47 tombs excavated in the plazas and platforms of Huaca de la Luna. These contexts yielded the remains of 64, analyzable individuals, for a total sample of 119 individuals. Both contexts offered an abundant amount of osteological data allowing for the retrieval of general health information and a brief glance at the lives of seven individuals who had suffered from trauma either before or at the time of their death. The idiom of violence, both metaphorical and real, permeated many aspects of life, philosophy and cosmology (Swenson 2003: Burger 1992: Rostworowski 1996: Salomon and Urioste 1991).

Figure 2: Photo taken atop of Huaca de la Luna. In view is the excavation of the Urban Core which is located between Huaca de la Luna and Huaca del Sol.

None of the individuals buried in the Urban Core displayed evidence of trauma, but seven crania of individuals recovered from Huaca de la Luna were found to be affected. It would appear that only those individuals of sufficient status were to be buried in the huaca sustained observable trauma to the head. There is some debate as to whether or not these injuries were obtained by means of ritualistic and cultural contexts or possibly from contexts of war-like engagement. These seven cases will be the focus of this paper.

Figure 3: Reconstruction of Huaca de la Luna. Plazas 2B, 3B and 3C are identified by numbers 4, 5, and 6, respectively. Plataform 1 is identified by number 7.

II . Background

Interpersonal Violence

Though there are many forms of interpersonal violence, the largest scale is that of warfare between polities often conducted for political, economical, and social gain. Researchers have suggested that there is a strong correlation between a society's complex structural organization and that of its defensive or offensive capacity. Webster (1998) among other scholars, discuss that although there is no universally accepted definition of warfare, all agree that it is planned confrontation between groups of people from separate

political communities. These political communities typically consist of differently dispersed levels of power, clearly defined by fluctuating boundaries of territorial control, but this is not always the case for every political community.

Ritualistic violence has been observed throughout Peru, including on the north coast. The Andes, and the Americas more generally, have a long prehistory of ritual combat (Hill 2003). Ritual combat may be as physically demanding and dangerous as real combat and it may have functioned as one of many ritual performances in a yearlong calendric cycle tied to seasonal agricultural activities (Hocquenghem 1978). Such activities continue to be practiced in the Andes and are ethnographically known as *tinku*. In the Andes *tinku*-type activities are interpreted as ceremonial expressions of community identity and dual organizational structure (Lau 2004). In practices of ritual warfare, communities stage contests and fights, waged at different levels of violence, between a predetermined pair of combatants (Figure 4). Arguably these acts of violence were non-lethal although some deaths may have occurred. But Verano (2001) notes that in the case of prehistoric Moche sacrificial victims it would appear that prisoners were never returned, raising the question of whether Moche societies participated in acts of violence for reasons beyond those traditionally associated with *tinku*.

Figure 4: Iconographic depiction of elite Moche participation in a battle-like ritual called *tinku* (Verano 2001).

Violence in Moche society has been most extensively studied through iconographic representations and bioarchaeological investigation of the remains of human sacrificial victims, especially those recovered from Huaca de la Luna (Figure 5) (Bourget 2001a and 2001b; Verano 2001a and 2001b). In Verano's (2001) analysis of the sacrificial victims from Huaca de la Luna he identified several individuals who displayed fracture patterns consistent with the types of injuries that occur in warfare. Hill (2003) has additionally noted representations of battle in Moche iconography (Figure 6). Supporting Verano's claim, Lambert (2003) states that "Though the presence of violent injuries in archaeological assemblage is not sufficient to demonstrate intergroup aggression, but evidence such as multiple victims and trophies do suggest lethal

intentions and actions beyond domestic or civil arenas." Tung argues that militarism and the associated threat or use of force has often played a key role in the maintenance and expansion of ancient empires all throughout history. Similar to the findings of Verano and Lambert, though direct evidence for military campaigns and large-scale battles in the Andes are relatively rare, Topic and Topic (1987) have found caches of sling stones spaced at regular intervals at the late Moche site of Galindo. Additionally, Billman notes that warfare may have been a significant variable in the rise of increasingly complex societies on the desert coast of Peru (Lau 2004). The common theme that all these findings share is that violence other than that of ritualistic practice is evident, and clearly necessitates the increase of research. Unfortunately, the lack of information provided by bioarchaeological interpretation inhibits our ability to make a definite determination of incidents of trauma that have been acquired by the means of actual inter-group warfare or through ritualistic violence. Given the current archaeological data, it is difficult to understand what the role of non-sacrificial violence was in Moche society. The seven individuals we have analyzed from Huaca de la Luna who display evidence of trauma can provide additional data that can speak to nature of Moche interpersonal violence.

Figure 5: Cut marks on the second and third vertebrae recovered from sacrificial contexts at Huaca de la Luna. Such trauma is suggestive of sacrificial decapitation (Verano 2001).

Figure 6: Rollout drawing from a Moche vessel depicting a combat scene between Moche and non-Moche fighters (Lau 2003).

Traumatic Evidence of Violence

Trauma is an injury to living tissue that is caused by force or a mechanism extrinsic to the body (Lovell 1997), which can be associated with violent death (Beyer 2007). Several features of trauma allow us to reconstruct the timing, type, and cause of injury. The seven individuals recovered from the monument of Huaca de la Luna all displayed evidence of fracturing. Fracturing is the result of sufficient force being applied to a bone(s) causing a discontinuity, which travels completely through the bone. As a consequence of fracturing radiating lines or continual breaks in the surface of bone originating near the point of impact and are created by the dissipating force across the bone surface. They disperse outwards like an irregular sunburst, from the area of applied force (Beyer 2007). Radiating lines indicate if the force originated from the side, top, bottom, or some combination (Beyer 2007). Reading the patterns and characteristics produced by trauma is very much like interpreting any other piece of material culture unearthed with minimal contextual information.

When a fracture or multiple fractures occur from the use of weapons, the nature of the insult may be determined from the shape of the fracture (Buikstra and Ubelaker 1994). Blunt force trauma is experienced as an object, such as a ball bat, is directed into a skull (Figure 7), the bone bends internally, the outer table experiences compressive stresses, and the inner table experiences tensile stresses (Reichs, Berryman and Symes 1998; Mortiz 1954). One or more of these fractures radiate away from the impact site.

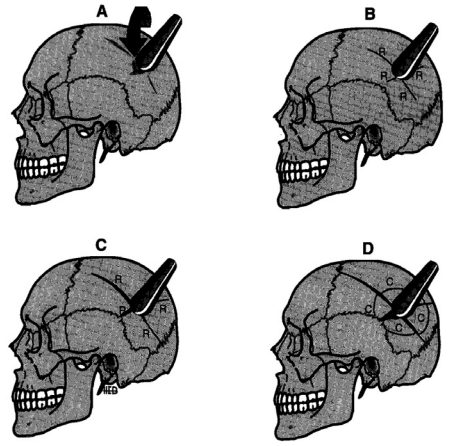

Figure 7: Depictions of blunt force trauma to the cranium resulting from different levels of applied force (Berryman and Symes 1998).

Shear forces encountered during fracture production should result in angulation or internal beveling (Figure 8) of the concentric fracture; however, this bevel is often altered by intrinsic factors such as buttressing within the vault lines, spherical shape of the vault or increased distance from the impact site and may not always be apparent (Reichs 1998). Objects with smaller widths tend to need less force to create fracturing in comparison to larger more robust objects with more width (Beyer 2007).

Figure 8: Beveling on the inner table of an adult male recovered from Huaca de la Luna. Such damage is evidence of strong, blunt force, perimortem trauma.

Projectiles have a distinctive wounding pattern due to their high levels of force and often resulting in direct discontinuities of bone, with both displacement and in most cases fracture lines (Beyer 2007). Projectiles such as bullets often produce entrance and exit wounds. Reichs (1998) describes instances by which projectile elements affect the skull by producing radiating fracture lines originating from the entrance of extrinsic force and only if there is enough force remaining will an exit wound be produced (Reichs 1998; Smith et al. 1987). Similarly, projectile and blunt force trauma can produce radiating fracture lines that may terminate in preexisting fractures; in controlled experiments preformed by forensic pathologists and osteologists this can visibly be reproduced (Reichs 1998; Rhine and Curran 1990; Spitz 1980).

The Timing of trauma is of great importance in interpreting its cause. Trauma occurs at one of three distinct points throughout an individual's existence. These indications of time are referred to as antemortem, perimortem, and postmortem. Antemortem refers to a traumatic event that was survived and as a result healing is evident (Beyer 2007). As time passes bone healing continues, until little evidence of the injury may be visible. Perimortem trauma refers to injuries that occurred close to the time of death, and thus may be associated with cause of death (N. J. Sauer, K.J. Reich 1998). Perimortem trauma shows little if any signs of healing, but clear indications that the bone

was living at the time of injury. Postmortem trauma is the result of taphonomic changes. While it shows no evidence of healing, the bone was not living at the time of injury and thus breaks are differently shaped and color differences are visible on broken surfaces.

III. Materials and Methods

Huacas de Moche

In 1991 under the supervisions of professional archaeologist Dr. Santiago Uceda and professional art restorer Ricardo Morales both of the Universidad Nacional Trujillo, an archaeological project began at the Huacas de Moche. Both researchers have dedicated their professional and personal lives to produce an archaeological research site that is unlike many others, which recently received the honor of top 10 archaeological research projects throughout the world according to an article published on SAB Miller (2013).

The site consists of two large adobe pyramids (called huacas) and large urban sector between them. Cerro Negra bound the city to the west, Huaca de la Luna was constructed to the south bound by Cerro Blanco, and to the north bound by the Moche River, Huaca del Sol was constructed. To the east the city was open towards the Pacific Ocean, which lay less than six kilometers away. This placement suggests that the Moche builders had chosen this area for economic, political and religious reasons (Chapdelaine 2002).

Huaca de la Luna was constructed throughout several segmented periods of time complementary to the archaeological information reflecting the rise and fall of power within the Moche society. This entailed the division of a population of about no less than 5000, an otherwise homogeneous construction into discrete, tedious units of operation (Chapdelaine 2002; Hasting and Moseley, 1975). Approximately 50 million mold-made adobe (mud) bricks were developed in order to erect Huaca de la Luna. One may argue that these adobe bricks were formed as a result of taxation directed towards those in the Urban Core or possibly even a select group living upon the huaca. For many archaeologists studying Huaca de la Luna, the use of marks imprinted on the adobe brink allow the identification of different segments of production, chronological phase, and quantity of production during that phase of development. According to Hasting and Moseley (1975) some bricks were reused but typically these adobe marks were stamped during production ultimately making them segment specific. Key features such as roads, public spaces, minimal entrances, geographical location and division of labor are arguably fundamental components separating those of the huacas from the residents of the Urban Core. This may be why in this analysis no trauma was seen within the Urban Core due to a separation between social classes.

Iconography

Moche iconography provides us with a rich record of tools of violence. Lau (2004) notes that Moche warriors are often depicted carrying a war or hunting club (Figure 9). Although individuals are occasionally shown carrying long-range arms such as spear-throwers or slings, Verano (2001) suggests these are rarely shown being used against an opponent. Lau (2004) however argues that in some images, figures are armed with large circular objects. These circular objects are believed to be stone, rocks, or some form heavy projectile that can easily held in ones hand. Without the archaeological record, Moche iconography provides anthropologists evidence of material culture that is not affected by time or narrative. Moche warriors are distinguished by several Moche specific characteristics and specifically to point out their large phallic club, or principle weapons (Swenson 2003; Benson 1972).

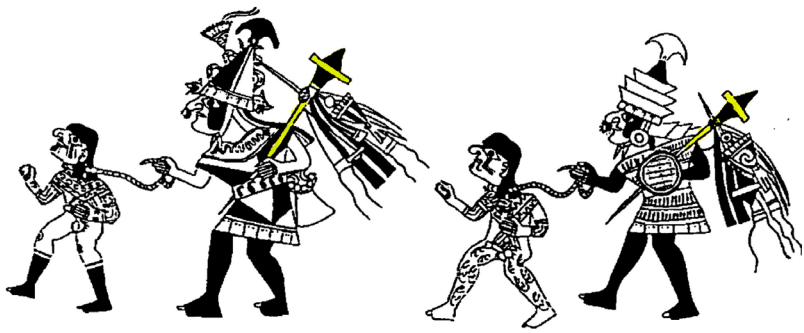

Figure 9: Moche warriors escorting prisoners of war while carrying their symbolic, phallic club (Verano 2001).

IV. Results

Evidence of both antemortem and perimortem trauma was found in the individuals buried in Huaca de la Luna (Table 1). Antemortem trauma was more common. Adult males, females and sub-adults were affected in some form by trauma. Interestingly, two individuals are believed to be affected by perimortem trauma; an adult male and sub-adult whose sex could not be estimated. It appears that a number of human remains recovered from plaza 2B were recovered as "clean-up" from the northeastern portion of the plaza, their placement here is presumably the result of hauquero activity, which was in consideration while examining the remains recovered from this area.

When we examine the antemortem wounds (Table 2) we find both examples of

blunt force, likely the result of being struck by a club-type weapon (Figure 10), and projectile damage, likely resulting from a sling stone (Figure 11). Again men, women, and children were all affected, but the location of the wounds suggests different patterns as to how the injury was sustained.

Within the Southeastern portion of the United States archaeologists have found, other prehistoric agriculturalists, such as those of Moundville, which exemplify low levels accidental injury (Larsen 1997; Powell 1988). Many of those fractures are associated with lower-status individuals, unlike those within this study. But those found at the late prehistoric Mississippian site of Chucalissa, high-status males have far higher frequency of fractures than low-status males or higher status females (Larsen 1997; Lahren & Berryman, 1984). In this case, Moche men and women of high-status have been recovered displaying fracture patterns of both accidental and intentional injury. All societies experience hostile conflict at some point throughout their reign, and through means of battle imprinted on skeletal remains, iconographic representation, and settlement location, interpretation reveals ways of life and social interaction within the social constructs (e.g. Larsen 1997; Tung 2007; Kurin 2012).

Table 1: Huaca de la Luna Trauma

Sub-sample	Antemortem	Perimortem
Adult male	Tomb 17.1 Tomb 3-4	Tomb 17.3
Adult female	Tomb 8	
Sub-adult	Tomb 33.1 Tomb 33.2	Tomb 15

Table 2: Antemortem Trauma

Sub-sample	Blunt Force	Projectile
Adult male	Left frontal (N=2) Left parietal	
Adult female	Right parietal	
Sub-adult	Left parietal	Right parietal

Table 3: Perimortem Trauma

Sub-sample	Blunt Force	Projectile
Adult male	Left parietal	
Adult female		
Sub-adult	Superior frontal	

Antemortem Blunt Force Trauma

Blunt force trauma was identified Recovered from the cleanup in Plaza 2b, tomb 33.1, this subadult was found displaying two healed depressions of cranial trauma located on the left parietal. Long and ovular in shape, and positioned one above the other, these depressions most likely occurred being struck from behind by blunt force and may have been sustained at the same time or at two different times. This individual was approximately 15±1 year and could not be sexed. However the age estimation suggests that this individual may have been old enough to be engaged in war-like activity.

The remaining cases of blunt antemortem trauma were recovered from Platform 1. A male recovered from tomb 3-4 was estimated to be an age of approximately 40±5 years displayed evidence of two healed depression fractures. One fracture was located on the left frontal bone (Figure 10), a wound consistent with begin hit by a right-handed attacker in face-to-face confrontation. The other fracture was located on the posterior section of the left parietal. These depressions both displayed significant depth and active porosity thus indicating great force and that healing was not complete.

Found within tomb 17, a possible male approximately 45 ±10 years exemplified evidence of a healed depression located on the left frontal bone, again indicative of a frontal assault by a right-handed attacker. In addition he had a fractured left maxillary, first premolar, and molar. Though it is difficult to distinguish whether or not these injuries were sustained simultaneously but if so, the downward blunt force radiated from the left frontal bone downward into the maxillary most likely causing extreme force to slam the maxillary with the mandible fracturing both teeth as well as bone.

Figure 10: Antemortem trauma to the frontal bone of and adult male recovered from Huaca de la Luna.

Interestingly enough found in tomb 8 of Platform 1, was a female approximately 60 years or older at the time of her death, who sustained trauma to the right parietal. Her injury was relatively healed and its depth was quite minimal but noticeable. I would argue that this depression was caused by mechanisms extrinsic to violence, but it is possible that she and other women participated in *tinku*-like ritual, as commonly as seen today and as noted in the past (Tung 2007).

Antemortem Projectile Trauma

The younger of the two individuals recovered from plaza 2B, tomb 33.2, displayed evidence of several traumatic incidences. A healed depression to the right parietal is of a form suggestive of projectile trauma, likely resulting from a sling stone like those depicted in Moche iconography. This is due to the formation of a spherical depression pattern with an elevated central locus. If one could imagine a pebble being thrown into a pond, as the pebble hits the water, not only does it create an outward rippling effect but also most commonly there is a central locus of erupting water elevating higher than that of the surface. This individual also had an antemortem fracture to the left radius at the lower portion of the mid-shaft. With no evidence of parry fracturing along the ulna, it is unlikely that this wound was the result of interpersonal violence. Fracturing of the radii as seen in this individual which is also known as Colles's fractures typically occur when an individual attempts to break a fall by thrusting their arms forward (Larsen 1997). But of significance, Kricun (1994) has noted that parry fractures could have arisen from either a direct blow to the forearm or from blows hitting the shield with the force transmitted to the ulna. These observations, paired with high levels of cranial trauma

indicate the strong likelihood that parry fractures arose in conflict situations in areas such as Hawaii and Australia (Larsen, 1997; Kricun, 1994).

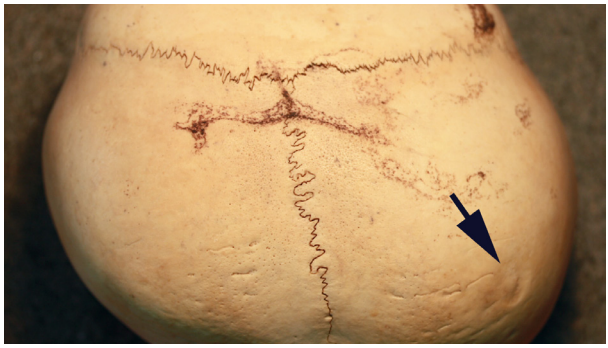

Figure 11: Antemortem trauma to the right parietal of a subadult. The shape of the depression is consistent with a projectile wound.

Perimortem Trauma

Two individuals from Platform 1 displayed evidence of perimortem trauma. The first case was an un-sexed sub-adult, approximately 12±3 years of age. This individual received a significant amount of blunt force to the superior frontal bone near the bregma which resulted in a large, keyhole wound with radiating fracture lines dissipating along the coronal suture and even partially at the anterior most point of the sagittal suture (Figure 12). As you can see in Figure 12, there is a large ovular wound towards the anterior portion of the skull, clearly identifying this break by blunt force as it was directed downward most likely from behind the individual. Although this injury clearly happened at the time of this person's death it is hard to estimate if the interpersonal violence that caused it was intended to be lethal. This is because injuries such as these are seen today during *tinku*-type ritual violence, which is not supposed to result in death.

Additionally, an adult male approximately 30±5 years of age, also recovered from tomb 17, displayed extreme blunt force to the right superior and inferior portion of the cranium. Although the broken portion of the right cranium was not recovered during excavation, radiating fracture lines are observable on the external surface of the portion

Figure 12: Perimortem fracturing in a subadult located along the sagittal suture at bregma.

that remains (Figure 13) indicating large amounts of force applied to this individual's cranium. Due to the fragmentation of the cranium the internal surface was observable and showed evidence of an internally beveled edge (Figure 8), commonly seen in cases dealing with large amounts of external force. The level of force required to fracture off such a large portion of the skull suggests that this perimortem injury was delivered with lethal intention. It seems possible that the separated fragments were not recovered during excavation because this man was buried without the damaged portion of his skull.

Figure 13. Perimortem fracturing resulting from the application of a tremendous force to the right, superior portion of an adult male cranium. The missing fragments were not recovered during excavation.

V. Conclusion

In this analysis of trauma at the Huacas de Moche seven cases were identified, all affecting individuals buried in the precincts of Huaca de la Luna. These data suggest that though evidence of violent acts are relatively rare, non-sacrificial violence did occur at the site. Moche practices have been interpreted through the archeological record, iconographic reconstruction and the remains of those suitable for analysis, which provides us with a clearer understanding of how these injuries may have occurred. In addition to these indicators, depth, porosity and shape allow for further analysis to occur, contextualizing these traumatic injuries and allowing us to expand interpretation from individualized cases to understand interpersonal violence in Moche society. The osteological evidence demonstrates patterns of trauma that we might expect to result from ritualistic violence, because antemortem trauma fracturing affected individuals of both sexes as well as all ages. Furthermore these data support the use of both club-like weapons and the likely use of sling-stones. However, we cannot rule out the use of warfare by the Moche. The two individuals affected by clear cases of perimortem blunt force trauma indicate other reasons for violence. The adult male who had suffered from perimortem trauma would accurately fit the description of an elite warrior displaying injuries such as these. Similarly, both adult males who suffered from antemortem trauma displayed evidence of the same injury on the left frontal, suggesting that there is a common experience in how these injuries are obtained, making war-like, hand-to-hand fighting possible. The unsexed, young adult also affected by antemortem blunt force trauma may have been old enough to participate in activities such as ritualistic and actual physical combat in a war-like setting.

Until further analysis takes place and additional information is processed, these finding suggest that in the Huaca de la Luna sample fracturing, injury and violence might be best understood in relation to smaller and more individualized contexts, rather than those of large and more broad warfare such as those found in other cases of Andean trauma (e.g. Verano 2001; Lambert 1994; Tung 2007; Kurin 2012). I look to further my research by analyzing additional individuals found within Huaca de la Luna and I plan to expand my focus of research by incorporating other post-cranial elements. By doing so, I hope to develop an accurate theme to depict how Moche violence was incorporated within their society.

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Changes in the Media Landscape: The Impact of Globalization and Widespread Internet Access on Free Press and Media Rights[1]

Katelynn Rusnock (International Affairs)[2]

Changes in communications and internet access in the globalized world have altered the way people throughout the world access the news industry. This has led to a shift in the way that free press, as a human rights issue, must be analyzed. It is unclear how globalization and the widespread use of the internet, has influenced free press and media rights throughout the world. Previous writings have not completely examined how these factors relate, even though statistics, studies, and writings on globalization, the internet, and free press are individually widely available. Through studying the spread of the internet and case studies regarding free press, the recently increased use of the internet as a news medium, widespread availability of major news networks, and citizen journalists, it can be seen that globalization has not only improved free press throughout parts of the world, but changed society's ideas on freedom of information.

I. Introduction

It has become easier for different regions of the world to interact with one another as the world has become more globalized. Globalization has allowed men, women, governments, and economies around the world to do business with, trade with, share ideas with, communicate with, and distribute information to each other. Communication and the media have played a large role in these interactions. The internet and other forms of technology have made it possible for news organizations, media companies, and even internet bloggers and writers, to reach audiences they previously were unable to. This raises questions about how access to information is being influenced by widespread availability of the internet and an increasingly connected world. This paper aims to explore the impacts of globalization on free press and media rights.

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One must first examine what constitutes free press before delving further into this topic. Reporters Without Borders, which every year publishes the *World Press-Freedom Index*, labels Free Press as "the freedom to be informed and to inform others throughout the world," (2013, p. 2), although there is no strict definition agreed upon by the international community. The index rates nations based on pluralism of ideas," media independence, environment and self-censorship, legislative framework, transparency", and media infrastructure (p. 17, 18). Figure 1 shows the different levels of press freedom in the nations included on the *Freedom Index.* (2013) However, it is clear that the nations in the worst situations regarding press freedom, are those whose governments highly regulate, or even outlaw, private media sources. It is common for journalists, or those accused of being members of the media, to be arrested, tortured, or even executed in countries on the lowest end of the *Freedom Index*. The Committee to Protect Journalists (CPJ) reports that they helped fifty five journalists seek refuge outside their home countries in 2013. (*Journalists in Exile*, 2013) In some countries, such as Egypt, it is common for the government to raid the offices of television and radio news broadcasting stations and in Eritrea, the lowest ranked nation on the list, private media has been completely outlawed and the only legal sources of information on politics is the government itself.

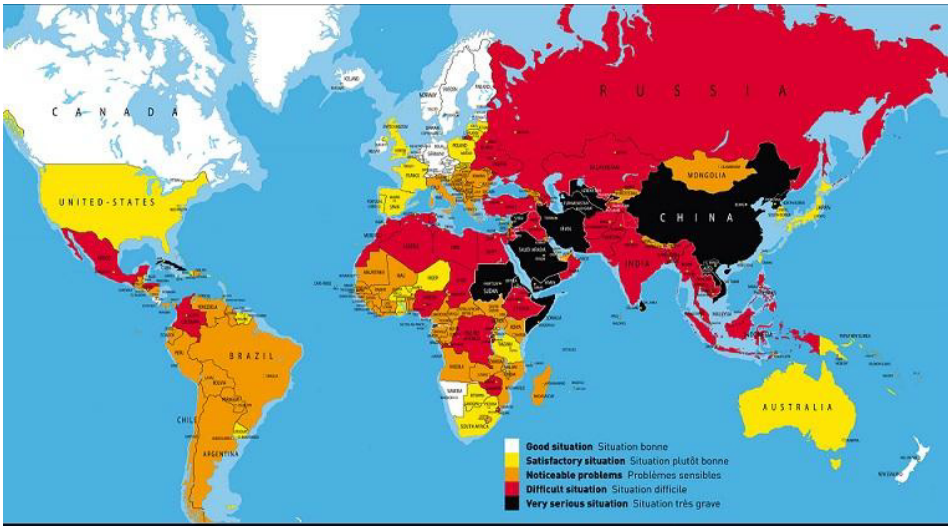

Figure 1: Reporters Without Borders Free Press Map. This figure illustrates the level of press freedom in regions throughout the world. Source: Reporters Without Borders, *World Press-Freedom Index* (2013).

Previously, information was largely communicated by newspapers and television broadcasts, however as the world becomes increasingly globalized, the internet has become as important a media tool as more traditional news sources. Although a repressive government might forbid its citizens from creating, distributing, or even consuming material it perceives to be damaging to the regime, it has become increasingly difficult for these governments to regulate what is posted on the internet, especially by those who reside outside the country's border. It has become impossible for a leader or governing party to remove all disagreeing opinions from the internet. This means that the world has greater access to a larger number of opinions, information sources, and viewpoints than ever before. Social media, blogs, and personal websites have allowed anyone with access to the internet the ability to serve as, what has become widely known as, citizen journalists. In recent years, these unconventional sources of information have become increasingly influential and even helped spark political rebellions.

In addition, technology has made it easier for the largest news organizations in the world to provide widespread access to their broadcasts and publications. Media companies are no longer limited to broadcasting in their own nations or regions allowing companies like CNN, BBC, and Al-Jazeera to become worldwide sources of news. These companies, and others like them, have become so large, powerful, and influential that it is nearly impossible to limit them. Large media companies are no longer limited to broadcasting and producing in one place and often have offices all over the world, making it harder for objecting governments to shut them down. A nation that attempts to ban Al-Jazeera or CNN from being viewed or read by its citizens, might discover that social media, blogs, and even word of mouth might make it hard for the messages of these networks to be completely eliminated in its population. Examples of this will be examined below.

II. Literature Review

A Changing Media Landscape

The impact of globalization on the way the media functions has been largely discussed and written about in recent years. The news industry has had to adapt itself to a world where technology and ideas are much more widespread. Large news organizations are no longer likely to simply publish a single newspaper a day intended for a limited audience. A single news organization might produce publications, broadcast television or radio shows, and run a website that includes traditional news stories, blog posts, and

videos. News has become a twenty-four-hours-a-day industry and news organizations are constantly churning out products that have the potential to be viewed all over the world.

Esperança Bielsa (2008) has described this shift in the news industry as "a consolidation of a global media system," that serves to "promote an experience of global connectedness," (p. 347). He argues that since the creation of the telegraph, technology has been continuously altering the way the world receives its news. (2008). He explains that, "the globalization of media communications has deeply shaped the modern journalistic field in the last 150 years," (p. 347). This means it is no longer uncommon for a person in the United States or the Middle East to regularly consume news produced in Europe or elsewhere in the world. Like Bielsa, Toby Huff (2001) explains that globalization is making communication in general, and the spread of information around the world, easier. "The advent of fax, email, and other forms of electronic communication have captured the imagination because such communication can now be accomplished within seconds anywhere around the world for a tiny fraction of a worker's daily wages," (p. 440).

Bielsa also explains that this access to the media by larger audiences leads to the reinforcement of the power of the largest news organizations. Organizations like the Associated Press, Reuters, and Cable News Network (CNN) are increasingly becoming available everywhere. He claims that such organizations are becoming "truly global transnational entities, with worldwide networks for news production and circulation," (Bielsa, 2008, p. 360). This means that many throughout the world are becoming more likely to turn to these networks for their information.

This availability of large networks all over the world has also had an impact on the type of news the world watches and reads. Bielsa claims that Western ideas of journalism tend to dominate the global media landscape. (2008) Bielsa explains:

> The fact that by far the most important news markets are Western also weighs powerfully on the character of the global news agencies. Fundamental criticisms about the representation of Third World Countries were already raised in the UNESCO debate for a New World Information and Communication Order that took place in the 1970s. Today, the appearance on non-Western media like Al-Jazeera in the field of global news poses a new challenge to the issue. (2008, p.361).

This means that as the world becomes more globalized, the western media giants might gain more power, but other large organizations have the ability to garner worldwide audiences as well.

A study conducted by Neil Thurman (2007) seems to support Bielsa's findings. Thurman looked at the recent trend of Americans to use British news sources. He found

that, “At the British news websites studied, Americans made up an average of 36 per cent of the total audience with up to another 39 per cent of readers from countries other than the USA,” (p. 285). Thurman explains that the internet has made it increasingly possible for readers to seek out, or even unintentionally come across, international news sources (2007).

Internet Induced Activism

Other scholars on globalization and media have written in depth on the topic of political activism made possible through the internet. In recent years, blogs, web-pages, and social media sites, have increasingly been used to spread information and have become an important aspect of the global media landscape. The internet has allowed any person with internet access the ability to become a citizen journalist. These people aid in spreading information, whether it be straight unbiased news or opinions on current political climates.

Abdel- Fattah Mady (2013) explains that “social networks have enabled mobilization of the people and execution of political action, and have become an important obstacle for the survival of the authoritarian system,” (p. 318). Mady uses the example of the use of social media and blogs in Egypt during the 2011 Arab Spring uprisings as a way to show how the internet and social media is beginning to play a crucial role in such conflicts. He goes on to explain that although “deteriorating economic and social conditions,” in Egypt were the main catalysts for the uprisings, “mass media, information, and communication technologies [helped] in facilitating mobilization, recruitment, and eventually the popular uprising,” (p. 313).

Habibul Haque Khondker (2011) argues that social media played such a large role in the Egyptian revolution because of the Mubarak regime’s tendency to regulate and limit conventional news media. “Control of conventional media made the role of the new media more relevant. During the anti-Mubarak protests, an Egyptian activist put it succinctly in a tweet: ‘we use Facebook to schedule the protests, Twitter to coordinate, and YouTube to tell the world’ (*Global Voice Advocacy, 2010)*,” (as cited in Khondker, 2011, p. 677). This use of the internet as a key media component to the Arab Spring shows how internet and social media is becoming an important player in political discourse around the world.

Richard Kahn and Douglas Kellner (2004) explain that this trend is occurring globally. They state, “The global internet, then, is creating the base and the basis for an unparalleled worldwide anti-war/pro-peace and social justice movement during a time of terrorism, war, and intense political struggle,” (p. 88). They discuss the use of Wikis to

get out information on the government that traditional media sources never had access to. "Cyber-activists have been attempting to carry out globalization-from-below, developing networks of solidarity and propagating oppositional ideas and movements throughout the planet," (p. 89). All three of these studies show how the internet is playing a role in global activism.

Evolving Ideas of Free Press in a Globalized Society

All of these changes in the media industry again bring attention to the question of how to define what a free press actually is and how to measure it. Shelton Gunaratne (2002) explains that the most common idea of press freedom centers around what he calls the "libertarian concept," of free press (p. 344). Gunaratne explains that Hachten (1999) defined this concept of press freedom as "a free flow of information unimpeded by any intervention by any nation." (as cited in Gunaratne, 2002, p. 344). Gunaratne also examines other similar definitions of press freedom given by other writers, such as Stein (1966) who "describes a free press as one that 'acts as a marketplace [sic] where ideas, opinions and theories are served up to citizens for their acceptance or rejection' without government censor," (as cited in Gunaratne, 2002, p. 345). These ideas all align with ideas on press freedom that Gunaratne says originated in the West, with Siebert's libertarian Theory of the Press published in 1956, and the United States Constitution's Bill of Rights. (2002)

However, Gunaratne claims that these definitions of free press do not properly account for the change in the media climate that is taking place in the current globalized world. He says that freedom of the press should be viewed from a world system perspective. As the world increasingly becomes one society that is beginning to have access to a wider array of news sources, "any analysis of global communication, including the mapping of press freedom, should move in descending order from the world-economy to the center clusters and their respective hinterlands- the periphery-clusters- and only then to the nation-states within each of the clusters," (p. 344). This idea of media freedom serves as a critique on the way freedom of the press indexes are typically constructed.

As mentioned previously, Reporters Without Borders publishes a list of 180 individual nations ranked on free press. Other organizations such as Freedom House put out comparable lists. Similarly, CPJ publishes an Impunity Index that lists countries with over five murders of journalists where "governments have failed to win any convictions," (*2013 Impunity Index,* 2013, p. 6) Gunaratne explains:

> "This individualistic approach places emphasis on the 'atomistic' nation-state as if each state were independent of the world system. In the informationional era, globalization has transformed the erstwhile nation-states into 'global' states. If we concede this transformation, it becomes apparent that despite endogenous press restrictions, citizens may have the capacity 'to seek, receive and impart information and ideas'...via exogenous media that are generally not subject to tate control. A press freedom index is incomplete and inaccurate without factoring in people's ability to access exogenous media. (Gunaratne, 2002, p. 361).

However, some of these organizations might be starting to take this idea into context. For the first time in 2013, Reporters Without Borders gave a "global indicator of worldwide media freedom," (*World Press- Freedom Index,* 2013, p. 2). Although this measure does not demonstrate much for 2013, as there is nothing to compare it to, the indicator is meant to "stand as a point of reference for the years to come," (p. 2). Gunaratne's suggestion might become an important part of these lists in the future.

III. Data Analysis

Although many of these articles have examined globalization and the media, the internet and activism, and free press, few have examined the impacts of globalization and widespread access to the internet on free press in a complete and comprehensive manner. Although recent research assumes that the media climate has changed in recent years, it is unclear exactly how much of an impact this has had in regards to access of information. It is important to look for a correlation between globalization and free press to see how the media industry, human rights in relation to information freedom, journalism, and the world political climate will change in the future. It is possible to examine the relationship between globalization, technology, the internet, and media rights by looking at at the media climate in certain nations, the widespread consumption of large media sources, the changes in media patterns in the Middle East, and numbers regarding free press and internet access

Comparing Nations: The Relationship Between the Internet and Free Press

The rise of widespread internet access has been a major factor in globalization. Huff (2001) argues that "Globalization and modernity today are clearly linked," (p. 439). He continues on to say that the ability to communicate between far-flung regions of the world has helped further industry and made the whole world a "local" market (p. 440). However, this can also be seen as true when it comes to the media industry. The news industry has become globalized and as many of the previously mentioned articles have stated, media companies are no longer regional and can often be accessed all over the

world. This makes it easier for people all over the world to access information that might not have been available to them previously. Huff says, "it is evident that the emergence of the Internet and the World Wide Web has radically altered the world of communication and placed powerful new constraints on regimes that are information shy," (p. 441). Governments that serve a population with a large number of internet users are less likely to be able to control the information and media its citizens are consuming.

This can be seen by comparing internet usage data with free press index ratings and scores. By looking at Finland, the United States, Egypt, and Eritrea, it can be seen that the countries with larger percentages of the population having internet access have better free press ratings. Figure 2 compares the percentage of the population with internet access in each country with the free press score assigned to each by the Reporters Without Borders *World Press- Freedom Index 2013.* The report scores nations on a scale of 0 to 100, "with 0 being the best possible score and 100 the worst," (p. 18). Percentages of each population with internet access were calculated using population and internet user numbers provided by the Central Intelligence Agency's (CIA) *World Factbook* (2013).

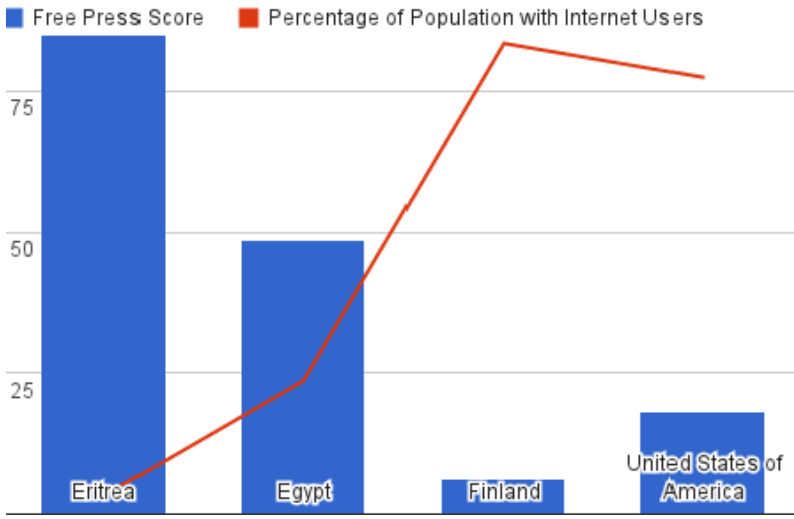

Figure 2. The chart shows how nations with lower internet accessible populations (Eritrea and Egypt) are given higher (worse) scores in press freedom than the United States and Finland, who each have high internet accessible population percentages. Source of Data Analyzed: Reporters Without Borders, *World Press- Freedom Index* (2013), *CIA World Factbook* (2013).

These nations were chosen to be studied because of their rankings on the Reporters Without Borders Index. Finland is the highest ranked nation on the list. It has a score of 6.38 (*World Press-Freedom Index,* 2013) and 83.42 percent of the country's population has internet access. It is considered to be in a "good situation," the highest category on the index, regarding media freedom (2013, p. 20). The United States falls into the next category, "Satisfactory Situation," on the index. It is ranked 32nd overall with a score of 18.22 (p. 20). 77.37 percent of the population has internet access, a lower percentage than that of Finland. Egypt falls into the second worst category of "Difficult Situation." It is ranked 158th on the list with a score of 48.66 (p. 23). 23.61 percent of the population has internet access, putting Egypt worse off than both the United States and Finland in media rights and internet access. The last country viewed, Eritrea, has the worst press freedom situation of all four nations. Categorized as a "Very Serious Situation," Eritrea, where the private media is completely outlawed, is ranked 179th, or last, on the index with a score of 84.83 (p. 24). Only 3.21 percent of Eritrea's population has access to the internet, making it worse off than all three other countries in media rights and and internet access. All percentages on media access were calculated using data from the *CIA World Factbook* (2013). It can be seen that in these four nations, media freedom appears to relate to internet access. Looking closely at these four nations shows how globalization has impacted the ability of their populations to freely consume and produce media.

Difficulties Regarding Censorship: A Case Study on Eritrea

As mentioned above, the nation with the worst score regarding press freedom is Eritrea. With a Reporters Without Borders score of 84.83 (*World Press Freedom Index,* 2013, p. 24), Eritrea's government has outlawed all forms of private journalism. CPJ has called Eritrea one of "Africa's top jailers of journalists in 2012," (*Journalists in Exile,* 2013, p. 4). Eritrea gained political independence from Ethiopia in 1993 and ratified its own constitution in 1997. (Connell, 2011) However, the nation's constitution "has yet to go into effect, and there have been no national elections," (p. 420). Eritrea has been run by an interim military president, Isaias Afwerki, a dictator who controls every aspect of the government, ever since. Isaias, who goes by his first name, has outlawed anything he sees as oppositional to his rule. This includes all forms of press in the nation. (2011) Journalists and suspected media members are often thrown in jail without ever being charged with a crime.

An example of what often happens to journalists in Eritrea was given in a CPJ

report:

> One print reporter, who asked not to be identified for his safety, fled Eritrea for Sudan in August 2008 after nearly six years in a government detention center. He was arrested in 2002 and was never officially charged with a crime, though he was repeatedly interrogated, forced into labor, and tortured with restraints and suspension of his body for extended periods of time. Prior to his arrest, he had worked in the official media, and had also been a contributor to one of a handful of independent newspapers in the country [before] Eritrean authorities shut down all independent media outlets in a widespread government crackdown on dissent beginning in September 2001. (*Journalists in Exile,* 2013, p.4)

This situation clearly illustrates how journalists in the country have been treated in recent years, making participation in any sort of journalism from within the country dangerous and life threatening.

However, what makes Eritrea interesting is the large number of media publications and internet sites, dedicated to providing news on and for the country's people, based in diaspora communities. These news organizations are based in various parts of the world including Trenton, New Jersey and Paris, France. (Connell, 2011) Dan Connell (2011) explained that these websites, publications, and broadcasts are largely consumed not only by those in Eritrea's diaspora, but also illegally by some living within Eritrea. He explains that the medium of reporting that is the most effective in reaching those still in Eritrea is radio. There are at least three radio broadcasts centered around Eritrean affairs that are sometimes able to be illegally broadcast into Eritrea both over radio waves and the internet. (2011) Victoria Bernal explained that, "For Eritreans... one's most pressing communication might be with far-flung strangers in cyberspace," (Bernal, 2005, p. 660).

Although the press situation in Eritrea is dangerous and repressive, the internet, technology, and the ability to communicate with people all over the world, has created a way for an alternative Eritrean media system to be developed. Although the situation is not stable, easy to navigate, or just, the ability of Eritrean populations both inside and outside the country to communicate and get information to one another is a benefit of a globalized world that could not have been achieved before the internet and advanced telecommunications systems were possible. Eritrea is a prime example about how the internet and global communications networks are changing the media industry even in the most repressive environments.

Alternative Types of Media: A Case Study on Egypt

To see the impact the internet has had on media, information, and communication, it is also important to look at Egypt. During the spring of 2011, a series of protests and uprisings took place in an ultimately successful effort to overthrow former President Hosni Mubarak. The protesters, primarily young activists, utilized social media and internet sites and blogs as a way of communicating with one another and spreading their messages. "Many commentators quickly emphasized the role played by social media, defining the situation as a 'social media revolution,' mainly focusing on its organizational aspects...and informational spread," Francesca Comunello and Giuseppe Anzera explained in their 2012 article.

The significance of social media as an informational tool in Egypt is due, in part, to the way media is controlled in the country. The Egyptian government aims to control any journalism it deems to be oppositional within the country. The government has been known to raid the offices of media companies in the country and even has a cabinet position of Information Minister. (*CPJ: On the Divide*, 2013) CPJ reports that even following the overthrow of Mubarak, between August 2012 and July 2013, while President Mohamed Morsi was in power, over 78 journalist assaults were reported. (2013)

This repressive climate, makes internet and social media more important, like in Eritrea, even though the press freedom situation is not as dire. Social media serves as a form of media the government cannot easily stop. For Egyptian citizens whose opinions were outlawed by the government in traditional media sources, Twitter, Facebook and blogs provided a venue to get their message out during the revolution. Axel Bruns, Tim Highfield, and Jean Burgess (2013) explain that by simply attaching "#egypt," to a post on Twitter, Egyptians could connect "their comments to a wider discussion," during the revolution that was much harder for the government to stop than traditional media sources (p. 873).

In addition social media provided Egyptians with a venue to share stories about government violence and injustice against journalists. Khondker (2011) shared the story of Khaled Said in his article:

> On 6 June 2010 Khaled Said, an Egyptian blogger, was dragged out of a cybercafe and beaten to death by policeman in Alexandria, Egypt. The cafe owner, Mr. Hassan Mosbah, gave the details of this murder in a filmed interview, which was posted online, and pictures of Mr. Said's shattered face appeared on social networking sites. On 14 June 2010 Issandr El Amrani posted the details on the blog site Global Voices Advocacy (*Global Voices Advocacy,* accessed on 24 June 2011). A young Google

> executive Wael Ghonim created a Facebook page, 'We Are All Khalid Said', which enlisted 350,000 members before 14 January 2011. (Khondker, 2011, p. 677)

This story shows how social media not only served as a form of media itself, but allowed the Egyptian people to spread the word about press violence within the country. Social media gave Egyptians power to voice their opinions regarding the political and media situation in the government.

Media Companies: The Other Globalized News Sources

However, globalization of communication technology has not only impacted social media, internet bloggers, and citizen journalists. Major media organizations and their viewers and readers have also reaped the benefits of a more globalized world. News organizations now have the ability to become worldwide news providers. As discussed earlier, Bielsa (2008) argued that globalization has created a media climate where large news organizations, like CNN, are able to flourish worldwide. He explains that "by 1992, CNN and CNN International combined reached 119 million households in over 140 countries," and these numbers have only grown since then (Bielsa, 2008, p. 361).

Not only does this benefit media companies, who now have a larger audience and group of viewers, but people all over the world have a wider range of options to choose from in regards to receiving information. However, Bielsa also discusses how this ability for media companies to broadcast all over the world has led Western media giants to dominate journalistic discourse. (2008) This raises the question whether or not a globalized world creates a bias towards western ideas in media. Western media giants seem to have the greatest ability to take advantage of worldwide communication avenues.

However, in recent years, Al-Jazeera, a middle eastern, "pan-Arab channel," (Bielsa, 2008, p. 362) has found a way to compete with Western media companies. Bielsa said, "Assuming a pledge for objective reporting and contrasted points of view, Al-Jazeera initiated a revolution in the Arab world by breaking with a regional tradition that had subordinated media to the government and by introducing new democratic practices in broadcasting," (p. 362). The company flourished by showing different sides of the news than Western media companies.

Al-Jazeera provides a journalistic point of view that CNN and other competitors cannot. (Al-Jenaibi, 2010) Badreya Al-Jenaibi argued that Al-Jazeera's uniqueness from its competitors is what draws in viewers (2010). The popularity of Al-Jazeera proves that not only does globalization allow access all over the world to Western media, but it also provides an opportunity to other regions of the world to compete. Al-Jazeera's ability to

maintain offices in various parts of the world has made it difficult for governments, such as Egypt, that might have opposed it, to censor its content. Lawrence Pintak described this change by saying, "No longer did all the world view events through a western lense. But neither could Arab governments any longer control the televised message, (2008, p. 17).

However, Al-Jazeera does not only benefit those in the Middle East. The network has also managed to bring a journalistic point of view not otherwise available into Western homes. In August 2013, Al-Jazeera launched Al-Jazeera America, bringing the network to over 45 million American viewers' televisions for the first time, according to an article in the New York Times. (Stelter, 2013) Although Al-Jazeera English was previously available to American viewers via the internet, for the first time, the network created a series of shows that, not only reported on international news, but also on American affairs. An American viewer can turn on Al-Jazeera and see some of what he or she might see on CNN, but the viewer now has a more diverse pool of news options to choose from. For the first time, a non-Western media source is becoming a source of news for English speaking Americans. This ability for networks to broadcast all over the world is changing the way society as a whole views the media and gives people access to more information framed by different points of view.

IV. Conclusion

Globalization, media rights, the internet, and free press are very clearly intertwined in many ways. Globalization and widespread internet access throughout the world seems to be advancing access to different types of media, and even facilitating the creation of new ones, like Twitter and Facebook. However, it is clear that the media is also impacting globalization. Media networks, blogs, citizen journalists, and other forms of journalism facilitate the spread of ideas throughout the world.

Globalization and free press influence each other in a way that is both cyclical and mutually beneficial. Figure 3 shows how as the world becomes more globalized, technology becomes more accessible throughout the world. Technology makes it harder for ideas and media to be censored. This uncensored flow of ideas allows points of view to be communicated across borders, creating a more globalized and connected world.

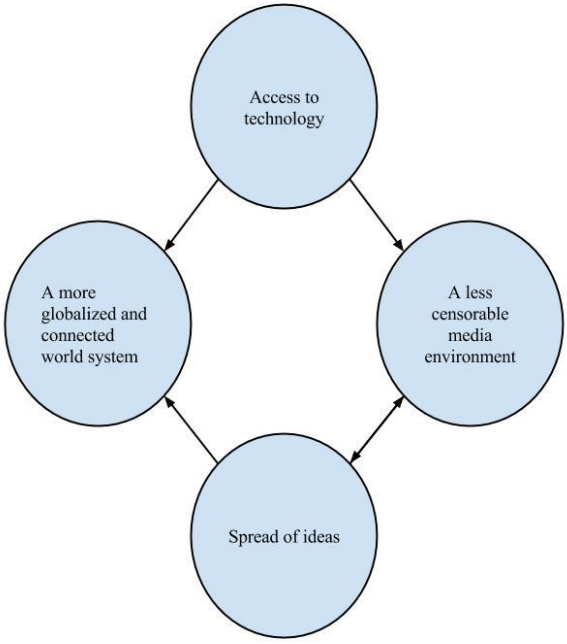

Figure 3. Media freedom and globalization impact each other in ways that are mutually beneficial.

The internet has become one of the most effective tools for communicating ideas and news in a way that is largely uncensorable. The internet allows news organizations and even individuals to broadcast all over the world creating a media system that is no longer regional. This spread allows companies like CNN and Al-Jazeera to be accessible to viewers in many parts of the world.

However, discourse on this topic could be improved by finding new ways to measure correlations between internet use and media freedom. Studies that focus more on the impact of internet access on freedom of the press would allow writers and the international community to look further into what could be done to provide nations with more repressive media climates additional avenues for their residents to receive news. While many studies have been done on how globalization leads to technology that creates internet and telecommunications pathways around the world, few have looked concretely into how globalization, and these new pathways, are directly linked to press freedom.

Not only has globalization helped further access to news and information, but

the internet and increased access to news networks around the world has provided a place for stories of violent offenses against journalists to be shared. Globalization not only creates new ways for the media to function, but also draws worldwide attention to the importance of journalist rights, access to news, and media freedom. People all over the world can use these new forms of media to serve as advocates for a more free flowing, uncensored, and diverse media landscape. Free press and media freedom is becoming increasingly achievable and news is becoming more accessible in the globalized society the world is developing into today.

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Section IV:
Critical Essays

Providing a Framework for Just War in United States Foreign Policy: A Case Study of the 2003 Invasion of Iraq

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In this paper the framework of Just War Theory is used to assess whether the 2003 invasion of Iraq was just. While George W. Bush's administration declared the Iraqi invasion just war borne out of necessity, opponents charged that it was a war of choice, even opportunism. Behind the oratory lie fundamental questions: when is war just, and what means are acceptable through the duration of a just war? Just War Theory explores this dilemma. Just War Theory requires that a nation at war respect proportionality both before it goes to war, *jus ad bellum*, and in the way it fights a war, *jus in bello*. The six criteria against which to assess the justice of going to war are just cause, right intention, proper authority, last resort, reasonable probability, and proportionality. To respect proportionality is to know or estimate on good evidence that the damage inflicted from war and the tactics used throughout it will be proportionate to the good done by taking up arms. To meet proportionality criteria the war as a whole must generate more good, help, or benefit than evil, harm, or costs. This paper argues that the 2003-2011 United States war in Iraq fails on both counts. It considers, in regard to *jus ad bellum*, the evils, harms, and costs that the war forces on the Iraqi military and civilians, the American military, and American and non-Iraqi civilians. It considers, under *jus in bello*, the evils, harms, and costs that the war forced on Iraqi civilians. The standards of proportionality deem this war a miserable failure. The key pre-war issues discussed include alleged Iraqi possession of weapons of mass destruction (WMDs) and links to terrorist organizations, as well as the meaning of UN Security Council resolutions. It concludes that, as the just war criteria were not satisfied, the invasion of Iraq was unjust.

I. Literature Review

Just War Theory has evolved and stands today as the most significant criteria for determining the morality for waging war. It is used by nations to decide if it is morally

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and legally justifiable to engage in military conflict. Choosing the rubric of Just War Theory allows for the 2003 invasion of Iraq to be measured in terms of morality and legality through the concepts of *jus ad bellum* and *jus in bello*. The conditions of just cause, right intent, proper authority, last resort, probability of success, and proportionality must be met in order for a war to be just under the terms of *jus ad bellum* (Fotion, 2007). The conditions of *jus in bello* include noncombatant immunity and proportionality (Strehle, 2004). This paper will analyze all conditions as they apply to the decision to invade and occupy Iraq. It is hypothesized that the 2003 war in Iraq failed to meet the terms of Just War Theory. The following literature reviews demonstrate and support said hypothesis.

Joachim von Elbe writes of the historical evolution of Just War Theory and of how it has come to be applied in international terms. He notes that the notion of both ancient and modern warfare should be based on the norms of justice and morality as seen in the writings of Aristotle, Plato, and Cieceo. The concept of just war was later developed more concisely by St. Augustine who emphasized the importance of waging war to restore peace (Elbe, 1939). It was not until later that St. Thomas Aquinas, Hugo Grotius, Immanuel Kant and Michael Walzer advanced the theory into the practical formula that is used today.

The evolution from the works of Aristotle to that of Walzer can best described as a shift from pacifism to realism. Authors Richard Bellamy and Andrew Mason clarify the ideological shift and describe why it occured. True pacifists believe that the concept of war is immoral and that individuals should refuse to fight in all instances. Contrary to pacifists, realists separate war and ethics. They hold to the belief that war can, in many cases, be justified (Bellamy & Mason, 2003). From the latter ideology spurred the concepts of *jus ad bellum* and *jus in bello* that are used to establish the injustice of the war in Iraq. To truly evaluate such injustice, an understanding of the history of Iraq is necessary.

John Keegan provides a step-by-step analysis of the events leading to the invasion of Iraq. He explicitly narrates Saddam Hussein's Iraq and sheds light on the strategy and tactics employed by the coalition to remove Hussein from power. Throughout his book, Keegan provides both a military and governmental account of how the United States handled a hostile foreign power (Keegan, 2004). The works of Enemark, Lewis, Cohn, Rocheleau, and Weeks then tie Just War Theory and Iraq together.

Enemark applies the framework of the Just War doctrine to the invasion of Iraq in 2003. He takes the previous mentioned six criteria for going to war and applies them to the decisions and intentions made by the United States, Great Britain, and Australia. Great emphasis is put upon the supposed possession of weapons of mass destruction, as well as the justifications of self-defense and humanitarian intervention. Charles Lewis highlights the false messages spread by government officials, as well as the highly questionable intelligence information relied upon as a basis for military intervention. Marjorie Cohn provides support for this thesis through her information pertaining to a lack of just cause as well as lack of proper authority. Cohn explains that the United States did not receive the approval of the Nations Security Council prior to entering into Iraq nor did it have concrete evidence pertaining to weapons of mass destruction. She analyzes the consequences of failing to gain a solid foundation before entering into such a costly war effort.

Jordy Rocheleau adds to the support of this thesis by concluding that the United States failed to meet the conditions of last resort, through the ignorance of other options, and proportionality based on economic and human loss as well as conduct throughout the invasion and occupation (Rocheleau, 2010). Albert Weeks concludes the support for this thesis by providing an analysis of how the United States failed to meet the terms of noncombatant immunity as well as proportionality through the process of *jus in bello*. He argues that the mistreatment of prisoners of war, the multi-billion dollar cost, and the deplorable loss of human life deem the invasion of Iraq unjust in terms of Just War Theory (Weeks, 2010).

II. Introduction

On March 19, 2003, President George W. Bush announced that an armed coalition led by the United States was poised to invade Iraq (Keegan, 2004). In 2011, after more than eight (8) years of military occupation, both Iraq and the United States faced more problems than they did pre-invasion. The United States invaded Iraq under the pretexts of discovering weapons of mass destruction (WMDs), forcing Iraq to comply with United Nations sanctions, and liberating the Iraqi people from the autocracy of Saddam Hussein (Fisher, 2001). As it became increasingly evident that the United States was preparing for an invasion in Iraq, much debate about the morality of entering into such an excursion arose. With the United States' inability to uncover any evidence of nuclear WMDs in Iraq, all three justifications for the invasion were proven faulty.

In light of these inaccuracies came a rise of violence, political and economic upheaval, and an increasingly divided nation. Just War Theory provides a framework for evaluation of the invasion in terms of morality. This thesis holds that the 2003 invasion of Iraq clashes with the criteria of Just War and views all attempts to defend the invasion as a misconception of Just War doctrine. Many believe that the War on Terror changed the policy of just war and that in light of new terrorist enemies, the United States maintained every right to invade Iraq. This view is inaccurate in that one nation cannot decide to alter the terms of Just War to achieve selfish ends or justify its actions. All additional research will therefore depict the justifications of war as presented by the George W. Bush administration and evaluate the pre-invasion justifications presented. An analysis of the origins of the invasion, as well as a description of Just War theory must first be evaluated.

III. Saddam Hussein and the United States

> "The dictatorship of Saddam Hussein is one of the harshest, most ruthless and most unscrupulous regimes in the world. It is a totalitarian, one-party system based on the personality cult of Saddam Hussein. The man and his family and relatives have control of the regular army, People's Army, police and security service. All news media are under the strict control of the regime and there is no opportunity for freedom of expression" (Keegan, 53).

Beginning in 1979 and concluding with his overthrow in 2003, Saddam Hussein ruled with an iron fist over the people of Iraq. Under his reign, the Iraqi people faced absolute oppression while his enemies faced unwarranted and often unprovoked attacks. His time in power is marked by obvious aggression towards foreign powers, specifically the United States and other Middle Eastern countries. Hussein came to power in a time of increasing Middle Eastern distain for the United States. The overthrow of the Iranian Pahavi royal family provided him with the perfect opportunity to invade Iran shortly after gaining office in 1980. Starting in late 1980 and ending in 1988, the wars between Iran-Iraq were considered among the most military violent conflicts since the end of World War II. The brutality of these wars sparked intervention on behalf of the United States. Despite this display of force, the United States knew that Hussein was looking to provoke Western intervention in the Middle East and chose instead to back all Iraqi decisions (Keegan, 2004).

The overt aggression displayed in the invasion of Iran was closely followed by chemical attacks against Iranian enemies. Chemical agents are notorious for their ineffectiveness as agents of war due to their lack of precision. Additionally, the use of

chemical weapons had been outlawed by League of Nations in 1925. By resorting to chemical warfare, Saddam Hussein not only failed to achieve his goals, but also drew the attention of the United Nations Security Council. With complete disregard for the sanctions against him, Hussein continued chemical attacks eventually resulting in the infamous attack on the Kurdish town of Halabjah in which an approximated 5,000 civilians were killed. A cease-fire was eventually declared by Iran on July 18, 1988, but the victory had come at a steep price in both human and economic loss for Iraq (Keegan, 2004).

Saddam Hussein expected sympathy from his neighbors in the aftermath of the Iran-Iraq wars. Unfortunately for him, his neighbors were ready to cash in on Iraqi debts. This resulted in increased tension once again in the Middle East. In particular, the Emir of Kuwait explicitly demanded repayment of Iraq's debt. Upon failure to reach an agreement, Saddam Hussein ordered Iraqi troops to invade Kuwait in 1990. This unprovoked and illegal occupation resulted in a change in United States policy toward Hussein's Iraq. In January of 1991 the First Gulf War involving United States intervention began in earnest and concluded in Iraq's retreat from Kuwait a mere month later (Keegan, 2004).

The wars between Iran and Iraq, the chemical gassing of the Kurds, and the misguided attempt at annexation of Kuwait bear evidence to the hostile nature of Saddam Hussein. The next ten years, from 1991 to 2001, would be marked by his continual violation of international treaties and laws. The most notable of his defiance being his failure to comply with weapons inspections concerning weapons of mass destruction as agreed upon at the end of the Iraq's defeat in the First Gulf War. Hussein's distain for international regulations led to frequent sanctions as well as persistent human suffering for his people until he was ultimately ousted from power by a United States led coalition in 2003.

The downfall of Saddam Hussein was expedited by the September 11, 2001 terrorist attacks on the United States. These attacks resulted in a drastic shift in US foreign policy. The central powers of the world were under attack and for the first time since the end of isolationism, the United States was now putting their own security first. The George W. Bush administration turned its full military attention to the defeat of Al-Qaeda. Reports of Al-Qaeda operations were flooding in from over forty countries. However, the strongest indications of Al-Qaeda activity were emanating from Iraq. Hussein was viewed as a threat to the Middle East and beyond. Despite the distressing and overwhelming atrocities committed by Saddam Hussein, the backdrop for the 2003

invasion of Iraq was extremely ironic. For the first time in years, in January of 2002, Hussein's Iraq had agreed to unconditionally allow for the return of United Nations weapons inspectors. Unfortunately for him, the American sentiment in the aftermath of 9/11 was not sympathetic to any extremist Arab regimes. This attitude, combined with extremely questionable intelligence information, led to the invasion of Iraq in March of 2003. "Saddam was a wicked man, an aggressor, an oppressor of the Iraqi people and a menace to order in his own regime and the wider world" (Keegan, 2004).

IV. History of 'Just War' Theory

Dating back to the Roman Empire, principles of Just War Theory have been used to uphold the honor of civilizations. Recent wars have sparked much debate about what is just and what is unjust in modern warfare. After a long and controversial history, Just War Theory has evolved and stands today as the most significant criteria for determining the morality for waging war (Lecamwasam, 2013). It is used by nations to decide if it is morally and legally justifiable to engage in military conflict. In the case of Iraq, the George W. Bush administration determined that the invasion was as one of necessity, while many others viewed it as a war of opportunity. Behind debates such as these lie the most vital of questions: when is war justifiable? If war is justified, what actions are justifiable throughout the course of war? Just War Theory deals specifically with how and why wars are fought based on moral and ethical standards.

The origins of Just War Theory are said to date back to the times of the Greeks and Romans. Many claim that Cicero and Aristotle's early teachings reflect the fundamental nature of just war principles. The first discernible advancement of just war resulted from the work of Saint Augustine in the 5th Century A.D. Saint Augustine saw that leaders of the age were faced with the dilemma of choosing between the traditional Christian pacifism and the new militant yearning to preserve the Holy Roman Empire (Bellamy & Mason, 2003). Because of these conflicting ideals, he generated the first justifications for war based on moral conduct. Building off the example put forth by St. Augustine, progressive thinkers such as St. Thomas Aquinas, Hugo Grotius, and Immanuel Kant further developed the concept of just war throughout the 18th century (Lecamwasam, 2013). The 20th century marked the revival of Just War Theory as those hundred years contained both the First and Second world wars.

World War II was especially controversial in terms of just war because it involved the bombing of German cities by the Allied forces. Many, especially those of Christian faiths, were vehemently opposed to the bombings and cited just war principles

as their basis for such fierce opposition. Outcries from the church did not succeed in derailing the bombings, but they did restore interest in Just War Theory (Rengger, 355).

The arrival of the Vietnam War in the 1950s brought about the works of Michael Walzer, one of the most celebrated authors of Just War Theory. In his book titled *Just and Unjust Wars*, Walzer was able to break down Just War Theory in legal terms that are still used to this day (Walzer, 1997). The criterion laid forth by his work is discussed below. Later, in the late 1980's, Catholic Bishops from the United States again discussed the morality of war in light of nuclear weapons. In light of the September 11, 2001 attacks on the World Trade Center and the Pentagon, the absence of a policy of just war began to dominate modern day political discussions.

Just War Theory has been developed over centuries of change in political, social, and idealistic time periods. Classically, Just War Theory had been aimed at preventing war as opposed to justifying it. It stemmed from a moral presumption against war seeking to uphold the premise of peace over war. In modern day, this theory is, for the first time, in danger of being reversed – the idea of a just war is being used as an ethical justification for engaging in acts of warfare and is therefore on a path to becoming part of the problem as opposed to the solution.

Many international agreements, including the Geneva Conventions and the United Nations Charter, have resulted from rules developed by the just war tradition. Therein lies one of the major problems with modern just war theory - it is now viewed more as a legal framework than as a moral code (Enemark, 2010). This perspective poses rigorous quandaries to the development of the theory since law concentrates more on what it is right to do during war rather than concentrating on the very decision to wage war. As a result, Just War Theory is currently being utilized as the standard to calculate all decisions pertaining to war as opposed to the basis for analyzing why a nation goes to war. In its modern day form, the theory is being used to justify any and all wars when it should be used only to justify war as a last resort. With the history of Just War Theory having been analyzed, the main criteria for entering into just war will be reviewed.

V. Criteria for Just War Theory

As defined above, there are two traditional conditions required for engaging in just warfare: *jus ad bellum* and *jus in bello*. *Jus ad bellum* is the right conduct in going to war, or whether a war is justly started. *Jus in bello* is the right conduct during war, or whether a war is being fought justly. It is important to note that one can be done without the other. An unjust war can be fought justly, and a just war can be fought unjustly. In

recent years a new principle known as *jus post bellum* has developed which focuses on returning to peace in the aftermath of war (McMahan, 2007). However, as this paper focuses on the justifications before and during war, it will not elaborate on this topic.

Jus ad bellum defines the legitimate reasons a state may engage in war and focuses on the criteria that render a war just (Nabulsi, 2011). There are six necessary rules that must be met in order for any declaration of war to be justified as more concretely defined by Walzer:

1. *Just cause*: The rights of both states and individuals are taken into consideration here. Both may engage in war only for the right reason. "The just causes most frequently mentioned include: self-defense from external attack; the defense of others from such; the protection of innocents from brutal, aggressive regimes; and punishment for a grievous wrongdoing which remains uncorrected" (Orend, 2000). A state can engage in war only if it aims to stop unjust aggression or end the violation of human rights. On the flip side of this, other nations may intervene inside another's territories if a state is not protecting the fundamental rights of its citizens.
2. *Right intention*: A war must be fought *only* for the sake of a just cause. Ulterior motives such as natural resources or revenge are not adequate justifications for going to war.
3. *Proper authority and public declaration*: The decision to go to war can only be considered justified if the rightful authorities declare war and the proper process, such as acknowledgement of citizens and enemy state, has been undertaken.
4. *Last resort*: War must be engaged in only if all other plausible options have been exhausted.
5. *Probability of success*: A state cannot resort to war if the outcome will yield no positive impact on the situation.
6. *Proportionality*: A state must weigh the universal good expected to arise from an event – including the good expected from the enemy and third parties and weigh that against the negative effects likely to arise from such an involvement (namely the casualty count). Only if the positive will outweigh the negative may a war be entered into justly (Fotion, 2007).

Just War Theory insists that all six of these criteria be met in order for a state to justly enter into war. There is however no universal acceptance of these regulations and as such they are vulnerable to many different explanations or interpretations.

Consequently, the weaknesses of these guidelines allowed for the violations of Just War Theory during the invasion of Iraq.

Jus in bello deals with whether a war is being fought in a just way. It is a set of moral codes that come into effect once a war has began and generally applies to the commanders, soldiers, and officers of the armed military forces. *Jus in bello* is made up of two parts: internal and external. Internal *jus in bello* focuses on the rules or laws a state or individual must follow in regard to the treatment of their own citizens. External *jus in bello* is made up of two conditions regarding the treatment of enemy citizens. These two conditions are:

1. *Discrimination or noncombatant immunity***:** This condition states that one must not deliberately engage in warfare with civilians or noncombatants – meaning those not involved in the war effort.
2. *Proportionalit***y:** One must use tactics that show regard for human life and are commensurate with the justice of the cause or value defended. One must avoid methods of destruction that incur a disproportionate amount of collateral damage (Strehle, 2004).

Michael Walzer said "war is hell" and from this phrase many believe that any action can be termed justifiable during times of war (Walzer, 1977). The principles of *jus in bello* are used as a mechanism to guarantee that the fundamental rights of the individual are not violated during such times. The tradition of engaging in just war is not new. For thousands of years just war theories have had the dual purpose of both justifying and restraining violence. "Without restraint war cannot be justified and yet, it seems, the more war is justified the less restrained it becomes" (Bellamy & Mason, 212). It is in this light that the moral justification of war often leads to its intensification as opposed to its limitation. The more a cause is infused with moral reasoning, the more intensely the battle for said cause is going to be fought.

VI. The Global War on Terror

The September 11, 2001 attack on the United States that resulted in the death of over 3,000 people is significant in that it drastically altered the United States foreign policy plan. The era of cooperation immediately ended and in its place emerged the War on Terror. The global war on terror focused on the elimination of enemies to the United States. It represented a shift from shared world power to a single power system with the United States as the world hegemon. The War on Terror represented greater security for

the United States as well as a new, forceful military stance against all opposition. This new position was demonstrated in two ways: identification of the axis of evil and the right of preemptive strike.

In a State of the Union address in January of 2002, President George W. Bush defined the axis of evil as any rogue states that were notable by their support for international terrorism and their quest of weapons of mass destruction. The primary nations worthy of this term were Iraq, Iran and North Korea, as well as Syria, Libya and Cuba identified as lesser threats (Rogers, 2006). The right of preemptive attack was addressed in President Bush's speech at West Point three months later. He declared that the United States held the right to partake in military action against perceived future threats. "While preemption forms a part of military strategy in many circumstances and by different countries, the forceful development of such a policy by the USA was clearly in the context of the war on terror and the linking of rogue states to support for terrorism and the development of weapons of mass destruction" (Rogers, 2006).

In short time it became increasingly apparent that the United States was interested in initiating preemptive warfare against one particular country in the axis of evil: Saddam Hussein's Iraq. The neo-conservatives of the day pushed for the singular world dominance and the invasion of Iraq. To this day, many blame neo-conservatives, such as former Vice President Dick Cheney and former Secretary of Defense Donald Rumsfeld, for the hasty excursion into Iraq. Neo-conservatives were firm backers of the strike first policy and actively pushed their agenda through Congress and the White House (Crawford, 2003). However, not all were in favor of this approach. Reports were produced months before the invasion of Iraq began, stating that the consequences of such actions would be detrimental for both the United States and Iraq. Concerns about the high civilian casualty rate, the possible escalation to nuclear weapons, and the risk of an insurgent Iraq in the aftermath of war were cited as just a few of the possible concerns.

Despite the violation to international law, the United States chose to employ the policy of preemptive war, also known as the Bush Doctrine. It is vital to note the difference between preemptive and preventive attacks. Preemptive attack is initiated in anticipation of an attack while preventive strike is launched as a way to destroy potential danger of an enemy, even if that danger is not imminent (Rocheleau, 2010). Due to this difference, the United Nations (UN) very rarely endorses preventive war and when it does, the UN Security Council must first approve such action. The Bush administration decided to invade Iraq under the assumption that Iraq posed an imminent threat to global peace and possessed weapons of mass destruction. In doing so, they acted without the

support of the Security Council (Cohn, 2007). The notion of preemptive war will be the central argument against just war in *jus ad bellum*.

VII. Iraq and *Jus ad Bellum*

If the 2003 war in Iraq is to be considered morally, ethically, and legally just, it must first meet the criteria of *jus ad bellum*. To adequately evaluate these criteria it is necessary to first look at Saddam Hussein's Iraq prior to 2003. Was the *imminent threat* from Iraq a *clear and present* danger for the United States? If it was, did this threat present a just cause for going to war? Did the United States have justifiable intent for entering into war? Did the proper authority declare war? Had all other avenues been exhausted for eliminating the alleged threat - meaning war was truly a last resort? Assuming that the answer to all of the above questions justified entering into a war with Iraq, what would be the probability and proportionality of success? Would greater good come from such a war?

As the instigator of the 2003 war in Iraq, the United States was responsible for adequately answering each of these questions prior to invasion. The primary causes presented by United States government officials for entering into war with Iraq can be broken down into two parts: self-defense and humanitarian intervention. Iraq was invaded by a coalition of three countries: the United States, Great Britain, and Australia. In terms of Just War Theory, the self defense of all these nations would have to adequately meet the terms of just cause. If however, these three nations were acting in the collective self-defense of a general threat to the "West," then there is less to distinguish between in terms of just cause. While the principle of self-defense is not usually adequate to meet just war criteria, this has changed with the evolution to Article 51 of the United Nations Charter. Article 51 states that the "inherent right of self-defense" as an exception to the Article 2(4) prohibition on the use of force "if an armed attack *occurs*" elevates self-defense to a just cause in certain instances. Additionally, the use of preventive force can only be justified if a nation can prove that a threat is imminent (Enemark, 2005).

Following this logic, an imminent threat can provide a sufficient basis to justify war. However, the question must then be asked whether Iraq presented an imminent threat? As cited in the following examples, statements made by many United States government officials including the President, Vice President, Secretary of Defense, and Whitehouse spokespeople, proclaimed that Iraq was an imminent threat.

"No terrorist state poses a greater or more immediate threat to the security of our people and the stability of the world than the regime of Saddam Hussein in Iraq."
-Secretary of Defense Donald Rumsfeld, 9/19/02

"The Iraqi regime is a threat to any American. … Iraq is a threat, a real threat."
- President Bush, 1/3/03

"Absolutely."
-White House spokesman Ari Fleischer answering whether Iraq was an "imminent threat," 5/7/03 (American Progress, 2004)

Yet just because they said it, does not make it so. The emergence of the global War on Terror in the United States changed the classification of an "imminent threat." In the aftermath of the 9/11 attack, the Bush administration heavily pushed for the expansion of preemptive warfare. The concept of preemptive war relies on "advance knowledge of an impending attack" (Enemark, 2005). The reliability of intelligence information is therefore necessary for the justification of war. Reports amassed declaring two major justifications for war: (1) that Iraq was in violation of the United Nations resolution banning them from possessing weapons of mass destruction and (2) that they had confirmed links to international terrorism.

The underlying problem with this first justification is that Iraq had no WMDs. In the two years following the September 11th attack, more than 935 false statements by President Bush and his administration were made regarding the national security threat that Iraq posed to both the United States and the international community. In a National Address, United States Vice President, Dick Cheney, openly declared that: "Simply stated, there is no doubt that Saddam Hussein now has weapons of mass destruction" (Lewis, 2008).

Weapons of Mass Destruction (WMDs) were at the heart of all justifications for entering into a war with Iraq. The threat that Saddam Hussein possessed these weapons was the clear and present danger for the United States. When the Coalition under US Secretary of State, Colin Powell, failed to uncover any evidence of such weapons, the pre-war debate about the morality of the Iraq invasion began afresh. The war effort fed into American citizens fear, angers, and manipulations. The general raised by the populace became "what are we doing here?" Was the cause worth the sacrifice? This paper maintains that these questions were secondary. From the outset, there was no valid justification for entering into Iraq in 2003 and the reliance on faulty intelligence

information simply highlights this fact. Intelligence information is infamously dubious and accurate information is incredibly difficult to obtain.

It seems unlikely that the United States would base just cause on such questionable intelligence information. Unfortunately, it did just that. Specifically, America and Great Britain, who possessed very little Intel in the Middle East, relied mainly on human intelligence. Information from such sources often vague, inaccurate, or comes from unreliable sources. The sources of human of information may be seeking to advance their own agenda or provide misleading information on behalf of unknown allies. Misinformation is at an even greater rate when it pertains to high technology such as that of WMDs (Enemark, 2005).

The definition of the term "weapons of mass destruction" establishes another issue with the war in Iraq in terms of Just War Theory. The United States termed WMDs as not just nuclear weapons, but chemical and biological weapons as well. While the general public was led to believe that Iraq was on the verge of launching a nuclear warhead, they possessed neither the technology nor materials to do so. Biological and chemical weapons do not cause catastrophic "destruction" and the overall effects of them are highly unknown. A nuclear attack could have established the war in Iraq as justified, but the lesser threat of an unknown chemical or biological attack lessen the threat of Iraq in terms of just war yet again.

Assuming for argument sake that Iraq did possess WMDs, this alone would not be reason enough to justify war. To validate self-defense as a just cause, there would have had to have been undeniable proof that Iraq had links to terrorist cells prior to the invasion. Only through such links would Iraq have posed a direct threat to the United States. Unfortunately, there was no concrete evidence that Saddam Hussein supported the terrorist organization, Al-Qaeda, and even less to say that he was providing them with nuclear weapons (Cohn, 2007). This is a not surprising finding since Al-Qaeda is an Islamic fundamentalist group while Hussein was extremely active in religious repression.

The Bush administration must bear the responsibility of failing to meet just cause doctrine based on self-defense. The reliance on faulty intelligences, the misrepresentation of WMDs, and the failure to provide adequate links to terrorism discard self-defense as a just cause. As defined above, self-defense was not the only reason provided for entering into the Iraqi war. Humanitarian intervention on behalf of the Iraqi people was a second cause used to justify the war in Iraq. It is not uncommon that the justification for going to war changes as the war progresses. In this instance, the pursuit of life, liberty, and the spread of democracy soon became the reasoning for going

to Iraq (Rocheleau, 2010). Military intervention on humanitarian grounds is considered illegal due to the violations against state sovereignty (Chesterman, 2001). Despite this, humanitarian intervention has become more justified in recent years in the face of instances of ethnic cleansing or severe harm. While it would be extremely difficult to coin Hussein's Iraq an ethnic cleansing, lets assume for argument's sake that Iraq did meet the standard of causing severe harm to his own people. It still took years of such harm before humanitarian intervention was stated as a justification for the war. Not until his 2003 pre-invasion address did President Bush mention the liberation of the Iraqi people. The name "Operation Iraqi Freedom" was extremely hypocritical as never were the just terms of humanitarian intervention met.

Ironically, the "humanitarian crisis" that compelled the United States to stay in Iraq is its own doing. As a result of the aggression and destruction throughout the invasion, the United States was ethically bound to Iraq. The mission of saving human lives and securing peace quickly overtook any selfish desires (such as regime change). In argument with this thesis, it can be objectively stated that the desire to liberate the Iraqi people evolved into a just cause. However, this post-invasion justification leads us to the following five justifications of *jus ad bellum*. Was the right intent pursued, and if it was, did the consequences of going to war meet the criteria of proportionality?

Right intent states that a war is only just if it has a subjective aim. In literal terms this means that the aggressor state stands only to defend itself or rescue the defenseless without the desire of monetary or political profit. Right intention as a just cause must focus on the legacy a nation hopes to leave behind after war. To fulfill the Just War Theory standards, the goal of right intent must ultimately be peace.

There are two major problems with the evaluation of right intent. First, it is extremely difficult, if not impossible, to evaluate the intentions of others. Second, the likelihood that there is more than one underlying intent poses serious problems. It is highly unlikely that it will ever be possible to know the exact intent of the President and his staff upon entering into war with Iraq. One view is that the government truly wished to disarm Iraqi WMDs and promote the spread of democracy in the region. There are at least two main arguments against this proposed intent.

Firstly, many claim that the United States has historically become involved in foreign nations for one reason: economic interests (i.e. natural resources, etc.) (Schwartz, 2007). In this case it was oil. At the beginning of the 2003 invasion of Iraq, very little was ever mentioned about the "sea of oil" estimated to be worth 10-30 trillion dollars concealed underneath the surface of Iraq. For decades, the United States has been

attempting to gain control of the "black gold" that lies beneath the Middle East. By looking at the history of United States involvement in that area, it becomes indisputable that oil was a driving force behind the American invasion of Iraq.

The Iranian revolution of 1979 brought to power "a regime hostile to Washington, and not particularly amenable to Saudi pressure, had now become an active member of OPEC, aspiring to use the organization to challenge American economic hegemony" (Schwartz, 2007). The Iranian revolution not only inspired anti-American sentiment throughout the Arab world, it paved the way for the emergence of an Iraqi leader who strove to make Iraq the new global superpower: Saddam Hussein. A policy of containment towards Saddam Hussein's growing Iraq followed for the next several decades. Unfortunately, Hussein had little experience with Western countries, particularly the United Sates, and therefore underestimated the lengths the U.S. would go to in order to protect its interests.

This is the second argument against right intent as a just case in the case of Iraq. The war in Iraq was not a necessity, but an opportunity. The chance to remove Saddam Hussein from power, to create a western stronghold in the Middle East, and display military strength in the face of rouge nation states was too great for the United States to pass up. These intentions were undoubtedly part of the reason for the invasion of Iraq and they do not fulfill the standards of the Just War Theory. The United States entered into war with Iraq for a multitude of reasons, some of them are arguably just while others are clearly not so. The conditions of just cause and right intent fail to meet the standards of Just War Theory in this case study of Iraq.

In addition, declaration of proper authority to invade a nation is often overlooked as meeting the standards of just war, but it too fell short of the necessary criteria. Under the principle of *jus ad bellum*, Just War Theory states that a war is only just if the proper authority consents to it. This means that any wars that a nation engages in must be authorized by the legally recognized officials that control the armed forces of that nation (Rocheleau, 2010). Despite this, debate has arisen among Just War theorists that in the case of international wars, the true right to war does not lay with individual nations, but with the international community. This is seen as exceptionally important when a foreign power takes it upon itself to uphold international norms – such as the UN sanctions in Iraq. In the case of Iraq, permission from not only the President of the United States, whom controls the armed forces, but also the United Nations was required to meet the standards of just war. Despite the violation of their international sanctions, the United Nations did not approve the initial invasion of Iraq in 2003, making the

excursion illegal (Rocheleau, 2010). This violates right authority from an international perspective.

The United Nations eventually came to change their position on Iraq. A reevaluation, after considerable debate, resulted in a mandate allowing for the United States invasion and occupation of Iraq through 2008. As a result of this approval, it can be said that the condition of right authority in international terms was met in the invasion of Iraq. Those who argue that right authority was met in terms of Just War Theory fail to realize that there is one additional source that must approve war: the local population or "collective will."

Local populations maintain the greatest interest in the outcome of wars. The institutions established from these wars must therefore have the support of local civilians if they are to be well established. In cases similar to Iraq it has been argued that the "collective will" is more important than the permission of the international community such as the UN. In these instances, it has been determined that some type of collective body, and not just the occupying nation, must follow a legal process through which a collective decision is made. This can only be justified if the participating actors are representative of the entire international community as opposed to only those nations who support or oppose the war effort. The only time this rule is violated is when the international community cannot, for some reason, support military occupation despite the fact that the occupying state is acting for the greater good. For example, in 1990 the Economic Community of West African States (ECOWAS) instituted a cease-fire group to restore peace to Liberia. This group did not have the express permission of the United Nations, but they were acting for greater good the collective will (Enemark, 2005).

The 2003 invasion of Iraq does not meet the standards of unauthorized collective will. Firstly, the United States did not confer with any outside nations who would represent the broad international community. Second, even nations that did support the invasion of Iraq, such as Britain and Italy, were not fond of the idea of military involvement without the support of the UN. The UN Security Council did not initially approve the measure and there was no unauthorized enforcement on behalf of the collective will. The right authority was not established in the 2003 invasion of Iraq for these reasons.

Based on the analysis above, the invasion of Iraq has failed to meet the Just War conditions of just cause, right intent, and right authority. The fourth condition of Just War Theory is last resort. Last resort states that all procedures "other than war should be sufficiently tried first" (Langos, 2007). Iraq had not reached a point in which military

intervention was the only option. At the time of invasion, there was no threat of irreversible harm or the fear of an ethnic cleansing. It has already been established that no concrete evidence of nuclear weapons was to be found in Iraq. As a result, Iraq presented no direct threat to the United States. Given the lack of a dire situation, there was sufficient time to make an attempt at a diplomatic solution. Even in the event that diplomacy should fail, there are other potential means available, such as coercion or bribery in which the Coalition of the United States, Great Britain, and Australia could have embarked upon to prevent Iraq from advancing any suspected nuclear programs (Rocheleau, 2010).

It is important to note that there were at least two obvious considerations available prior to utilizing military force that the coalition failed to acknowledge. First, the UN weapons inspections were proceeding as planned and it was stated by many that only a few more months were needed until a peaceful solution could be reached by the United Nations and Iraq concerning WMDs. The second suggestion was presented by Germany, Russia, and France in which they recommended that a tougher inspection program combined with no-fly and no-drive zones should be implemented in Iraq (Enemark, 2005). In conclusion, these alternative proposals, combined with the failure to prove a looming crisis, deduce that the condition of last resort was not met for Just War Theory.

The fifth and sixth conditions that a nation must address to justify war are proportionality and probability of success. These conditions are so similar that it is proper to address them as a single condition. There can be no doubt that war will bring about death, destruction, and pain. Because of this, a just war can only result when the invading nation proposes a reasonable proposal for more public good than previously existed. In summary, the benefits must outweigh the costs. A brief look at the Iraq invasion shows that it fails to meet both probability and proportionality. The war in Iraq was predicted to be short and decisive – and it was. But the overall outcome of the war discredits any argument for proportionality or probability. Within Iraq, the entire society, including the political and economic sectors, became unstable as a direct result of the invasion and more than 100,000 lives were lost. The United States spent billions of dollars and lost over 4,500 lives (Rocheleau, 2010). These facts do not provide support for a just war. These final two criteria are meant to avoid unnecessary harm and it is undeniable that the war in Iraq goes against these terms. The outcome of the invasion has been severe economic downturn, loss of thousands of lives, and a severe distrust of American military power from the rest of the world.

Some theorists have attempted to argue that the benefits outweighed these costs, but how can they logically say so? From the standpoint of the United States, it was unable to make a quick retreat from Iraq as it had planned. It bears responsibility for Iraq's political and economic instability. The Iraqi people suffered through an extremely corrupt and volatile nine years only to be abandoned by the nations that proclaimed themselves rescuers. In terms of humanitarian intervention, Saddam Hussein was undoubtedly a cruel dictator, but his reign was never accused of creating human or economic loss to the extent suffered as a result of the invasion. Given the violence that has continued in Iraq to this day, it can be clearly determined that the United States did not adequately plan for the aftermath of the war in Iraq prior to entering it.

The 2003 invasion of Iraq failed to meet the terms of *jus ad bellum* as laid out by Just War Theory. The conditions of just cause, right intention, proper authority, last resort, proportionality, and probability of success were all lacking prior to the invasion. The conditions as laid forth by *jus in bello* can now be applied to the case study of Iraq.

VIII. Iraq and *Jus in Bello*

The principles of *jus in bello* are broken up into two parts: noncombatant immunity and proportionality. Noncombatant immunity is the protection of civilians from military force so that they may not be directly targeted. Proportionality refers to the lowering of overall destructiveness so as to avoid needless harm (Weeks, 2010). These principles were set forth at the Geneva Convention of 1929 and are so vital to Just War theorists because they are used to evaluate the conduct of war.

Noncombatant immunity and proportionality are not new regulations or conditions imposed during the Iraq war. These conditions have existed since the earliest times of war and are similar to moral codes that all combatants and nations are expected follow. However, the global War on Terror was not a war between two enemy nations. It was a war between the United States and all those who posed a potential threat. This "enemy" was and is hard to predict because it is almost impossible to unequivocally determine if a nation, group, or individual is guilty of terrorism. Looking at enemies located within Iraq, it is clear that the insurgents did not recognize the same humanitarian codes that the United States had previously followed. They attacked innocent civilians while using guerilla warfare tactics to gain the advantage. When the United States realized that following the rules laid forth by the Geneva Convention were failing, they formed counterinsurgency plans of their own (Weeks, 2010).

The United States used precision guided mutinitions (PMGs) in their attacks against Iraqi insurgents. While these are considered the most humane of all bombing techniques, they are not perfect and account for hundreds of civilian casualties throughout the war in Iraq. Other violations of both proportionality and noncombatant immunity were seen in the treatment of prisoners of war (POWs). The infamous abuse of prisoners by Coalition nations at Abu Ghrabi prison is a direct violation of the Geneva Convention regulations on POWs (Weeks, 2010). Many innocent POW were held for months without trial and the undeniable evidence of torture clearly violate all conditions of Just War Theory.

The mistreatment of POWs as well as the overall misconduct of Coalition troops and government officials is well documented in numerous publications. In terms of Just War Theory, this thesis shall simply state that the terms of *jus in bello* were violated in the most extreme of ways. The killing of thousands of innocent civilians and the torture and wrongful holding of POWs illustrate that no sense of proportionality was intended or achieved.

IX. Conclusion

This paper set out to determine whether the 2003 invasion and occupation of Iraq was unjust. This topic, while not new, is distinguishable from other forms of literature in that it applies the criteria of Just War Theory specifically to Iraq. The subheadings of this paper carefully evaluate the United States conduct both pre-invasion and during occupation and arrived at the conclusions set forth below.

The United States unequivocally violated the terms set forth by *jus ad bellum*, thus making the entire excursion immoral. The United States and its Coalition allies could not validate the claims of justice through self-defense or humanitarian intervention due to the lack of weapons of mass destruction, no direct links to terrorist organizations, and questionable intelligence information. In addition, Iraq had shown positive gestures in accordance with international law concerning on-going and increased weapons inspections. The justification of liberating the Iraqi people from the dictatorship of Saddam Hussein also falls short of a just cause because there were not human rights abuses at a level that would warrant such humanitarian intervention. When a cause it deemed unjust, the intentions of such a cause cannot be justified for similar reasons. This means the argument for war in Iraq was not justified.

Additionally, the United States' case for legitimate authority failed on the grounds that the United Nations did not back the war nor did it secure the approval of

local populations. In terms of last resort, the United States failed to exhaust all options prior to engaging in military combat. Diplomatic negotiations or increased time for additional sanctions from the UN should have been pursued prior to military intervention. Lastly, the arguments for proportionality and probability of success are demolished when the negative outcomes were compared to the positive ones. The economic and human losses on both sides compounded to make the invasion of Iraq immoral in terms of Just War Theory.

The second part of this paper set out to determine if the 2003 invasion of Iraq met the terms of *jus in bello* as applied to conduct during times of war. The standards of both noncombatant immunity and proportionality were both determined failures. Accidental loss of life through the use of imprecise munition bombs resulted in a great amount of human and property damage voiding any justification for proportionality or noncombatant immunity. A lack of proper planning resulted in thousands of avoidable deaths and that alone violated the terms of *jus in bello.*

Evidence from this thesis concludes that the United States and the Coalition are unable to justify the 2003 invasion and occupation of Iraq. These findings suggest that an extensive revelation and analysis of Just War Theory is needed to address modern warfare. New regulations are needed in order for nations to abide by moral standards laid forth by the theory, and most importantly, it must be determined if the threat of an attack justifies preemptive war. Additionally, the international community must serve as a greater gatekeeper against unnecessary aggression. The United Nations in particular must serve as a check for just warfare. Immoral conduct through war should also be restrained and legal standards adopted so that proper punishments can be enforced in the face of violations. If the above recommendations are made and implemented, then the impact of Just War Theory would stand as the proper and binding moral guide for modern warfare.

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Stevens, Nietzsche, and Collective Enunciation

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Wallace Stevens' poetry's phenomenological bent lends itself to Nietzschean interpretation. The central tension of his poems is often the necessity of sorting out and coming to terms with the constructions of imagination and the inaccessible realities of Nature—what Lacan might call the Real. Critics like J. Hillis Miller have offered convincing explications of this tension as being rooted in a Nietzschean crisis following from a collapse of the subject and object binary showing how Stevens sets up language to collapse in on itself and builds metaphors to be turned and changed with a shift in perspective as in the cubistic "Thirteen Ways of Looking at a Blackbird" or "Study of Two Pears." This discourse in Stevens research often centers on the death of the gods, as it does for Friedrich Nietzsche. While Miller and others, including Steven Shaviro and Joseph Kronick, have investigated the relationship between Nietzsche's anti-metaphysical position and Stevens' supreme fictions, most have not given enough weight to the social dimension of these imaginary constructions.

Rather than concentrating exclusively on the relationship of an individual poetic self to reality and imagination, a more productive use of Nietzschean frameworks with Stevens would reveal a collective imagination that is engaged directly in Stevens' poetry as well as possible moral readings that don't simply chide Stevens for self-absorbed "bourgeois solipsism". The critical possibilities that follow from the revelation of a collective imagination even extend to a complimentary collective enunciation as per Delueze and Guttari. If investigation of the collective element in Stevens research is marginal, the possibility of a Stevensian minor literature is almost totally ignored. Using the Nietzschean language already familiar in the critical discussion of Stevens' poetry, a theme of collective imagination and enunciation in poems like "Sunday Morning" should become apparent.

However, the present critical conversation around Stevens' relationship to Nietzsche's phenomenology does occasionally acknowledge the possibility of collective

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imaginary experience. J. Hillis Miller's *Poets of Reality* actually describes the collapse of the subject and object relationship, the fall of the gods, as a collective modern experience. The unity of collective imagination that is supposed to have existed before the ruptures and upheavals of the twentieth century, the cohesive and culturally coherent world described by Miller as "the harmony [of a] unified culture" (Miller 217), was shattered and fragmented in the catastrophe of modernity. Miller self-consciously echoes Nietzsche, as well as Richard Wagner, in expressing the crisis of modernity in terms of the fall of the gods. Miller explains that previously "culture was a revelation of the invisible and the speech of speechless gods" which justified an otherwise chaotic and inconsistent reality but with the dissolution of the gods and the stable subjective self these "fictions, aesthetic projections" of imagination are revealed as constructions (Miller 218). While acknowledging that the source of Stevens' crisis is the modern disavowal of collective metaphorical language as a trustworthy rout to access reality Miller's explanation of Stevens' project of reconstructing the relationship between imagination and reality focuses closely on the individual poet without properly considering the possibility of Stevens' working on a broader social and cultural level. Stevens, like all poets is in dialogue with an audience, and is working to make sense, not only of his own fictions but of the collective fictions of Western culture in deconstruction and reconstruction.

J. Hillis Miller articulates Stevens' phenomenology, his struggle with the constant deconstruction of the imaginary and its necessary reconstruction after the fall of the gods, in *The Poets of Reality*. By Miller's account the foundations of Stevens' very necessary fictions must always be laid on sand or, to use Nietzsche phrase, "on moving foundations…on flowing water" (Nietzsche 879) not because the human mind has no access to reality but because that access is incomplete, changeable, and unreliable. "The imagination", he writes, "wants a complete understanding of the world, a perfect integration of mind and reality" (Miller 232) but that integration is impossible and frustrated because the death of the gods leaves modern people with an irreparable divide between "man and nature, subject and object" (Miller 221). Stevens' poetry works to bridge this divide but the poet's linguistic and metaphorical tools for describing and mediating experience are ultimately no more than mediations and descriptions, never the thing in itself. But Stevens' poetry is not the solitary musing of a hermetic Dickenson type, but public and social project and Nietzsche's philosophy optimistically anticipates successful artistic mediations.

In fact, Stevens emphasizes the threat of isolation and solipsism in the spiritual void that opens beneath metaphorical constructions which could leave the modern poet

"feeling dispossessed and alone in solitude, like children without parents, in a home that seem[s] deserted" (Ramazani 235) and his poetry reaches for communion with others. The fact that Stevens works in metaphor at all is an attempt to push language to the limits of its universalizing potential, its ability to make reality common and coherent, even if only to see it break down and fall back on itself. Stevens is wary of the aesthetic hedonism's "coffee and oranges" in "Sunday Morning" and the poem's protagonist, a woman, is swept out of comfortable sensualism in a Deleuzean line of flight—that is, her subjective frameworks for interpreting experience are decontextualized, or deterritorialized, and "change in nature and connect with other multiplicities" (Deleuze 9-10).

Part of the misattribution of solipsistic hedonism to Stevens by critics like Frank Lentricchia may be related to its parallel misattribution to Nietzsche, whose philosophy is such a reliable touchstone for critics. Michael Rodgers emphasizes that "Nietzsche was neither a libertine nor a nihilist" (108) rather, Nietzsche simply wishes to challenge the unquestioned cultural categories that organize human consciousness and morality—deterritorializing them. Nietzsche's "On Truth and Lying in a Non-Moral Sense", which outlines many of the epistemological points that are often referred to by Stevens scholars, is deeply concerned with the functioning of the shared metaphorical structures, or fictions, on which a society relies consistency and moral conformity—a collective imagination—and challenges readers to recognize the limits of rational and linguistic interpretation of reality.

Nietzsche's first English translations were much in the air of early twentieth century America and critics like Milton J. Bates, who have carefully documented Stevens' encounters with and allusions to Nietzsche, rightly note that Nietzsche's approach to phenomenology dovetails with Stevens interest in the imagination's aesthetic constructions (Bates 812-818). Stevens' "The Motive for Metaphor", for example, describes the imagination struggling under the "weight of primary noon" (ll. 258), that is, "the pressure of reality," to use Steven's phrase, which is the poem's concluding "vital, arrogant, fatal, dominant X" (ll. 20). Patricia Parker explains this "shrinking" from the weight of reality, as the deferral, or evasion of reality in metaphor and in language (Parker 81). But the signification of reality, the unknown other, in a mathematical symbol strikingly recalls Nietzsche's similar use of the sign for reality as "the mysterious 'X' of the thing in itself" which "appears first as a nervous stimulus, then as an image, then as articulated sound" (Nietzsche 877). In "The Noble Rider and the Sound of Words" Stevens refers to such "blanks" as the "X", which "are the specimens of mathematical

prose" in newly imposed income taxes explaining they are tied to the pressure of reality which "titillate[s] the instinct of self-preservation in a class" (Stevens 977). The pressure of reality's provocation to class consciousness here crucially connects the collective crisis of modernity to problems of collective expression and enunciation: how is the blank, the 'X' to be represented and understood, not only by the individual artist, but by the whole community?

For Nietzsche this impulse to repair the fracturing between "two absolutely different spheres as subject and object" can only be successfully arbitrated by aesthetics, "a middle sphere and a mediating force" which incidentally "can freely invent and freely create poetry" (Nietzsche 880). This is essential for Stevens' project because an artist, Nietzsche says, "can reveal more through his substitution of one sphere for another than the empirical world betrays of the essence of things" (Nietzsche 880). Stevens too resolutely rejects "realism [as] a corruption of reality" (Stevens 973), that is, direct representation of reality cannot be accomplished and must be deconstructed, but concludes that using metaphor can "renovate experience" and revitalize imagination (Stevens 975). Metaphorical substitution for Stevens has the potential to resuscitate a language from its current exhausted state—Nietzsche calls language "a decayed metaphysics"—and to synthesize an authentic and spiritually satisfying poetry in imaginative reconstruction of perception.

A new enunciation in poetry, then, might be able to answer the pressure of reality that so destabilizes the subjective social-cultural self and reintegrates the poet into a functional collective imagination. Linguistic evasion of the formidable "dominant X," the thing in itself, is as much a matter of cultural affirmation, a reterritorializtion of disconnected or exhausted language, as it is epistemological maneuvering. Stevens makes it clear in "The Noble Rider and the Sound of Words" that the pressure of reality is a product of the social disruption characteristic of modernity. The anxiety of industrialization and urbanization, as well as the horrors of the mechanized World Wars, for Stevens necessitate "escapism" through poetry drawing a line of flight in his imaginative reconstructions that might relieve the pressure.

Gilles Deleuze and Felix Guattari, themselves deeply indebted to Nietzsche, write that "if a writer is in the margins or completely outside of his or her fragile community, this situation allows the writer all the more possibility to express another possible community" (Deleuze 1599). Stevens, a solitary person who "had little to do with other writers" and "was on a first-name basis with almost no one" was certainly outside of the larger contemporary poetic discourse dominated by Ezra Pound and T.S.

Eliot, whose work overshadowed Stevens' for years. The poet who, like Deleuze and Guttari's darling Franz Kafka, worked in insurance for most of his life and "professed virtual ignorance of Frost's verse" (Ramazani 235) ought to be considered as a candidate for minor literature. The "island solitude" that characterized Stevens' life, put him in a position to express a line of flight, an alternative expression of community, and a poem like "Sunday Morning" bears this out.

The loss of a "unified culture" and the tension between constructed and unmediated experiences, for Stevens is refigured both in his own cosmic symbolism in which the sun, the unapproachable illuminating source of reality, and the outmoded collective constructions of Western religions, specifically the Classical and Christian symbolism of divine blood. In Stevens' "Sunday Morning" the solar imagery, culminating in the ecstatic chanting of the sun cult in the seventh stanza represents "naked" unmediated but inaccessible reality which, after the blood of old gods—Christ and Jove, who represent the old symbolic order—has been rejected or exhausted, is consecrated and reterritorialized in the praise that rises from out of mortal blood and mortal imagination. "Sunday Morning" grapples very explicitly in these terms with Steven's spiritual search for "what will suffice" ("Of Modern Poetry" ll. 2) to take the place of faith when the universe of Christian certainty collapses and with it the stability of subjectivity. His conclusion here is to emphatically embrace the spiritual void, the "old chaos of the sun" (ll. 110) and to pursue an authentic collective enunciation that will reestablish the vitality and viability of language and replace individual subjectivity with a restored and seamless communal consciousness. "Sunday Morning" uses solar imagery as a key part of Steven's poetic vocabulary in dealing with this crisis of collective imagination.

In "Notes toward a Supreme Fiction" Stevens writes, "Phoebus was / A name for something that could never be named" (ll. 16-17). The traditional representation of the sun as a Phoebus, for Stevens' is one example of such a problem of imagination, since when the metaphor of the deity is dismissed and deterritorialized he is left to face the realization that, as Miller says, "the primitive feeling that nature is full of gods" must be replaced for the poet "by a self-awareness that man has an incorrigible habit of personifying nature" (Miller 221). The sun itself is an unknowable reality and as Stevens states a few lines before the mention of Phoebus, "the death of one god is the death of all" (ll. 13). That is, collapse of one metaphor into the void beneath reveals the fragility of all the rest and one is left "behold[ing] / Nothing that is not there and the nothing that is" (ll. 14-15) as in "The Snow Man."

For Riddel Stevens' sun "is a figure of cancellation and blindness, not that caused by looking directly at the sun but that caused by averting our self-consciousness." (Riddel 69). Poetic representations are such averted gazes, the imagination straining to perceive reality in its fullness but falling back into metaphor. As in "The Motive for Metaphor", the "primary noon," the sun at its zenith, representing the pressure of reality, provokes imaginative refiguring—motivating metaphor, to put it bluntly. But despite escaping the grasp of imagination the sun is also an ocular center for Stevens, an eye that illuminates reality and makes imagination possible. It is this dimension of the solar image, that of unified and universal consciousness or illumination, that for Stevens suggests the possibility of a resynchronization of language with reality that would transcend the modern dislocation of subjectivity. Since, as Miller argues, imagination must be as closely dependent on reality as possible to produce fictions to Stevens' satisfaction, it is essential that reconstruction of a collective imagination be rooted in direct experience and not tired or conventional symbolic orders.

"Sunday Morning" gracefully develops this theme in Stevens' solar imagery describing, what Miller calls, "the moment when the gods dissolve" (Miller 222). The image of the sun, conspicuously imbedded the title, forms a metaphorical center of the poem, both as a source of imaginative synthesis and of blinding encounters with reality. The title's double implication of Christian reverence and of the revitalization of imagination in the ecstatic sun worship of the poem's climax actually encapsulates the full spiritual arc of "Sunday Morning".

The title's most superficial function, though, is to establish the setting and provoke the spiritual dissatisfactions of the woman of the opening stanza who luxuriates in "Complacencies of the peignoir" (ll. 1) sitting in a "sunny chair" (ll. 2). The initial sensualism and aestheticism of this scene is underscored by its sunny atmosphere, the solar here invoked as illumination and in opposition to the incongruous flight of metaphor in the "dark/ Encroachment of that old catastrophe" (ll. 7-8) which opens up in the lines that follow.

The woman slips out of experience into "the wide water without sound" (ll. 11), a phrase repeated immediately in the next line and echoed again later in the text. Each successive repetition drains the metaphor of the "wide water" of its stability as a spiritual signifier, until its appearance in the final stanza as a feeble, petulant but stubborn insistence on a similarly sapped Christian tradition, like the wind in "The Motive for Metaphor" that "repeats words without meaning" (ll. 4). This image of the "wide water," closely linked with Christianity throughout the poem, suggests a spiritual space that is

vacant, isolated and most importantly muted. The "silent Palestine" (ll. 14) to which the "wide water without sound" leads, does not allow a fresh enunciation in which experience may be newly refigured and reterritorialized but rather appears in moment of deterritorializtion as the woman's foothold in experience slips and disintegrates.

In the next stanza, the woman reaffirms her subjectivity and aesthetic position as she insists on individual identification with "comforts of the sun" (ll. 19). The sun here functions as a source for sensory experience in these opening stanzas, a literal source of color and warmth, but anticipating the sensory unity and epiphany to follow. The woman's "passions of rain" and "moods in falling snow" directly tied to her experience give her a vocabulary of Eliotic objective correlatives, authentic symbolic frameworks for life. Identification with the spontaneous and fully realized natural world, the birds who "Before they fly, test the reality / Of misty fields, by their sweet questionings" (ll. 47-48) offers a possible model for an organic, unified collective imagination that could come to terms with the impossible void. These complacencies are challenged again and she is pulled out the orbit of her individual experience by the gravity of a collective symbolic system that is no longer reflective of that experience but entrenched in established symbolic order of Western culture, the "Dominion of blood and sepulchre" (ll.15).

Weighty images of blood enter the poem early, first in their Christian context. For Stevens Christ's blood is never redemptive or revitalizing but rather is associated with the distant holy land, and the silence of tombs. The Christian myths enter the poem as "silent shadows, and dreams" (ll. 18) inadequate and utterly abstracted. For Stevens Christianity's total abstraction from the lush reality of woman's experience marks it as inadequate, and like Nietzsche, he challenges the rigidity of a symbolic order that doesn't correspond with experience.

Elsewhere, Stevens openly refers to Christianity as "an exhausted culture" (Stevens 975) and as Wordsworth's speaker in "The World Is Too Much With Us," who, "out of tune" with reality or "Nature", seriously reassesses paganism, another "creed outworn". But for Stevens "it is the belief and not the god that counts" (Stevens 972) and he goes pushes the imaginary potential of Classical paganism to integrate the mind and reality further than Wordsworth and finds it inadequate. After all Phoebus, like Proteus and Triton, is only an empty signifier for something else.

Even more distant than Christ is the "mythy mind" (ll. 33) of Jove, whose blood Stevens recalls "commingling" with human blood. Jove's "inhuman birth" and total abstraction from the land his subjects must live in but, if as is suggested, his divinity has passed to human beings it presses the question: "Shall our blood fail?" (ll. 39). The

possibility that life might be redeemed in human blood, that is, in human imagination and that human fictions represents the central hope of the poem for Stevens and the main source of anxiety. Joseph Kronick argues that for Stevens the human imagination of the major man, the giant, who emerges in Stevens' later poems, assumes the creative position of god to generate experience rather like Nietzsche's overman. This creative generation extends to social generation as well, that is, the enunciation of a new collective imagination.

In the seventh stanza, Stevens envisions a world where human imagination succeeds in renewing a balance between construction and experience, and reality and imagination can be integrated in an ecstatic "orgy on a summer morn". Stevens paints people chanting in "boisterous devotion to the sun / Not as a god but as a god might be" (ll. 93-94). The sun at the center of this ritual, unlike of the Phoebus rejected in "Notes toward a Supreme Fiction" is not obscured by linguistic or symbolic deferral but instead is manifested, 'Naked among them, like a savage source" (ll.95). In this optimistic vision human imagination succeeds in appreciating reality aesthetically and their chant, rising "Out of their blood" (ll. 97), inverting the Western tradition that divine blood flows down to human beings, achieves here what the old symbolic systems now fail to do and unifies expression with reality. This choir of "heavenly fellowship" (ll. 102) is an assemblage which "voice by voice" (ll. 99) creates a fresh and authentic collective enunciation, an aesthetic revelation of cultural reconstruction. As in Kafka's story, when Josephine the mouse renounces her individual voice to join the chorus, individual subjectivity dissolves, not into fragmentary modernist displacement, but in a merging of voices.

In the final stanza the speaker is hesitant to be caught up in the jubilant unity, admitting that "We live in an old chaos of the sun" (ll. 110) and tries to accept the "island solitude" (ll. 112) of the present. Stevens muses on the lavish land full of deer, and "sweet berries", and compares a natural world's intuitive, "unsponsored, free" (ll. 112) expression of itself, given explicit voice in the "spontaneous cries" (ll. 116) of quail, to the current frustration of modernity. Deleuze and Guattari stress that acts of collective enunciation "only exist insofar as they're not imposed from without and insofar as they exist only as diabolical powers to come or revolutionary voices to be constructed" (Deleuze 1599). That is, the pressure of reality cannot impose a new enunciation but must provoke its assemblage by stimulating a new class consciousness. This is why the spontaneity of nature is such a clear model for Stevens, its enunciation erupts organically and completely out of its own unmediated self. But it is clear that the fully realized integration of mind and reality in collective imagination is far off and that in the present,

full of "ambiguous undulations" (ll. 120), the poet is still groping for a bridge between his own individual poetics constructions and the sincere assemblage of voices in the chanting of the sun cult that reaches the incomprehensible Real.

Here, as elsewhere in Steven's poetry the problem of separation between imagination and reality is expressed in terms of what can and cannot be expressed. The sun, the inexpressible center of the poem, appears as the unnamable source for all experience but the ecstasy in the enunciation that might be achieved in the chanting of the celebrants in the seventh stanza indicates the possibility that human blood, not divine blood will suffice, and that a reterritorialization of a confused or displaced subjectivity is possible. This is Nietzsche's hope for aesthetics shared by Stevens' that new fictions, new expressions can successfully mediate between imagination and reality.

Stevens poetry, grappling with the problems posed for a community's collective imagination, its symbolic order, by modernity—the death of its gods—a problem Nietzsche identified as well, seeks to reterritorialize expression in a new collective enunciation. While this essay dealt mostly with the collective imagination and corresponding enunciation figured in Stevens' work, and its Nietzschean origins, a definitive classification of Stevens as poetry as minor literature should also explore in more depth the other two qualifications set for the category by Deleuze and Guttari: deterritorializtion and politicization. In Stevens' poems one can easily trace the disintegration of metaphorical systems, deterritorializtion, reached in dazzling lines of flight. In fact, Riddel convincingly argues that Stevens' poetry "deconstructs itself." But demonstrating the political dimension may be more challenging. Stevens' himself was very interested in the poetic implications of political and economic upheaval in the twentieth century, as any reader of "The Noble Rider and the Sound of Words" can see, but political readings of his poetry are scarcer in the critical discussion than phenomenological readings and explicitly political content is rather scarce in his verse. More research certainly remains to be done before definitive conclusions can be made on a Stevensian minor literature, but it should be clear that Stevens' poetry actively engages with problems of collective expression and experience in ways that resonate not only with Nietzschean values of reevaluation of cultural categories but with Deleuzean impulse towards collective enunciation.

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William McKinley and the Spanish-American War

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On March 11, 1898, President William McKinley delivered a speech to Congress which would become known as his "War Message." In this speech, he signaled to Congress his desire for the United States to officially declare war on Spain, which would usher in a new chapter in America's history. As the Spanish-American War marks a watershed in American expansionism and imperialism, it has been thoroughly studied. Given that the President of the United States is Commander-in-Chief and that McKinley did indeed deliver a speech in which he urged Congress to declare war, it has often been concluded that he played an important role in leading the nation into war, his sights set on imperialist gains. This, however, is a dangerous and false assumption because McKinley was little more than a reflection of the attitudes of Americans at that time. McKinley tried longer and harder to attain a peaceful settlement with Spain, yet he was, by and large, replaceable in a historical sense. The man himself was not particularly responsible for bringing about the war and, if anything, prolonged the period of time before America declared war. Instead of a pioneering man leading America with a new vision, McKinley was a product of the times. Any president would likely have shared the same values and therefore made similar decisions.

To understand the motives for initiating war, we must first review the circumstances that set the stage. Conditions in Cuba had been deteriorating for the Cubans for decades. The dissatisfaction with Spanish rule led to a failed rebellion in 1878 and a revived rebel effort in 1895, known as the Cuba Libre (Free Cuba) movement.[2] When Spain ran into trouble suppressing the new rebellion, the "notoriously brutal" General Valeriano Weyler was sent to restore order.[3] He quickly instituted a policy known as reconcentrado, which involved forcing the rural population into concentration camps. In these camps, civilians were denied access to proper food and sanitation,

[1] Written under the direction of Dr. Shaohua Hu for GOV297: *Research & Analysis*.
[2] Wetzel, Benjamin J. 2012. "Onward Christian Soldiers: Lyman Abbott's Justification of the Spanish-American War." Journal Of Church & State 54, no. 3: 406-425. Academic Search Premier, EBSCOhost (accessed September 13, 2013), 408.
[3] Ibid., 408.

resulting in many dying of disease and starvation.[4] Reasonable estimates place the number of civilian deaths at 100,000, though some estimates reached as high as 300,000.[5] This sequestering was accompanied by the burning of crops and killing of livestock, leaving those who managed to avoid the camps with little to live on. As scholar Paul T. McCartney notes: "It was the reconcentrado policy and accompanying challenges to Cuba's population, more than anything else, that galvanized American interest in the Spanish-Cuban conflict."[6]

As early as 1895, a full three years before war was declared, Congress began passing a series of resolutions on the Cuban situation, introducing petitions sent to them by their constituents and state legislatures. In doing so, they did little more than officially express American sentiments about the Spanish-Cuban War.[7] It was not until Vermont Senator Redfield Proctor gave a speech before Congress in March of 1898 that the United States seemed poised to take serious action, which finally resulted in a declaration of war after President McKinley's speech to Congress on April 11.

McKinley was a man who was very careful about his image. He has been described by historians as '"an enigma' whose inner mind was 'well concealed' and who 'obscured his views by a fog of phraseology, conventional or oracular.'"[8] He left a relatively small written record (he was the first president to make extensive use of the telephone)[9], and gave everyone he met the impression that he agreed with them, so discerning his true feelings and motivations could be a tricky task.[10] McKinley grew up in Niles, Ohio--right in the heart of America. In his youth, Methodist preachers evangelized the Midwest, including the McKinley family who left Presbyterianism to become founding members of their Methodist congregation.[11] McKinley's mother claimed, even as her son was president, that he would have made a better preacher.[12] Though he was not known to strongly proclaim his religious beliefs, McKinley was

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[4] McCartney, Paul T. "Religion, the Spanish-American War, and the Idea of American Mission." Journal Of Church & State 54, no. 2 (June 2012): 257-278. Academic Search Premier, EBSCOhost (accessed September 13, 2013), 266-267.
[5] Ibid., 267.
[6] Ibid.
[7] Ibid., 269.
[8] Kinzer, Stephen. Overthrow (New York: Times Books, 2006), 47.
[9] Kapur, 24.
[10] Kinzer, 47.
[11] Bloodworth, Jeffrey. "For Love or for Money?: William McKinley and the Spanish-American War." White House Studies 9, no. 2 (September 2009): 135-157. Historical Abstracts, EBSCOhost (accessed September 13, 2013), 147.
[12] Kapur, 29.

quietly pious, "attending church rigorously and reading to his wife from the Bible every evening."[13]

Another of McKinley's values engrained at an early age in Ohio was a profound belief in the value of arbitration. He was exposed to this practice as a young lawyer, defending twenty-three coal miners involved in an arbitration-related dispute.[14] He continued to practice and support arbitration in his time as governor and congressman. He believed in arbitration, not only as a functional practice, but as a viable alternative to war. When a treaty between the United States and Great Britain was proposed that would use arbitration to settle any disputes, McKinley argued that it presented to the world "the glorious example of reason and peace, not passion and war . . . An example certain to be followed by others, [and] respectfully urge[d] the early action of the Senate thereon, not merely as a matter of policy, but as a duty to mankind."[15] As the conflict between Cuba and Spain escalated, McKinley continually pushed for arbitration as means to avoid war, but ultimately could not get everyone on board with his idea. His commitments to peace and arbitration were natural extensions of his personal values.[16]

It is altogether unsurprising that there are such varied conclusions on President McKinley. His existence to historians as "somewhat of a cipher"[17] is likely not a coincidence. He was very aware that his thoughts and actions would be scrutinized not only by the American public, but by historians for years to come. For this reason, he was very concerned with how he would be viewed, and took careful action to ensure he would be portrayed in a positive light. As Kapur put it:

> The McKinley that emerges, therefore, is not only a McKinley who held high moral standards that urged him to strive for peace, but also a McKinley who was concerned with making sure the record showed that he held those moral standards. For McKinley, the perception of morality was virtually as important as the morality itself. McKinley had determined early on that the proper thing for an American president to do would be to exhaust every opportunity for peace before resorting to war, and he was very concerned with the appearance of propriety. He was the kind of man who, even if he were to decide that war was necessary, would not have wanted to portray the war as his decision.[18]

It is in large part because of this concern about how posterity would view him that he is so difficult to understand. In order to reach an understanding, one must study simply his background and actions to piece together the puzzle of McKinley. Fortunately, it has

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[13] Ibid.
[14] Kapur, 27.
[15] Ibid.
[16] Ibid., 30.
[17] Ibid., 24.
[18] Ibid., 32.

been concluded by historians that "by all accounts, McKinley was truly a man of character and truly believed in the ideals he expressed."[19]

A last vital part of McKinley's background that can be used to understand the mysterious man is his mother's imparting of Victorian values. While this term can be awfully vague at times, it can be defined as "a certain set of values that . . . were widespread among many Americans and British of the mid-nineteenth century, [which] placed a 'high valuation on rational order . . . humanistic self-cultivation, Protestant self-denial, and bourgeois self-control, all in the name of regulated self-improvement."[20] While Jeffrey Bloodworth points out that this makes him a "boring fuddy-duddy,"[21] McKinley's belief in these Victorian values offers a clear explanation for how and why the man was so committed to finding a peaceful resolution to any conflict, and recording his actions for posterity. To understand McKinley's actions while in office is to understand the values he brought with him. As has been made clear, these values were not exclusive to McKinley, but had permeated the country, particularly the Midwest. It is only natural that a large population with common values would elect a president who shared their values.

A study conducted in 1893 showed that "out of 62.6 million Americans, 49.6 million were Protestant and 7.3 million were Catholics."[22] This means that 90.9% of Americans were Christian, and nearly 80% of the nation was Protestant. With such a vast majority of the nation claiming these religions and their accompanying values as their own, it is imperative to understand its implications. During this period, known as the Modernist Period within Protestantism, the Protestant faith included three important facets which would shape the history of the world: American Providentialism, Christian Republicanism, and the Social Gospel.

American Providentialism is the belief that "the United States [is] a tool in the hand of God."[23] Lyman Abbott, outspoken Protestant minister and the "champion popularizer" of Protestant Modernism, claimed that Americans are "an elect people of God [and] have received, pre-eminently, His blessing, His gifts, and shone under His glory."[24] This belief within America has deep roots and can be traced as far back as the Puritans, who "brought the idea of an interested, intervening God with them to the American shores, and the colonists' unlikely success in the Revolutionary War provided

[19] Ibid.
[20] Ibid., 30.
[21] Bloodworth, 147.
[22] McCartney, 261.
[23] Wetzel, 409.
[24] Ibid., 409-410.

apparent empirical support for it."[25] The Protestants of the United States viewed it as their Christian duty to intervene in Cuba, and believed that to ignore a call to action was to ignore a command from God. While war may not have been the only solution, reasonable Protestant Americans felt a sincere obligation to help the, now romanticized *Cuba Libre* movement.

A second tenet of Modernist Protestantism was the time-honored tradition of Christian Republicanism. This can be defined as "the patterns of thought . . . That joined Real Whig political thought to Protestant theology. That is to say, continental ideas concerning liberty, tyranny, and civic humanism became blended with inherited conceptions of Christian faith."[26] While today there is much more care used to limit the direct role of Christian Republicanism in one's rhetoric, in McKinley's day there was no such hesitation. Countless senators and representatives made arguments before Congress centered on Christian Republicanism and McKinley himself stated: "I shall never get into a war until I am sure that God and man approve."[27] A second aspect of Christian Republicanism is the belief that "the character of the citizenry matters."[28] Not only was the United States priding themselves on their high moral standing, but they viewed Spain as a backwards and degenerate nation. The moral degeneracy of the Spanish was deemed to stem from "the tyrannical character of their political system,"[29] which was in stark contrast to the pious American public.

The final significant belief of the Modernist Protestant views that the American public held was the Social Gospel, which can be described, in Lyman Abbott's words, as the belief that Christians were to "carry religion into daily life, not to keep it for the closet and the church."[30] Those who believe in the Social Gospel advocated for righteousness everywhere. These followers felt concern "for the physical as well as spiritual well-being of individuals, prompting them to engage in extensive outreach to the poor [and] missionary activity overseas."[31] A logical extension of this belief that people should be outspoken and fight hard for their cause would be to intervene in Cuba to restore rights to the Cuban people. These fundamental beliefs of the large majority of the American people, and their representatives who held similar views, played prominently in shaping the United States' policy toward Cuba.

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[25] McCartney, 264.
[26] Wetzel 413.
[27] Kapur, 29.
[28] Wetzel, 414.
[29] Ibid.
[30] Ibid., 417-418.
[31] McCartney 262.

Another significant belief the American public held was first delineated in the Monroe Doctrine. Set forth by President James Monroe, this doctrine made two basic claims. The first was that the United States had a Manifest Destiny to occupy the entire span of the North American continent--from sea to shining sea. The second claim that the Monroe Doctrine made was that the United States would become the authority over the Western Hemisphere, and that European countries could no longer intervene in these affairs. While it is true that during McKinley's presidency the nation had expanded as far West as it could, this was not the important component of the Monroe Doctrine for shaping Cuban policy. Instead, it was the fact that the United States, having claimed authority over affairs in the Western Hemisphere, had a "moral duty to aid oppressed humanity" in Cuba.[32] Bloodworth even goes so far as to claim that "armed with the economic and military firepower to enforce the Monroe Doctrine, if the policy were to retain any meaning, McKinley had to end the bloody anti-colonial conflict located at America's doorstep."[33] Even the minority who may not have believed in the social gospel likely felt motivated to uphold its declaration and aid Cuba. This motivation came not only from a desire to help, but an obligation.

With this understanding of the prevailing views of the American people, it becomes quite clear that, while other factors certainly existed, the primary reason for United States involvement in the Cuban crisis was a humanitarian impulse. The American people felt strongly that the Spanish were enforcing a cruel tyrannical rule over the Cubans and felt responsible, as a nation, to extend help. As scholars have fought to answer the question of "why the war started in the first place," many who have studied the material have concluded that McKinley "seemed to have genuinely felt the humanitarian concerns that he so often expressed,"[34] and that "the terrible human suffering in Cuba . . . Convinced McKinley that war was justified."[35] While there may be a difference between justification and reason, in this instance the two are one and the same, as will be discussed later. The most important piece of the puzzle in assessing McKinley's personal significance is to understand that his true motive was to help the people in Cuba, and that "it was not merely McKinley's personal spirituality that drove

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[32] Davis, Michelle Bray, and Rollin W. Quimby. "Senator Proctor's Cuban Speech: Speculations on a Cause of the Spanish-American War." Quarterly Journal Of Speech 55, no. 2 (April 1969): 131. America: History & Life, EBSCOhost (accessed September 13, 2013), 137.
[33] Bloodworth, 145.
[34] Kapur, 26.
[35] Offner, John L. "McKinley and the Spanish-American war." Presidential Studies Quarterly no. 1 (2004): 50. Academic OneFile, EBSCOhost (accessed September, 2013), 61.

his Cuba policy, but that of his constituents as well," (emphasis mine).[36] McKinley was merely a reflection of the American public, and held the same beliefs and values as the overwhelming majority of the public as well as their elected representatives.

While most Americans, politicians and constituents alike, felt that something needed to be done about the Cuban crisis, it was not always clear that war would be the answer. McKinley hoped to arbitrate, some recommended that the rebels be formally recognized by the United States, and some insisted that war was the best course of action. It was not until March 17, 1898, that the country hit a tipping point that would lead to war. What is peculiar about this particular date is that it is not significant because of the actions of a warmongering individual, but a cleanly presented speech by Vermont senator Redfield Proctor who delivered an "unemotional report in a mild fashion."[37]

Indeed, this speech was unscheduled and nearly did not occur. According to Proctor, on that morning he bumped into Senator William Frye who literally "pushed [him] into the Senate chamber" to deliver his report.[38] His honest recounting of his visit (which was approved by, but not requested by McKinley) and the conditions he witnessed while there--in Lyman Abbott's words--"aroused in the country a storm of humanitarian indignation which proved irresistible."[39] Proctor stated: "all my conception of wrong that could be inflicted on people falls short of this reality."[40] The significance of this particular speech given by this particular man being what historians have called the "prime factor responsible for the precipitation of the War with Spain"[41] cannot be overstated. Since all that Proctor did was recount his observations, it not only confirms that humanitarian considerations were the primary rationale for engaging in war, but directly disproves arguments for other reasons, such as yellow journalism, the explosion of the USS Maine, imperialist desires, and pressure from interest groups.

Perhaps the most commonly heard reason for the Spanish-American War is that it was caused by publishers such as William Randolph Hearst who whipped the public into a frenzy with their yellow journalism. Now, there is no disputing the fact that Hearst and others clearly desired a war and made wild claims in attempts to precipitate such an event. There is, however, plenty of evidence to suggest that they were not as influential as they have been made out to be. Spanish-American War expert, John L. Offner, argues that the American public "believed that newspapers exaggerated the extent of Spanish

[36] Bloodworth, 148.
[37] Davis and Quimby, 131.
[38] Bloodworth, 150.
[39] Davis and Quimby, 131.
[40] Bloodworth, 150.
[41] Davis and Quimby 131.

atrocities and Cuban suffering."[42] This claim is further supported by McKinley's decision to send a personal envoy to Cuba to collect facts. "Far from an executive pushed by yellow journalism . . . McKinley cautiously collected facts and calibrated policy."[43] However, the best counterargument for the yellow journalism claim is the importance of Proctor's speech. There stood a man who "before his trip had not believed the reports," claiming that "the case had not been overstated."[44] The ethos of a respected Senator who was not crying for war was able to make a convincing case, which Hearst and his cohorts never could.

Another common rationale for war is that the American citizenry could not be tamed after the sinking of the USS Maine on February 15, 1898, in Manila Harbor, which killed 266 sailors. Again, while there is no denying that there was outrage after the event, there is not a strong enough link between the ship's sinking and the declaration of war to find causation. For one, the McKinley administration immediately requested that the American public withhold judgment until a naval court of inquiry could establish the facts.[45] While the court of inquiry did establish that it was an external explosion that caused the Maine to sink, "few Americans in positions of responsibility seriously believed that Spain intentionally sabotaged the battleship."[46] Even if Spain had been found responsible, Lyman Abbott claimed that the Protestant faith maintained that America should "not seek revenge for the destruction of the Maine, but would fight only to relieve Cubans of a corrupt government and put an end to Spanish barbarism."[47] It goes uncontested that this event sparked outrage; however Americans, particularly those in power such as McKinley, were not ready to make the leap into war just because of this single event.

An oft-reported, yet misinformed, claim is that American desire to become an imperialist power was the primary motivation for involvement in Cuba. Similar to the aforementioned cases, it is certainly understandable how some might reach this conclusion. The Spanish-American War marked the beginning of the era of American imperialism, and some clamored for America to expand its territory abroad. It is not, however, an example of causation. As Robert Strahan points out: "the controversy over

[42] Offner, 52.
[43] Bloodworth, 146.
[44] Davis and Quimby, 132.
[45] Offner, 56.
[46] McCartney, 268.
[47] Wetzel, 419.

what to do with the Philippines . . . [was] the result of the war, not the cause."[48] Indeed, many historians are all too eager to create a link of causation where there simply is none. "Rather than judge the forces of war distinct from the conflict's consequences," posits Bloodworth, "the dominant historiographical interpretations fail to make this division. Instead, historians assume the conflict's architects always sought an imperial outcome."[49] The link between the United States and the Philippines was not foreseen by those calling for war. (This fact is perhaps best evidenced by McKinley himself stating that he "could not have told where those darned islands were on a map within two thousand miles."[50]) The reason the United States was there in the first place was the fact that a Spanish fleet was based there. The "destruction of the enemy fleet was the first and most important function of a Navy," therefore the attack at Manila was simply "going after the enemy fleet wherever it may be."[51] A careful examination quickly determines that American sights were not set too closely on the Philippines.

Another refutation for the argument that the Spanish-American War was started for imperial purposes can be found in the Teller Amendment. This amendment to the military intervention resolution was introduced by Senator Harry M. Teller in the heat of debate on how to take action after Proctor's speech. While Congress recognized that action needed to be taken, there was plenty of debate on how best to act. The amendment stated that "The United States hereby disclaims any disposition or intention to exercise sovereignty, jurisdiction, or control over [Cuba] except for the pacification thereof, and asserts its determination, when that is accomplished, to leave the government and control of the island to its people."[52] This was an agreeable compromise for all because while it "fell short of recognizing the existing Cuban republic, it satisfied the widespread perception that the United States was intervening in Cuba to help the Cuban people and not to annex the island."[53] Between the clear intentions of the Teller Amendment and the lack of any knowledge of the Philippines, which was supposedly so coveted, it seems safe to conclude that territorial gains were not the causes, but rather the consequences of the Spanish-American War.

A final imperfect claim for the cause of the war is that McKinley gave in to interest groups. Two frequently cited groups were the businessmen who had an economic

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[48] Strahan, Robert. "Origins of the Spanish-American War." Long Term View 6, no. 2 (Spring2004 2004): 41-46. Business Source Premier, EBSCOhost (accessed September 13, 2013). 41.
[49] Bloodworth, 137.
[50] Kinzer, 47.
[51] Strahan, 44.
[52] Ibid., 38.
[53] Offner, 60.

interest in Cuba and the political figures who desired war. The notion that United States business men with direct interest in Cuba unanimously wanted war is incorrect. The reality was that those with established interests simply wanted trade between the United States and Cuba to return to its previous levels. While some maintained that the United States should take action to rid the Spanish from the island and restore peace, others favored cooperating with Spain to end the rebellion.[54] Kapur argues that "in the months leading up to the war, business interests were largely against the war on the grounds that the uncertainty it would produce would be detrimental to the economy."[55] While Kapur's assertion that businesses were 'largely' against the war is debatable, it not safe to conclude that business interests drove the country to war.

It is also misguided to argue that political pressure forced McKinley's hand. While figures such as Theodore Roosevelt and Henry Cabot Lodge were clamoring for United States intervention, they were less influential on McKinley than described. First, the number of Republican congressmen threatening to revolt against McKinley is greatly exaggerated. While this contingency was very loud about their opinions, they were relatively small in numbers. On top of this, it has been said that "Congress had more trouble handling McKinley than the President had handling Congress. The President had no fear of that body."[56] Finally, for as many voices as McKinley heard demanding war, he heard many others calling for peace. Many influential congressmen, such as House Speaker Thomas Reed, were deeply opposed to war, and noted that the letters he and his peace-supporting colleagues received were primarily in favor of peace.[57] There might have been political pressure, but it has been ascribed much more value than it deserves.

The significance of Senator Proctor's speech was only what the public made of it. Michelle Bray Davis and Rollin W. Quimby claim it to be a speech that "persuaded in spite of itself--an unexplainable freak."[58] That is, his unassuming speech was not meant to rally the troops, but merely to be informative. He "avoided inflammatory modifiers and other emotional intensifiers" and was "persuasive only in that it was clear and vivid."[59] Yet, it captured the attention of Congress, the President, and the nation. It is clear in the study of periodicals that there was a "shift of attitude toward American

[54] Ibid., 52
[55] Kapur, 35.
[56] Ibid., 21
[57] Ibid., 35.
[58] Davis and Quimby, 131.
[59] Ibid., 133-134.

intervention" shortly after Proctor's speech.[60] Since Cuban suffering was as bad as--or worse than--portrayed, there remained little choice but to take action.

It is at this juncture that the specific actions of McKinley will reveal his truest intentions in the matter. When Congress and the citizens demanded some sort of action, the President showed his true colors and continued to search for a peaceful resolution. McKinley knew war was an option and was not afraid to use it as threat against Spain. On March 26, 1898, he sent an ultimatum to Spain, which represented a final chance to avoid war.[61] On March 31, Spain agreed to end the reconcentrado policy, but would not authorize the requested armistice unless the Cubans first asked for it. The Cubans, in turn, told McKinley that "they would not stop fighting because their army of volunteers would quickly melt away while Spain would use a ceasefire to strengthen its military position."[62] When negotiations fell through, he realized that he would have to deliver a message to Congress, scheduled for April 4. The President then "announced two delays--one until April 6, to give him more time to draft the message, and another until April 11" in order to give American citizens in Cuba time to evacuate.[63] In reality, McKinley "requested these delays, in part, to accommodate a flurry of last-minute peace negotiations which ultimately failed."[64] Even after recognizing the imminent reality of war, McKinley's belief in arbitration--or perhaps his desire for the history books to shine pleasantly on him--led him to continue to pursue an elusive peace. His firm belief in his Modernist Protestant, Victorian values guided him down this path, maybe even further than the average person would have gone.

When finally giving his April 11 message, McKinley explained that "the abhorrent conditions which have existed for more than three years on the island of Cuba, so near our own borders, [sic] has shocked the moral conscience of the people of the United States, have been a disgrace to Christian civilization . . . and can no longer be endured."[65] While he understood that war was inevitable by this point, he still made one last significant decision--this one surely for posterity. Instead of explicitly calling for war, he declared that "the issue was now with Congress," while (in Kapur's words) "ensuring that no one could claim that McKinley had chosen war."[66]

McKinley's personal significance in the matter was not leading the nation into war; the citizens themselves pushed the nation into war by electing officials whose values

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[60] Ibid., 138.
[61] Kapur, 28.
[62] Offner, 58.
[63] Kapur, 33.
[64] Ibid.
[65] McCartney, 273.
[66] Kapur 33.

mirrored their own. Perhaps historian Edward Hallett Carr put it best: "The view which I would hope to discourage is the view which places great men outside history and sees them as imposing themselves on history in virtue of their greatness."[67] McKinley was no pioneering visionary, but a man who understood the will of his country. If anything, McKinley's personal legacy is that of a man who pursued peace down to the last second--just the way he would have wanted. The trick to this achievement was to actually live out his values, not merely claim them and 'leave them in the closet.'

As has been demonstrated, President McKinley was a product of his times. During his presidency leading up to the Spanish-American War, his strongest efforts were to intervene peacefully. The values he held ensured that some sort of action needed to be taken, and dictated that war should only be a last resort. He ultimately waged a war for humanitarian purposes. The fact that the United States would impart their own *reconcentrado* policy in the Philippines is not to be seen as making their prior motives insincere, but as "a prime example of the role irony plays in the course of human events."[68] The assertion that the Spanish-American War was waged for imperialist purposes, or because of yellow journalism, is misguided. It was brought about because of the values of the American people, who elected a president who shared these values--William McKinley.

[67]Edward Hallett Carr, *What is History?* (New York: Random House, 1961), 67.
[68] Bloodworth, 138.

"Time's Injurious Hand": The Destructiveness of Time in Shakespeare's Sonnets 63, 64, 65

Thomas Scarcella (English)[1]

Many of Shakespeare's sonnets deal with themes of time passing and love. While each individual sonnet has thematic integrity on its own, there are many instances of sonnets that are strongest when read together, containing new meaning and concealed narrative patterns. One of the most productive examples of reading in sequence is found in Sonnets 63, 64 and 65. While some critics have provided astute interpretations of these three sonnets as isolated entities, reading them as such weakens their overall meaning. When read as a trio, these sonnets have enormous emotional resonance and a hidden theme: they show the speaker's resignation to the destructiveness of time on love. These three sonnets are connected by the motif of the seeming supremacy of time, and together they create a mini-narrative. The speaker begins in Sonnet 63 with a resonant faith that his love will transcend time through his poetry. In Sonnet 64, the speaker considers the destructiveness of time from a broader perspective, and is deeply shaken by its profound implications: his love must die and there is nothing he can do to stop it. Sonnet 65 shows a climactic return to the speaker's hope that his poetic love can transcend time, but now the he seems much more resigned to the fate of time's ruination: he hopes, rather than knows, that his love living on is possible. This paper will examine how these three sonnets are tied together thematically. It will closely analyze each one, connecting them together to show how the ultimate conclusion of the trio is that the speaker realizes the supremacy of time over love, but still wishes for his poetic dedication to reach a level akin to immortality.

It is important to first explore from a broader perspective why these three particular sonnets should be read together. They are a mini-sequence in the larger sequence of sonnets addressed to a beautiful young male aristocrat, so they are all addressing the same person, the young male friend of the speaker. Moreover, these three poems deal with the destructiveness of time, as shown by the personified "Time" with a capital "T" found in each sonnet. Each of the three sonnets has the same basic Petrarchan argument structure in that they have a volta beginning in the third quatrain. Also, each

[1] Written under the direction of Dr. Ann Hurley for EN330:Shakespeare Survey.

sonnet has the same a-b-a-b, c-d-c-d, e-f-e-f, g-g rhyme scheme. These rhyme and argument conventions are found elsewhere in the Shakespeare sonnets; but the fact that these three sonnets are next to each other—with the shared emphasis on "Time," similar themes, basic structures and narrative chemistry—urges the reader to consider them together as a virtually inextricable trio.

This sonnet trio sequence begins in Sonnet 63 with the lines, "Against my love shall be, as I am now, / With Time's injurious hand crush'd and o'erworn" (63.1-2). This is the speaker saying that someday his love will be like him: old and worn by the "hand" of time. This comparison is important because it simultaneously illustrates the speaker's fears about his own aged self, his larger fear for the love object's future, and the essential fearful feelings the speaker has towards time. The concept of time as a personified force, "Time," is first established here, and it is done powerfully. "Hand" has a twofold meaning: it is the literal hand of the clock, as well as the metaphorical abstract "hand" of divine life-altering forces beyond our control. The poem continues with the speaker's lamentation about how his love object will become old due to the forces of time: "When hours have drain'd his blood, and fill'd his brow" (3). The second quatrain contains the first noticeable instance of alliteration with "vanishing" and "vanish'd" in line 7, which dramatically emphasizes the speaker's melancholy at his love object's beautiful features beginning to fade. Clearly, the theme in the first two quatrains is the woeful destructiveness of time upon his love object's physical beauty.

The volta of this sonnet comes at the beginning of the third quatrain:

> For such a time I do now fortify
> Against confounding age's cruel knife,
> That he shall never cut from memory
> My sweet love's beauty, though my lover's life. (9-12)

This is the speaker fighting back, trying to "fortify," against the forces of time. While time will physically decay the speaker's love object, it cannot take away from his memory of the love object. Still, the speaker knows he his fighting a profoundly difficult, perhaps impossible battle, as shown by his description of age as "confounding" and associating it with the violent imagery of a "cruel knife." Interestingly, this sonnet does not include any periods until the last line of the third quatrain, which creates a feeling of an uneasy continuousness, which lends to the overarching theme of time passing, aging everything and raging forward. Despite the difficulties the sonnet details, it crucially concludes with a hopeful couplet, insisting that the love object's beauty will live on through the speaker's "black lines," his poetry. This is an optimistic and assertive

conclusion, but the tone changes drastically and tragically in the next sonnet.

Sonnet 64 is much more grave than the previous sonnet, and it covers broader ground than time's effect on the speaker's love object. This sonnet continues the "Time" and "hand" personification from the previous sonnet: "When I have seen by Time's fell hand defac'd / The rich-proud cost of outworn buried age / When sometime lofty towers I see down-ras'd" (64.1-3). Here, the speaker talks about "buried age" and befallen towers; he is not yet focusing on the love object, but instead explores the calamitous effect time has on civilization. In the second quatrain, the speaker conveys this theme with battle imagery: "When I have seen the hungry ocean gain / Advantage on the kingdom of the shore" (5-6). Notice the repetition of "When I have seen" and how in both cases the speaker witnesses the devastating effects of time on society as a whole. Here in the second quatrain, time causes the ocean, representing disastrous nature, to swallow up the shore, representing human territory because it is a "kingdom." Eventually, like an opposing army too strong to defeat, time consumes everything man-made. There is a continuous "a" assonance with "defac'd," "age," "slave," "rage," etc. that continues down to the end of the third quatrain with "away" (12). This creates a sort of explosive effect in relation to the theme of time's inexorable destruction. Also, the second quatrain ends with a chiasmus: "Increasing store with loss, and loss with store" (8), which implies a sort of total destruction.

The third quatrain contains a mini-volta; the argument does not really change as much as it adds a new perspective. The first line continues the "When I have seen" motif seen in the beginning of the previous two quatrains with "When I have seen such interchange of state" (9). In the first two quatrains, this puts the speaker, an individual, viewing helplessly the profound effects of time against the man-made world. In the third quatrain, however, he goes back to considering the dire consequence of time on his love object: "Ruin hath taught me thus to ruminate— / That Time will come and take my love away" (11-12). In the context of Sonnet 64 alone, we see how the speaker first witnesses time's disastrous effect on civilization; then in the third quatrain he realizes, with earnest dread, that time must also take his love away. Considering this in the context of the previous Sonnet 63 deepens this theme: we see that the speaker has moved from thinking about his love *aging* because of time to thinking about his love *dying* because of time. As in Sonnet 63, this sonnet does not include any periods until the end of the third quatrain, again conveying the unstoppable, terrifying flow of time. The concluding couplet is thus bitter and filled with heartache: "This thought is as a death, which cannot choose / But weep to have that which it fears to lose" (13-14). There is a new assonance found with

"ruin," "ruminate," "choose," and "lose," which further expresses a sonic atmosphere of upmost dejection. Here, at the end of the first two sonnets in this sonnet trio, the speaker now feels the futility of his struggle against time, realizing that his love must die—all he can do at this point is weep.

Sonnet 65 begins where the previous sonnet left off, with the speaker's desolation about the destructiveness of time. The opening lines, "Since brass, nor stone, nor earth, nor boundless sea, / But sad mortality o'ersways their power" (65.1-2), characterize the hopelessness of all seemingly solid things against the power of time: they fully express time's supremacy over everything else. The speaker uses repetition of "nor" in order to create a powerful, negatively repetitive effect, which is strengthened by the alliterations "stone," "sea," and "sad." The poem goes on to juxtapose the delicate and the beautiful aspects of life against the destructive forces of time and nature:

> How with this rage shall beauty hold a plea,
> Whose action is no stronger than a flower?
> O, how shall summer's honey breath hold out
> Against the wreckful siege of batt'ring days, (3-6)

Here the speaker compares our human lives to things that are beautiful and transient—a flower and the carefree days of summer—against the virtually violent passage of time. Much like in Sonnet 64's war imagery, line 6 echoes warfare with the notion of the "wreckful siege of batt'ring days." In this sonnet, the speaker actually poses questions, which he does not do in the other two sonnets, thus now creating the feeling of an existential conundrum. The third quatrain, a mini-volta in its dramatic shift in tone, acts as a climactic penultimate eruption: "O fearful meditation! where, alack! / Shall Time's best jewel from Time's chest lie hid?" (9-10). This is the first time in the mini-sequence the speaker uses exclamation points, and he poses three questions before ending the quatrain. He also brings up the personified Time for the last time. These combined elements create the emotional peak of the three sonnets—it is dramatic enough in the lone context of Sonnet 65, but its true climactic power only comes out when viewed along with the other two. The speaker feverishly questions what can possibly stop time and its destructive power and he cannot seem to handle reality anymore.

The couplet, the final volta of the trio, timidly answers the speaker's questions about what can stop time: "O, none" (13). He resigns to the fact that nothing can stop time. Yet the sonnet continues, "unless this miracle have might, / That in black ink my love may still shine bright" (399). This couplet is placed at the bottom of the powerful lamentations and pondering about how unstoppable time is; thus, in the context of this

poem alone, it almost seems like his final argument, that his love can live on through poetry despite time, cannot hold the weight of the rest of the singular poem. Yet it is still a balanced volta in the context of the other two sonnets, acting as the thematic grand finale of the three. He goes back again to the notion of his love living through "black ink" like he did at the end of Sonnet 63, but the wording is changed subtly and significantly. In Sonnet 63's concluding couplet, the speaker assuredly states that his love object's beauty *shall* be seen, and that his black lines *shall* live. Now, the speaker considers this to be a potential "miracle": his love, in poetry, *may* still shine. The speaker fully understands how small he is and how time cannot be stopped, but he has a glimmer of hope for his love to continue—an important glimmer of hope since it is the conclusive couplet of the sonnet trio. The phrasing "my love may still shine bright" can be taken to mean two things: that his admiration for his love object will live on, or that the love object himself may live on. In this sense, the speaker prays for both to reach a level of immortality through his words.

Reading Sonnet 65 without considering it in the context of the trio severely obfuscates the hopeful potency of its volta. Jason Brooks characterizes the general subject of Sonnet 65 succinctly: "Protest as one may, age and death, decay and loss are upon us" (399). This is true, as the overarching theme of this sonnet is the ceaseless decaying effects of time. However, Brooks goes on to argue that the poem suggests it is "fruitless to fight what cannot be fought. Any move we make to counter the effects of life's rot only betrays our delicacy" (399). This reading disregards the significant hopefulness at the end of the sonnet, and does not consider the sonnet in the context of the other two. The speaker actually makes a final and delicate move against the Goliath of time: he simply wishes for his words to live on while fully understanding that it would be a "miracle." This volta does not suggest that fighting against time is "fruitless," as Brooks feels, but rather suggests a profound and tempered optimism. While Brooks provides a productive reading, he does not see the optimism of the final volta, thus misinterpreting the whole meaning, because he only sees Sonnet 65 as an individual entity and not part of the grander trio.

Ironically enough, from a modern perspective, this "miracle" has been, in a sense, achieved for the speaker. When Sonnets 63, 64 and 65 are taken together, we painfully realize that time does reign destructively supreme: it ages and destroys our bodies, our relationships, our society and everything else. However, the beautiful irony of these three poems, especially when read together, is that the speaker's poetic dedication *has* withstood the test of time—at least as of today, hundreds of years later. This trio of

sonnets fully expresses the seeming futility of art and love against time, but wishfully and resignedly poses them to the world anyway. This gives us hope that truly beautiful art such as Shakespeare's poetry can withstand the violent passage of time. The ultimate longevity of Shakespeare's sonnets—and all of human endeavors for that matter—is something we cannot predict; truly, only Time will tell.

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Federico Fellini's *La Strada*: Brutality, Fragility and the Search for Identity in Post-War Italy

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"*Mi Volete pocco bene?*" which translates as "Do you like me a little?" is the central question in Federico Fellini's *La Strada* (*The Road,* 1954).[2] A touching portrait of the struggle of a lower-class Italian girl Gelsomina, *La Strada* won the inaugural Oscar for Best Foreign Language film in 1956. When the circus strongman Zampanò purchases Gelsomina for 10,000 lire from her mother, Gelsomina's difficult journey begins. Gelsomina is fragile, indecisive and willing to do anything, at least when forced to by Zampanò. Federico Fellini showcases Zampanò's brutality but also his insecurities, informed by the director' own struggles. Fellini embarked on his own path with an introspective film style distinct from the dominant Italian neo-realist movement. *La Strada* showcases how gender, class, politics and religion impacted identity in post-World War II Italy.

The characters in *La Strada* were inspired by Fellini's childhood trips to visit his grandmother in Gambettola, a small town on the Adriatic Sea, not far from Bologna. Federico Fellini remembered unusual sites: "a frightening castrator of pigs, numerous gypsies, witches, and various itinerant workers".[3] Born on January 20, 1920, Fellini grew up in Rimini, in Northern Italy. He loved reading comic books and "*Opper's Happy Hooligan* was the visual forerunner not only in Charlie Chaplin's Little Tramp but also for Gelsomina in *La Strada*….This was one of his favorite comic strips."[4] He worked for a magazine called *Opera Balilla*, with a Fascist youth organization. He opened up a shop where he would sell his drawings and had the opportunity for them to be sold in a theater.[5] Federico would use his imagination for his work. "Fellini, who had

[1] Written under the direction of Dr. Lori Weintrob for HI286: *On the Screen: Gender, Class, and Culture in Film*.
[2] "La Strada - Federico Fellini (Film Completo)," *YouTube*, accessed April 30, 2013, http://www.youtube.com/watch?v=_3VQ63giVbY.
[3] Peter E. Bondanella, *The Films of Federico Fellini*, Cambridge Film Classics (Cambridge, UK : Cambridge University Press, 2002), 7–9.
[4] Ibid.
[5] Ibid.,11.

begun his interest in psychoanalysis during his personal crisis that coincides with the shooting of *La Strada,* now began to analyze his own dreams by sketching them in large notebooks with vivid felt-tip makers".[6] The timing of *La Strada* offers many insights into Fellini's evolution as a director.

What is *La Strada* about? Gelsomina is sold to Zampanò as his assistant to replace her sister Rosa who mysteriously died in his company. They travel all around Italy to do circus shows for people and collect money to live. Zampanò dresses Gelsomina and harshly teaches her how to perform. One evening he gets drunk and leaves Gelsomina on the street while he cavorts with another woman. After a wedding performance later in the film, Gelsomina leaves him. She follows a little marching band into a town where she meets *Il Matto*, the fool. She loves the sight of him above the ground doing tricks. Zampanò finds her and forces her to go with him. The next morning, they perform at the circus until Zampanò gets into a fight with *Il Matto* who lets Gelsomina play the trumpet. His anger leads to Zampanò's arrest, yet Gelsomina waits for him to be released. Zampanò` asks her why she didn't leave. They take refuge at a convent, sleeping that night in the barn. When they next see *Il Matto,* Zampanò again gets into a fight with and accidently kills him. This tragedy make Gelsomina crazy and Zampanò guilty, so he leaves her. Many years later, he hears a girl sing the song that Gelsomina used to sing, that she first sang with *Il Matto*, and asks where she heard it. She says it was a girl that worked in the circus who never really spoke and no one, not even the mayor, knew who she was. Unfortunately Gelsomina died a long time ago. Zampanò starts to be sad. He gets drunk and goes to the ocean. He wets his feet and then collapses on the sand crying because he has lost Gelsomina.[7]

Is *La Strada* a neo-realist film? In the neorealist tradition, Fellini has "nonprofessional actors playing at least minor roles; real locations in the small provincial towns of Italy; a large number of poor people down on their luck".[8] In the beginning scenes, the viewer sees Gelsomina being bought by Zampanò` from her crying mother. Gelsomina is there for him to do whatever he says, which includes her keeping their wagon clean, cooking and acting as his assistant. Gelsomina also services him "sexually whenever he wishes, in fact she is raped by her purchaser."[9] If Federico Fellini prioritized

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[6] Ibid., 27.
[7] Tullio Kezich and Vittorio Boarini, *Federico Fellini: The Films* (New York, NY: Rizzoli, 2010), 62–69.
[8] Bondanella, *The Films of Federico Fellini*, 48.
[9] Ibid., 48–49.

a neo-realism as a director, he would focus on the class and gender conflicts. He would have told the audience more about Gelsomina's older sister who was sold to another person, and the poverty of their family.

> "Fellini, however, has something entirely different in mind, and, as Millicent Marcus points out, the fact that la Strada 'indeed meets the conditions for a thesis film on poverty and social justice' is simply irrelevant. Fellini does not condone poverty and injustice; he merely wishes to speak of something else and to do so not with the rhetoric of ideology but with the lyricism of poverty…the plot and visuals of *La Strada* reject easy classification as a realistic story of social exploitation. More than a story, *La Strada* is a fable about symbolic figures, and its plot structure reflects this origin in the fable or fairy tale".[10]

With this film, Fellini moved away from Italian Post-World War II neo-realist film directors, their ideological messages of exploitation and their style, to create something new. He turned a tale of sexual and class conflict into an exploration of the psyche and relationships.

La Strada took a new approach to capturing the Italian experience, but borrowed from local traditions. Gelsomina, Zampanò and the *Il Matto* (or the fool) "are the opposite of social types that represent Italian reality…They are closely related to, as a modern type, the *commedia del l'arte.*"[11]. Dressed up as characters like clowns and gypsies, they are separated from ordinary people.

> "Fellini agreed with both [Roberto] Rossellini and [Michelangelo]Antonioni that Italian cinema needed to pass beyond a dogmatic, Marxist approach to social reality, dealing poetically with other equally compelling personal or emotional problems. Communication of information, especially ideologically tinted information, was never Fellini's goal. As he once stated, 'I don't want to demonstrate anything: I want to show it' ".[12]

Many critics disapproved of Fellini's turn to poetic realism, even when it garnered awards at the Venice film festival. "Italian critics, many loyal to Marist interpretations of art, pointed to *La Strada* as a primary evidence of a 'crisis' of neorealism in the 1950s, a betrayal of the genre, a 'grievous abdication of moral responsibility.'"[13] Yet others praised his approach as "a kind of anthropological

[10] Ibid., 49-52.
[11] Ibid., 52.
[12] Ibid., 53–54.
[13] Ibid., 714.

telescope" that offered deeper insights than other films.[14] For the first time in *La Strada,* Fellini showed "how the force of human fantasies and dreams complicate the construction of reality for ordinary Italians."[15]

The film *La Strada* can be translated as "The Road". It refers to the journey that Zampanò and Gelsomina go through in this movie. It can also mean something dark " 'its capacity to separate eventually exceeds its ability to unite, and in failing to lead people to fulfillment, the road becomes an avenue to violence, death, abandonment, and alienation.'" [16] "The movie's title might suggest another journey, one taken by the director: the film, in several respects, represents Fellini's movement away from the classical neorealism of the 1940's, which he had had a hand in creating, toward a different brand of neo-realism, a kind of poetic realism, as scholar Peter Bondanella and others have suggested. It is a voyage in the direction of a form of cinematic expression that might be referred to as 'neorealism of the person," as French critic Andre Bazin called it, or 'phenomenological realism.' 'Fellini's point of departure for this journey, is indeed the strictly construed neorealism of the Marxists-that form which 'was mistaken for social realism'"[17]

Fellini etched himself into the film by projecting himself into not one, but all three, of the central characters, despite their differences. Some critics saw the relationship of Gelsomina and Zampanò as a reflection of his marriage to Masina, or even of "a typical Italian marriage, with an interweaving of male bullying and female subservience," but there was more to it. Federico Fellini "wanted to recount the impressions of a distant 1920s Italy, a secret, still primitive land inhabited by people wandering about without any fixed destinations, like gypsies and other picturesque characters." Indeed, he created a formal, definitive framework for the issue only many years later, explaining that in order to understand *La Strada*, one had to accept the fact that Fellini was in turn and at different moments each of the three protagonists: the anxious Gelsomina, the violent Zampanò`, and the imaginative poet, the Crazy Man."[18]

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[14] Gianni Celati, "Fellini on the Italian Male," in *"Scrittori Inconvenienti": Essays on and by Pier Paolo Pasolini and Gianni Celati*, ed. Armando Maggi and Rebecca West (Ravenna, Italy: Longo, 2009), 223.
[15] Martha Nochimson, *World on Film: An Introduction* (West Sussex, U.K.: Wiley-Blackwell, 2010), 175.
[16] Booth, "Fellini's *La Strada*," 704.
[17] Ibid., 704–705.
[18] Kezich and Boarini, *Federico Fellini*, 59.

This quote explains how Federico Fellini relates to his film and the importance of reflecting on his identity as part of the film-making process.

Gender issues, notably male dominance, play a big role in *La Strada*. Zampanò treats Gelsomina badly. In one scene, Zampanò is teaching Gelsomina what to do when she is performing. She is excited and ready to learn. Yet, every time she does it wrong, he hits her in the leg with a twig. The violence begins with the first night they are sleeping together: he tells her to "get in the car." When she says she is going to sleep outside, he refuses, pushes her in the car and likely rapes her. Later, at the wedding, when Zampanò asks the widow if she would ever remarry, the widow says no, because she "gives the orders around the house." Zampanò responds: "isn't that what a husband is for?"[19] Zampanò constantly pushes Gelsomina around, telling her what to do and slaps her around. As scholar Phillip Booth points out,

> When Zampanò meets Gelsomina he says, "'don't worry, I can even teach dogs.' It is nearly impossible not to view Zampanò's cruelties as the director's commentary on male brutishness and sexism, a pattern of behavior, which at the time was commonly accepted by many women as an avoidable cost of domesticity. In short, it is a critique of social conventions, a blunt attack on male behavior and contemporary martial practices by a filmmaker who loved women."[20]

Fellini showcases the challenges facing a poor young girl like Gelsomina and a rich widow alike.

My grandmother Rosa Costanza and my aunt Madalena Costanza were both raised in Fardella, a small town in Baslicata, in Southern Italy. During our interview, they emphasized that Italian women during this time didn't have many rights. If they wanted to do something, women had to ask permission from their husband and father. Only if they said yes, the women could go. Men were allowed to slap their wives. Some women had a job but men didn't want their wives to work. There was a "revolution for women" in the 1950s, where they started to work but some jobs were opened to women only and others to men only. Some women didn't get an education because people said "why does a woman need to have an education?" Women couldn't sit next to their boyfriends in public and even inside their houses it was discouraged.[21] My father Pasquale Catanzariti who also watched the movie gave his interpretation of the movie. Fellini was trying to give a message that when a person is young, you are strong and you

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[19] Ibid.
[20] Philip Booth, "Fellini's *La Strada* as Transitional Film: The Road From Classical Neorealism to Poetic Realism," *Journal of Popular Culture* 44, no. 4 (August 2011): 709.
[21] Costanza Rosa, and Costanza Madelena, interview by author, April 06, 2013.

don't care about anyone else and you think you are the strongest person in the world physically and mentally and forget that you will get old. His favorite character was Gelsomina because she was true to herself and her family and even though she suffered, she still respected everybody and nobody respected her. The film showed some fascism because Zampano believed he could do whatever he wants and fascists believed they could do whatever they wanted. [22]

This relates to Gelsomina because she wasn't allowed to do many things without Zampanò's permission. Gelsomina loves playing the trumpet and when *Il Matto* asks her to play she says that Zampanò said no. The trumpet symbolizes being independent. *Il Matto* tells Gelsomina to play but she says Zampanò` says no, but when she finally does it because of *Il Matto* and the owner of the circus, she feels great and independent but when Zampanò sees her he gets angry. He tells her when she could play or not. He has control of what she loves in her life.

Class issues are woven throughout the film. In the opening scene, Gelsomina is sold to Zampanò so that her family could have money to live. Her sister Rosa who died earlier was also in the same situation as Gelsomina. Zampanò and the other characters are also lower-class. When people pass by the truck-wagon where they live, they notice and say "what a piece of junk".[23] Also, they always eat outside and cook on firewood. When they get a chance to eat someone else's food, for example at the wedding and the convent, they do so. They only eat once out at a restaurant. When Gelsomina and Zampanò` are sleeping in the convent in the barn Zampanò` tries to steal their silver.[24]

Religion plays a major role in *La Strada*, both positive and negative. It can be positive when there is a festival for a saintly day. There is also the scene when they are at the convent. But the church gives little to the poor and for people that need it. That can be seen when instead of the nuns letting Gelsomina and Zampanò stay in the convent they have to sleep in the barn. Fellini suggests a "Christian humanism" because the film is explaining Zampanò's road to redemption and humanity.[25] It is for him to become a better person. The death or sacrifice of Gelsomina and *Il Matto* will give him his redemption. The film's plot mirrors a religious story because it compares to when Jesus sacrifices himself on the cross to redeem his people.

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[22] Catanzariti, Pasquale, interviewed by author, December 19,2013.
[23] "La Strada - Federico Fellini (Film Completo)."
[24] Ibid.
[25] Booth, "Fellini's *La Strada*," 707.

In the beginning of the movie Gelsomina is gathering sticks when she is called; this shows her innocence and "identifies her as a child of nature."[26] Also another comparison is Gelsomina and the Virgin Mary. In the scene of the procession, she is pictured beside religious figures. "Gelsomina is photographed against a sign that reads '*Madonna Immaculata*,' making explicit her identification as a religious figure."[27] Gelsomina is an outcast to society--in one scene she meets a boy who is emotionally distraught and when she looks into his eyes she sees herself. In this scene there is an example of a close-up and it is done perfectly.[28]

The symbolism of the ocean and water also frames the film, again borrowing from religious ideology. Gelsomina's family lives by the ocean, so water offers the backdrop to the opening scene.

> "Water and bodies of water have significance in Christian theology, in terms of the use of water to symbolize spiritual cleansing thorough the rite of baptism. This scene also offers something of a structural device: the ocean is starting point to which Fellini will return during the climatic final moments of the film. The journey of Zampanò begins and ends at the ocean; it is part of the natural cycle of life."[29]

Another scene of panning out is at the end when Zampanò is at the beach and he crawls up and cries while holding on to the sand. The panning out shows the audience how much he has missed Gelsomina and that he is alone now.

In addition, Il Matto or the "holy fool" may be similar to the Holy Spirit. When Gelsomina is at the town square and she sees *Il Matto* on a string high above the ground. "It's is an example of panning up when the camera pans up, heavenward, to the ceiling and the scene shifts to a shot of the Fool, performing his high-wire act as he is cheered on by a crowd."[30] Fellini uses camera angles to convey this symbolic message, which also comes across in dress and dialogue. "One view of the Fool, who wears wings on his back, might be that he represents a 'holy fool,' a Christlike figure whose death, in some respects, is a sacrifice that sets the stage for Zampanò``s ultimate redemption…He tells Gelsomina (in another scene): 'I'm the one who's gonna die young.' His sacrifice if followed by another sacrifice, when Gelsomina dies after being abandoned by

[26] Ibid., 709.
[27] Ibid., 712.
[28] Ibid., 710–711.
[29] Ibid.
[30] Ibid., 713.

Zampanò."[31] Neither Gelsomina nor Il Matto survive in this parable of 1920s Italy, only the strongman Zampanò.

Federico Fellini's La Strada portrayed a journey of Gelsomina, *Il Matto* and Zampanò. He directed a film with poetic realism instead of neo-realism. *La Strada* conveyed poetic struggles that happen beneath the surface of reality. He wanted to showcase their tragedy and inner journeys rather than simply trace the conditions of poverty and exploitation. *La Strada* questioned religious institutions yet borrowed from religious imagery. Fellini criticized male brutality and gender relations, yet brought sympathy to Zampanò. He wanted to move the audience with the inner turmoil of the characters, similar to his own struggles with religion, gender and authority.

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[31] Ibid., 713.

No Man Will Define Bone: Self-Determined Identity in *Bastard Out of Carolina*

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In *Bastard Out of Carolina*, the protagonist, Bone is born with a birth certificate that is stamped illegitimate, leaving her in search of self-knowledge and discovering who she is. Initially, named Ruth Anne, she quickly receives the nickname, Bone, which is not a proper name but instead used normally to describe "something to be possessed, broken, or thrown to dogs" (Bailey 275). This results in leaving her with a genderless name that allows her to shape her identity outside of the stereotypical gender terms that the Boatwright men and women follow. The traditional males are rowdy, hot tempered drunks that believe they have the right to come and go from the house as they please. On the other hand, the females are strong-willed as well but are appointed to nurse and clean up after men. Like most people, Bone struggles with her identity, as she battles two complicating pieces in her life. She must first come to terms with what it means for her to be a woman and secondly, learn what it means for her to be a Boatwright woman. In Dorothy Allison's Bastard out of Carolina, Bone's genderless name suggests her ability to push past the traditional stereotypical female and it is not until from the help of Aunt Raylene, does she identify as a Boatwright woman. Ironically, one would think her illegitimacy would be a potential liability but instead it acts as a source of strength and helps her forge a more healthy sense of identity.

Bone's name acts as a metaphor throughout her life as she tries to connect with her family identity as well as her gender identity. Like a bone, she remains strong as she feels in certain moments alienated from her family and must act older than she really is. Readers must continue to remind themselves that she is not even a teenager yet but rather a child throughout the narrative. Without knowing who her father is, Bone is left with only one side to craft her identity with, which is the Boatwright's. This causes problems because the typical Boatwright has red-blond hair but her hair is black. Bone recognizes these physical differences and questions her Granny when she says "You gonna look like our granddaddy, for sure. Those Cherokee cheekbones, huh, Alma?" "Oh yes, for sure. She's gonna be another one, another beauty to worry about." Bone's response to this is "I

[1] Written under the direction of Dr. Alison Arant for EN348: *Southern Women Writers*.

smiled wide, not really believing them but wanting to" (Allison 30). Bone wants to believe that she looks like a Boatwright to have some family resemblance to connect with. This search or want to have something that will mark her as a Boatwright is because she wants to feel a part of something that is larger than just herself (Miller 140). In other words, Bone wants to connect with her family identity and be able to be proud to label herself as a Boatwright. This is why she envies her younger sister, Reese, whose father unfortunately passed away but she is still able to connect with him through pictures and because the Boatwright's still talk about him. Bone's lack of identity throughout her childhood angers her and she wishes she could feel a sense of unity and clarity with her family.

Bone wishes she was more like the girls in storybooks because she feels that her body and the rest of the Boatwright women's bodies are broken and damaged (King 134). She expresses this when she says "this body, like my aunts bodies was born to be worked to death, used up and thrown away" (Allison 206). Bone does not know any other way to view herself and what it means to be a woman due to watching the women in her life be physically and mentally drained by men. Most importantly, she thinks of herself as "trash" and a victim of abuse since no one else has taught her otherwise. This sculpts her view of what being a Boatwright means to her and this is why she has difficulty identifying herself as a Boatwright, since that is the image her aunts are portraying. It is not until the end of the novel that Bone is able to see past her initial definition of the "damaged" Boatwright woman and realize that she can identify as a Boatwright woman, while not being restricted to the life her aunts live.

Bone grows up watching women in her family cater to men's desires and needs before their own, therefore representing the traditional woman which is an image she is trying to overcome. The Boatwright women clean up after their husbands, as if they are over-grown boys running around the house making a mess. Bone explains "Men could do anything, and everything they did, no matter how violent or mistaken, was viewed with humor and understanding" (Allison 23). This teaches Bone that femininity is defined largely through the construction of masculinity (McDonald 19). This comes from the idea that the existence of a woman is to accommodate men as they act destructive and have little to no responsibilities. Therefore, the way men act dictates and shapes womanhood causing the definition of a woman to revolve around men. Bone ponders the thought and says, "What men did was just what men did. Some days I would grind my teeth, wishing I had been born a boy" (Allison 23). She idolizes the freedom that her uncle's have and the desire for her to be a male is due to the desire for power. She even begins to take on

male characteristics by following her uncle's around and mimicking their actions. Bone's gender neutral name, supports her ability to take on these masculine characteristics, therefore going against the traditional female as she shapes her identity as a woman. Bone's mother, Anney, plays a tremendous role in how Bone views womanhood, as she acts in a way that makes it problematic for Bone to connect with the traditional woman. While her mama brings her much love, she also brings her shame as well by falling into the stereotypical woman who surrenders to patriarchy. Anney is spineless and feels the constant burden of the stigma that comes along with Bone's illegitimacy. She feels the need to fix it and by doing so she marries Glen. Her impulse is to create a family however, this backfires and does not help Bone's situation at all. Anney is supposed to be Bone's role model or the woman that she looks up to in life. However, Anney does not do a good job at this since she acts like a better mother to Glen than her own daughter. Anney even admits to it when she says "It was like looking after a little boy, a desperate hurt little boy. That's when I knew I loved him" (Allison 133). Anney gives more attention to her pathetic husband, strictly from being dependent on having a man in her life. She tends to his needs to give him the paternal support that he lacked when he was a child (Lin 4). The demand to meet his needs rewrites and defines her womanhood, as she bows down to the patriarchal figure. After witnessing her mother's choice of gender role, Bone realizes later in life that she does not want to be dependent on a man like the traditional woman her mother is portraying. Instead, she would rather be self-sufficient like her independent, Aunt Raylene, who clearly defines the woman Bone hopes to be.

Anney turns a blind eye to Bone's physical, verbal and sexual abuse from Daddy Glen and it is this victimization that takes away any pride the Bone might have as she develops into her female body (Harkins 126). The worst part about the abuse is that it is reinforced by her mother, Anney, since she continually makes excuses for Glen and takes his side while consciously knowing about the abuse. She tends to turn the situation around to Bone by saying "Baby, what did you do?" Bone response is "What did I do?" (Allison 107). Bone is shocked that her mother is asking her what she did when Glen is the one who hurt her. Eventually, Bone begins to think that it is her fault that Glen abuses her. Anney tolerates Glen's behavior at the price of self-respect and her daughter's safety because she believes she cannot survive without him. Bone however, can see how Glen weakens her and questions how her mother could value a man, who is asserting such dominance over women instead of valuing herself and her child (Bailey 278). By her mother making it seem like it is Bone's fault for Glen's terrible treatment, Bone feels that her body is supposed to be used as an object of abuse. This crafts Bone's identity as she

does not see her value as a human being let alone as a woman until she is with Aunt Raylene.

While viewing the hardships that the females in Bone's life face, Bone is still able to see the strength that her aunts possess as women which she admires as she figures out the woman she wants to be. Bone values the love her aunts share and the bond between one another. She expresses this as she says, "I liked being one of the women with my aunts, liked being a part of something nasty and strong and separate from my big rough boy-cousins and the whole world of spitting, growling, overbearing males" (Allison 91). However, Daddy Glen intentionally moves his family further and further from the Boatwright's, in hope to create distance between Bone and her aunts who are her only source of family identity (Bailey 276). The one strength that her aunts have is their bond between each other and by breaking that sense of womanhood up, Glen is taking away the one bit of power they have together because he is threatened by it. Glen says to Bone "I'll tell you who you are, he said. You're mine now, an't just Boatwrights" (Allison 52). He does this purposefully as a way to take away the one piece that Bone has to her family and most importantly her link to feeling like a Boatwright woman. Fortunately, Glen does not succeed and due to separating herself from him, Bone is able to figure out that she wants to be a part of the bond that comes along with Boatwright womanhood.

It is not until Bone starts to live with her Aunt Raylene that she begins to identify as a woman that represents a different type of womanhood. Aunt Raylene arguably is the strongest, fulfilled character out of the Boatwright family since she represents an alternative to both gender roles in the family (McDonald 21). She is different from the rest of her sisters. She lives a private life away from them, outside of the city by herself. She stays put unlike the Anney, who moves her family from house to house since Daddy Glen cannot seem to keep a job. When Bone stays with Aunt Raylene she helps her with chores around the house and Aunt Raylene praises her and it is this encouragement that begins to boost Bone's self-esteem. Bone says "I loved her praise more than the money, loved being good at something" (Allison 182). Bone's confidence begins to build because she feels that she is worth something and has a purpose in life. This "purpose" is outside the realm of patriarchy, which is the environment she has grown up in. This environment has been created by Daddy Glen, a man who only tears her down and makes her feel like an object and that it is her fault she is being abused. Most importantly, this abuse is being reinforced by the person she loves the most which is her mama, Anney. However, Aunt Raylene comes into Bone's life just in time to turn

things around. She believes in Bone and tells her that "I'm counting on you to get out there and do things, girl. Make people nervous and your old aunt glad" (182). This gives Bone hope for her future and helps her figure out that a woman can live outside of the terms of manhood.

Aunt Raylene provides Bone with much guidance and helps Bone begin to constitute her new identity as an independent Boatwright woman. One day Bone says to her "How am I suppose to know anything at all? I'm just another ignorant Boatwright...another piece of trash barely knows enough to wipe her ass or spit away from the wind...we an't like nobody else in this world (Allison 258). Aunt Raylene responds "I don't know about other people, but I've always believed everybody does what they have to do in this life" (259). Aunt Raylene encourages Bone to refuse the position of the passive female victim and to shape her life no matter what restrictions are placed on her (Baker 10). She helps her change the direction of her anger from the women in her life to her abuser Daddy Glen. By focusing her anger on Glen, she is able to change her role from being a victim of abuse to a survivor. This not only changes her outlook on womanhood as a whole but also how she looks at the Boatwright women. Bone is able to realize women should not be subjects of abuse and that her family is just trying to do the best they can. Therefore, her abuse is a part of her life but Bone is not going to let that be what defines her identity.

Unlike her mother, Anney, who never taught her how to stand up for herself, Aunt Raylene gives Bone the confidence to fight back unlike the traditional submissive woman. Bone for the first time says "I had always felt like it was my fault, but now it didn't matter. I didn't care anymore what happen. I wouldn't hold still anymore" (Allison 282). It is in this moment that everything finally clicks for Bone and she decides that she will not stand for being hurt anymore. During the final attack when Daddy Glen rapes Bone, she physically and verbally fights back, through cursing and stabbing a butter knife into his side. This is evidence of her beginning to develop into the strong woman that she has been searching to become from day one. Her mother, Anney walks into the unbearable scene and sadly yet again, shifts her attention from comforting Bone to holding Glen in her arms as he pleads for help after what he just did. Thankfully, Aunt Raylene comes to rescue Bone from the hospital after he mother drops her off and leaves her there alone. While Bone is bombarded with questions from the sheriff, Raylene steps in and says "Look at her she is hurt and scared and don't need nobody hurting her any more…She's just twelve years old, you fool. Right now she needs to feel safe and loved, not alone and terrified" (Allison 298). Raylene explains perfectly what Bone needs not

only at this moment but what she has needed her whole childhood. All her life, Bone has needed someone to come to her aid and defend her and Raylene does just that. Aunt Raylene time and time again provides Bone with an example of how a woman should act, which helps Bone form her identity.

The final abandonment of Anney choosing Glen over Bone ironically is clarification for Bone's identity as a Boatwright. At this moment she comes to terms with her mother's choices and realizes that she is not defined as her mother's daughter. Bone says "the child I have been, is gone with the child she had been" (Allison 307). Her identity as a Boatwright woman is with her extended family rather than her mother, as she links herself with her loving aunts. Surprisingly, Anney returns to give Bone her birth certificate, which is blank, unmarked and unstamped. This suggests Bone has a fresh start as she begins her new chapter in life and a future with endless possibilities. Aunt Raylene has taught Bone that she can exist as a Boatwright woman on her own terms and that nothing can restrict her from becoming a successful woman.

In *Bastard out of Carolina*, Dorothy Allison allows her readers to grasp the journey Bone goes through to identify herself as a nontraditional Boatwright woman, through the eyes of Bone's narrative. Bone decides that being a woman means not conforming to the definition of the traditional woman. She defines a woman as independent, one that does not let men dictate her life and make her feel less of the person she truly is. Secondly, she learns what it means for her to be a Boatwright woman by expanding the terms for her to exist rather than adjusting her lifestyle to fit into what her mother has laid out for her. Bone understands her family roots and trusts the love that Aunt Raylene has for her. She shows this at the end when she says "I let her touch my shoulder, let my head tilt to lean against her, trusting her arm and her love" (Allison 309). Bone has a good understanding of who she is and her part of the Boatwright family as she sits with Aunt Raylene with their fingers wrapped together.

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The Art of the Harlemite

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Rent parties were not only held for the purpose of making rent. The functions themselves began to play a significant part in developing and preserving African American musical culture in Harlem during the renaissance. While some musicians, poets, and other members of the Harlem Renaissance began to direct their pieces towards a white audience, rent parties became a place where individuals who were not concerned with appealing to popular American society were able to play jazz and dance without the outside pressures from the intelligentsia. The actual cultivation of stride piano took place during these soirées. These gatherings played a key role in upholding the spirits of the common black individual who, unlike people such as James P. Johnson and Duke Ellington, were not receiving any monetary benefit or increased respect from their counterparts as a result of the Harlem Renaissance, but still loved jazz just the same.

The Harlem Renaissance came into being as a result of heightened animosity towards African Americans. At the end of World War One, many African Americans were terminated from their jobs and isolated from employment. Housing segregation kept families trapped in the urban ghettos of the West Side of Manhattan. The Ku Klux Klan, which regrouped during the time of WWI, had also increased attacks. The rise in racial discrimination led to race riots, not only in New York City, but throughout the nation. Terrorism and financial instability filled the lives of African Americans with uncertainty and robbed them of control of their futures. In spite of these difficulties, African Americans moved in droves to the North to try and take advantage of the newly available industrial work and other jobs that awarded them more opportunity than sharecropping in the Jim Crow South. The population that migrated to Harlem found that they could own property and commune with others who did as well. Black entrepreneurship was a dream that could be realized, a fact made palpable to them each time they bought their groceries from black owned corner stores or sat down in black owned restaurants. The "New Negro" also drew strength from cultural enlightenment and black consciousness. Organizations such as the National Association for the Advancement of Colored People (NAACP) increased activity in Harlem, and leaders of thought such as W.E. Dubois

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(1868-1963) stimulated political awareness and activism. Harlem, which was intended by developers to be "distinctly devoted to the mansions of the wealthy, the homes of the well-to-do, and the places of business of the trades that minister to their wants" (Jongh 7), was secured as a black neighborhood by black people. This was a milestone in the fight against crippling discrimination and the color barrier.

The idea that artistry would advance the situations of colored people prompted Harlemites to place their energies in honing the skills of black artists. Musicians inspired by this passion for edification birthed Harlem's unique and signature style of music, stride piano. The increase of black realty provided the opportunity for these musicians to meet and create; Harlem rent parties, cellars and small clubs became the school houses in which stride piano was taught and developed.

Harlem had formed its own musical identity but the musical elite believed the ultimate purpose of stride piano was to be used as a tool for the musically inclined. The great black musicians of the post war era had no intention of being satisfied with playing at nightclubs and in crowded apartments for wild dancers, but the true motivation to learn these new techniques was the ambition to evolve jazz into a greater artistic form. Fats Waller played a large hand in the development and promotion of ~~the~~ stride piano technique and even composed the hit "The Joint is Jumping," a tune that celebrated the traditions of rent parties. Although Fats was aware of the significant role rent parties played in the culture, he, like Duke Ellington, saw a bigger horizon. Stride piano was their way to bring jazz into the world of concert halls "It was during the twenties that a great deal of interest in creating symphonic, composed jazz was expressed by both blacks and whites" (Early 138). Although the music started in the homes and establishments of self-made and proud blacks, some musicians felt their music could only reach full esteem in "serious European-style art music halls" (Early 138).

Musicians, who actually obtained the opportunity to use their music to better their lives and gain respect, were few in comparison to those who were confined by the realities of living as an urban Negro. Rent parties, although festive and exciting, foreshadowed the impending destruction that the continued financial discrimination would bring upon the black Mecca. Harlem was intended to be a neighborhood for white families. When the realtors and contractors could not sell enough property and risked losing money, they began to sell to blacks and "more than 200,000 Negroes [West Indians, Africans and American Negroes] migrated to Harlem" (Byrd 1). The overcrowding of Harlem made living spaces much like those in any slum area. Residents took jobs as laundresses, personal workers, or the other lower paying unskilled jobs

allocated to the black community. African Americans worked under the threat of being fired as soon as preferred white workers were found. Harlemites were not exposed to racial violence as openly as blacks who still resided in the ghettos, such as San Juan Hill, the Tenderloin, and Hell's Kitchen, but the threats still restrained their freedoms. As more white families moved out of Harlem, rent was purposely raised, which further eroded their ability to keep up with the ever-rising Harlem standard of living. Blacks in Harlem were systematically fed a pipe dream. Segregation ensured that high rates and limited resources continued to hinder progress and recreate the cycle of financial instability. Rent parties were a way to delay the inevitable and to sustain the fading dream.

The glamour that surrounds the tales of the great jazz age and its renowned musicians is nothing more than "the confusions, distortions, half-truths…that are the foundations of racial and ethnic stereotypes [derived from] the white world's image of the "New Negro"(Osofsky 230) and Harlem. The true glory of the Harlem Renaissance is the establishment of a resilient community. In spite of deficits in their own personal finances, people came together to help a neighbor make rent, enjoy the music that was born in the places they worked hard to secure, and executed their rights to live in. Even with all the pressures from whites and the black bourgeoisie "the Negro's situation in Harlem is without precedent in all history in New York; never before has he been so securely anchored…never before has he had so well established a community life" (Jongh 7).

Even with all the accomplishments of Harlem, the belief that dignity, validation, and worth could only be achieved by integrating into white society drove some blacks to abandon their community. The Harlem commoner witnessed black nightclub owners and musicians who, in the pursuit of money and acceptance, began to segregate patrons, give choice service to white customers or completely ban fellow African Americans from their clubs. These actions turned Harlem and its people into a form of entertainment. Dances and music became more complicated and athletic because the need to be impressive to white tourists took precedent over the pursuit of enjoyment. Langston Hughes was able to recognize the true victories of the Jazz age and gives testament to the views of common Harlemites.

> White people began to come to Harlem in droves. For several years they packed the expensive Cotton Club on Lenox Avenue. But I was never there, because the Cotton Club was a Jim Crow club for gangstsers and monied whites. They were not cordial to Negro patronage, unless you were a celebrity like Bojangles. So Harlem Negroes did not like the Cotton Club and never appreciated its Jim Crow policy in the very heart of their dark community. Nor did ordinary Negroes like the growing influx of whites

> towards Harlem after sundown, flooding the little cabarets and bars where formerly only colored people laughed and sang, and where now the strangers were given the best ringside tables to sit and stare at the Negro customers – like amusing animals in a zoo. (Hughes 1)

Beyond the glamour of the nightclub, "The ordinary Negroes hadn't heard of the Negro Renaissance. And if they had, it hadn't raised their wages any." (Hughes 3) Popular musicians began to transform their aesthetics into what they perceived to be respectable art and to shift their target towards those who they felt were respectable audiences. Unwilling to continue to be deemed entertainment and losing their place to preferred white audiences, Harlemites turned to hosting rent parties, which in turn cultivated and preserved their culture.

Saturday nights were a prime occasion to dance and play music until dawn. Most people were paid on Saturdays and did not have to go into work the next day. For a small price, which was cheaper than the speakeasies that dotted Harlem during prohibition, partygoers could enjoy food, dancing, drink, and hear stride piano. Stride pianists pounded out harmonies and complex rhythms in order to recreate the sounds of a full orchestra, "the powerful left-hand bass acts as the percussive rhythm section and the right hand provides the thickly textured melody" (Pappadopoulos 3). By focusing on ability and musical intelligence, the stride pianists were able to create a technique that exceeds the knowledge needed to play the tunes of its predecessor, ragtime. At rent parties, musicians were given the opportunity to practice, playing in every key, making quick changes, all without rest, and develop their skill set and athletic ability.

Even though art was highly esteemed, stride pianists were not spared from the economic difficulties and were themselves starving artists. Employments for the new sound were scarce, especially in Harlem where competition was intense and the number of steady gigs few. Rent parties became a source of supplemental employment to musicians who would otherwise have to take odd jobs or travel out of state to find work. The hosts of rent parties even employed multiple pianists at a time, providing them with a way to support themselves and their music. The presence of other pianists pressured the musicians to be highly skilled. Even if acquiring skill for intellectual purposes was not the goal of the pianists, keeping dancers enthralled and moving required a vast knowledge of stride. A strider found lacking received a bad reputation, which decreased his chances of being hired for other gigs. This fierce competition perhaps fostered the value of athleticism found in bebop and even the elitism of bebop. If players could not keep up with the required skills and fast complex playing, then they found no place as performers of the music. It is the beginning of an era where black musicians had to have

mastery of the instrument. Even though these musicians were employed for the purposes of entertainment they understood the importance of developing technique and professionalism, which drove them to practice relentlessly and develop a form of music so substantial and complete that it is able to stand in for the sounds percussions, horns, and strings. All they needed was the piano and they made the necessity of all those instruments obsolete.

Although the highbrow members of the black community may have regarded the carrying on at these soirées as degrading and shameful, it was in fact these gatherings that played the strongest hand in creating stride and developing the music. If the goal was having black creativity gain respect, its attainment was undermined by the unwillingness of elitists to acknowledge that art is not necessarily born in concert halls but within the souls and from the expressions of the people who make said art. In fact, this unwillingness reinforced the cycle of deprivation and emptiness that kept the esteem and public perception of the black community low. The greats may have gained public popularity and have been devoted to the development of jazz, but their idea that the music only becomes art when it is welcomed into distinguished concert halls or resembles the symphonic structures of European styles disregards the merits the music and its originators bestowed upon the genre. For in this genuine and authentic expression we find the ability of the common Negro to take the roughest of situations, and the dregs of resources that are left to him and turn them into country blues, spirituals, gospel, ragtime, and jazz. Stride piano is already an art in itself. African Americans have an art of living through music and of using music to survive. The music played for those weary workers on Saturday nights that helped them cast off their chains, if even for just one night, is true art. The apartments and houses in which the parties were held and where pianists learned stride were schools of art and those ragamuffin musicians were themselves artists.

Without the rent parties providing a place to learn, and a reason to practice new skills and create new techniques, stride piano would have not developed. In turn, stride piano would not have been available to many ordinary Harlemites and the musicians, who used it to transform jazz. Ultimately, Harlem rent parties reflect the crowning glory of the Harlem Renaissance. Harlemites drove one another to do the best they could do in the conditions they lived in. They dreamed of obtaining a better life. Even if it was denied to them, they created their own identities and pursued their passions. They maintained their commitment to keeping the music within the community and provided a safe space for their friends and neighbors to enjoy life.

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