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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. The interested reader will then encounter the morphallactic regeneration of planaria and a study to determine whether a variant of human mesenchymal epithelial transition factor (*MET*) can be found within the planarian genome. Moving on, one will explore how corporate America uses its resources to address external and internal challenges by embracing diversity. This is followed by an investigation into New York City's role in the evolution of the Gay Rights Movement. Be sure not to miss how German culture was demonized during both World War I and World War II or the essay on the effect of storytelling in Isabel Allende's *Eva Luna*.

Read on and enjoy!

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

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# **Section I: Eastern Colleges Science Conference**



## **Bacterial Infections of the Zebrafish (*Danio rerio*) Swim Bladder**

Brandon Hart (Microbiology), Yasmine Khaled (Microbiology),  
and Dr. Christopher Corbo (Biological Sciences)

Swim bladders are gas filled sacs found in the abdominal cavity of fish. The main function of this organ is to provide fish with neutral buoyancy. Swim bladders serve an important role in its ability to help fish hear by amplifying sounds and vibrations. Swim bladder disease is a common ailment found in zebrafish (*Danio rerio*). Infection of this organ causes inflammation and prevents the inhalation and exhalation of gas, which hinders swimming, causing fish to float upside down or at the surface of the water. We set out to determine the bacteria that might be causing these infections in captive zebrafish. Zebrafish exhibiting sickness were anesthetized and had their swim bladder removed. There were a total of five trials conducted, with five fish in each trial. Fish were anesthetized by using Tricane and euthanized by severing of the spinal cord. Swim bladders were extracted and put into brain-heart infusion broth and incubated for 48 hours at 37 C. Samples were subsequently inoculated onto Phenylethyl Alcohol agar and Thiosulfate citrate bile salts sucrose agar and incubated for another 24 hours. Agar plates exhibiting growth were gram stained and revealed gram positive rods. Further biochemical analysis revealed that zebrafish swim bladders were infected with *Bacillus subtilis*, and *Bacillus coagulans*. This research will help us to identify fish pathogens and allow us to test which antibiotic treatment could be most effective.

## **Neurogenesis Observed in the Adult Zebrafish Optic Tectum**

Jacob Orvidas (Microbiology) and Dr. Christopher Corbo (Biological Sciences)

Previous studies using light, transmission and scanning electron microscopy, has shown that the brain of the zebrafish (*Danio rerio*) has the ability to survive in organotypic culture for up to 14 days. Various studies have also shown that the optic tectum continued neurogenesis. In an attempt to gain a better understanding of the cellular events taking place in the surviving culture explants, our work utilized BrdU labeling to detect proliferating cells seen in the zebrafish optic tectum maintained in organotypic culture. The goal of this experiment was to further characterize the cellular composition and organization of the normal adult zebrafish optic tectum, as well as the embryoid bodies seen in the surviving brain explants of the organotypic. Six specific time points of cultivation were extensively analyzed; 12, 48, 96 hours, 7 days, 9 days, and 12 days.

Optic tectum neurogenesis has not been extensively recorded in organotypic cultures of zebrafish brain, which in this experiment are used as a major traumatic event to the tectal tissue. The time points leading up to 7 days will then be used in comparison with other studies to determine homology and the data collected beyond the time point of 7 days will be recorded as new examinations.

### **Antimicrobial Properties of Clove Oil and Turmeric Against *Staphylococcus aureus* and *Escherichia coli***

Joseph Agro (Microbiology)

Worldwide the food industry is combating the repercussions of food spoilage due to the growth and contamination of many foods by food borne pathogens. Combating these pathogens has never reached its full potential, with all the preservative methods that human beings have come up with; there is never a 100 percent success rate. Turning to chemically synthesized substances such as antibiotics can potentially lead to dangerous side effects, even though these chemicals are able to act as a germicide. In this study the use of naturally derived plant extracts such as clove oil and turmeric were tested on *Staphylococcus aureus* and *Escherichia coli* to determine the effectiveness of these agents as antimicrobial agents. These two microorganisms are readily found in and on the human body, which is why it would be of interest to be able to combat these bacteria and their potential pathogenicity to humans. In this study the plant extracts were diluted 1:10, 1:100, 1:1,000, 1:10,000, and 1:100,000, to determine whether the extract performs as a bactericidal agent or as a bacteriostatic agent.

### **Antimicrobial Properties of Plant Extracts Against Gram-Negative Bacteria**

Lauren Alessandro (Biology) and Dr. Kathleen Bobbitt (Biological Sciences)

In the field of medicine, chemical antibiotics are very widely used. However, these medications can sometimes have harmful side effects on humans as well as create bacteria that ultimately become resistant. Finding an alternative way of creating antimicrobials through testing plant extracts could cut down on the harm caused by the chemical antibiotics. In this research, the researcher used three extracts, ginkgo biloba, turmeric and clove oil and tested them against the bacteria *Klebsiella*, *Pseudomonas fluorescens*, *Morganella* and *Acinetobacter*. In order to complete the research, three ten-fold dilutions of the plant extracts were created and inoculated with the bacteria. The

bacteria and extract mixture was swabbed on a nutrient agar plate and incubated at room temperature for a week. When observed after the week, the clove oil was found to have the best result as it had inhibited all four bacteria at all three concentrations. Further research should be done to examine the lowest effective concentration of clove oil that will have the same results.

### **Measurement of Arsenic and Heavy Metals in Groundwater in Bangladesh by Inductively Coupled Plasma Atomic Spectroscopy**

Rabije Cekovic (Chemistry) and Dr. Mohammad Alauddin (Chemistry and Physics)

About 97% of 160 million people in Bangladesh depend on groundwater as a principle source of drinking water. However, the groundwater in Bangladesh is found to be contaminated with arsenic (As) from geogenic origin. While the World Health Organization (WHO) permissible level for As is 10 µg/L, the As level in Bangladesh groundwater ranges from 100 to several thousand micrograms per liter in seriously affected areas. While most of the mitigation efforts are directed to removal of As from groundwater through various filtration systems, multielemental analysis of the water from an arsenic affected area reveals that the groundwater is contaminated with several other heavy metals. Using the analytical technique of inductively coupled plasma atomic spectroscopy (ICP-AES), we have analyzed water samples from 100 tube wells in four villages in a seriously affected area. In addition to As, heavy metals such as Fe, Mn, Pb, Sr, Ba, U and several other trace elements have been detected. For safe drinking water supplies for vast population, an effective filtration system needs to be developed. Interelement correlation in our collected data will be presented.

### **Effects of Plant Extracts on Gram Negative Bacteria**

Kathleen Calves (Biopsychology) and Dr. Kathleen Bobbitt (Biological Sciences)

*Pseudomonas aeruginosa* is a gram negative, rod shaped bacterium that is commonly found growing in the environment. This bacterium does not have complex nutritional requirements allowing it to grow abundantly in a laboratory setting as well as in nature. This abundance is a problem as the bacteria can cause severe, and possibly fatal illness in humans and animals. It is also beginning to become resistant to antibiotics. Because of this, new methods are being researched to prevent the spread of this bacterium. Certain plant extracts, in this research specifically, chamomile, nutmeg, basil, and clove, have antimicrobial properties that could be effective agents against bacteria such as *P.*

*aeruginosa*. These properties were tested through two different methods; inoculation and swabbing on a selective agar as well as producing mix plates. Out of the plant extracts that were tested chamomile appeared to have the most effective antimicrobial properties. On the plates that were observed, those swabbed with the highest concentration of chamomile, had the fewest colonies of *P. aeruginosa* grown. This observed antimicrobial action may be due to the active metabolites in the chamomile plant, such as  $\alpha$ -bisabolol, that are not in the other extracts used.

### **Detection of MET in the Flatworm *Girarida dorocephala* Genome**

Michelle Detka (Biology) and Dr. Jonathan Blaize (Biological Sciences)

The mechanisms controlling morphallactic regeneration are among the most complex and well studied of all biological processes. Since the 18th century planaria have served as a model organism for the study of regeneration due to their immense developmental plasticity, simple body plan and relative abundance. In our investigation, fresh water brown planaria supplied by Carolina Biological Sciences (*G. dorocephala*) were employed to determine whether a variant of human mesenchymal epithelial transition factor (MET), a key contributor to tissue recovery in vertebrates, can be found within the planarian genome. Our preliminary data suggests that a MET ortholog is expressed by this species, a finding that is partially corroborated by our *in silico* investigations. However, no amplicon of this gene was recovered when planarian DNA was subjected to PCR amplification using human MET oligoprimers. We conclude that while a MET variant is likely absent from the planarian genome, proteins that contribute to tissue repair in a similar fashion are undoubtedly present.

### **The Effects of Diethyl Phthalate on *Drosophila melanogaster*, Studied Through Scanning Electro Microscopy and Developmental Assays**

Phillip Necaie (Biology)

Phthalates are a class of chemicals widely used in the production of plastics and other common household products. Mounting scientific evidence suggests phthalates, such as diethyl phthalate, can act as endocrine disruptors, causing negative health effects like cancer and birth abnormalities. By using *Drosophila melanogaster* as a model organism, the developmental effects of phthalate exposure can be studied. Developmental assays can provide data correlating amount of exposure and effect on the life cycle of *D.*

*melanogaster*. To further explore the effects of phthalates, a novel method was required to prepare *D. melanogaster* pupa and larva tissues for use in a scanning electron microscope. Use of a scanning electron microscope provides high detailed imaging of the *D. melanogaster* surface ultra structure. By comparing control and treatment tissues under the scope, potential differences induced by phthalate exposure can be determined.

### **The Search for a Vascular Endothelial Growth Factor Receptor Ortholog in the Flatworm *Girarida dorocephala* Genome**

Kaitlin Murtha (Biology) and Dr. Jonathan Blaize (Biological Sciences)

Regeneration of lost or injured planarian tissue is controlled by a litany of molecular cues that initiate prompt cytoskeletal reorganization, re-epithelialization and recruitment of neoblasts to the wound site. While few multi-cellular eukaryotes share the restorative fidelity displayed by planaria, nearly all members of the animal kingdom rely upon epithelialization to reduce the likelihood of infection, minimize water loss/maintain tonicity and initiate recovery immediately following severe trauma. Unsurprisingly, many of the cellular hallmarks that facilitate reinstatement of epithelial continuity are conserved between species, despite massive variability within the repair scheme thereafter. A key contributor to this process in mammalian wound healing is the peptide ligand vascular endothelial growth factor (VEGF). While no homolog of the VEGF gene exists within the planarian genome, partial homology of its receptor, VEGFR has been identified though *in silico* investigations. Preliminary data from electrophoresed amplicons suggest that an ortholog of the ligand is present, though its function has not yet been characterized.

### **Comparing Photobehaviors of Genetically Different Populations of the Water Flea *Daphnia magna* Ordered from Different Biological Supply Companies**

Marguerite Langwig (Biopsychology), Dr. Donald Stearns (Biological Sciences), and Dr. Jonathan Blaize (Biological Sciences)

This research compared the phototactic responses of *Daphnia magna* from two supply companies (Carolina Biological Supply Company [CB], Connecticut Valley Biological Supply Company [CV]) to better understand how these behaviors are genetically influenced. For each treatment, 10 organisms were exposed to the same light stimulus (1.6  $\mu\text{Em}^{-2}\text{s}^{-1}$  of 410-nm or 630-nm) and compared with dark controls for location in the test chamber after a 30 s light exposure. The photobehaviors of the CB and CV daphnids

did not significantly differ from dark controls when tested using these two wavelengths. However, phototaxis in CB and CV showed a larger standard deviation than the controls, indicating increased variation in response to light. Although the CV and CB daphnids did not differ from the controls, the two populations showed a large but not statistically significant difference in phototaxis when compared with each other ( $p = 0.055$ ). These results, when combined with previous research (Cheung, 2015), indicate that CV daphnids are more responsive to 410-nm light than 630-nm light. In contrast, CB daphnids do not show a phototactic response at either wavelength. These data suggest a difference in photobehavior that may be attributed to genetic variation. To determine if the two populations were derived from the same clonal ancestor, genome digests prepared with restriction endonucleases EcoRI, HindIII, and BglII were electrophoresed and analyzed. Digestion profiles revealed that DNA sequence variation exists between the two populations. While these assays are not definitive, the results provide evidence that the two *D. magna* populations are genetically distinct.

### **Digital Microscopic Photographic Series of Adult Zebrafish Cerebellum, Horizontal Series**

Emily Bovasso (Biology), Dr. Christopher Corbo (Biological Sciences), and Dr. Zoltan Fulop (Biological Sciences)

Digital photographic series from plastic embedded semithin sections of adult zebrafish brain, stained with toluidine blue, were used in this study. Serial sections of adult zebrafish brains were cut in all the three anatomical planes. This work utilized the horizontal series and focused on the cerebellar region. The poster demonstrates montaged images captured with 20x objective and/or 100x objective. They are presented in a consecutive order of the dorsal ventral orientation. Efforts to make these images in an interactive atlas are in progress. The overall aim of this work was to contribute to the formation of a neuroanatomical atlas of a zebrafish brain. Zebrafish are now a model organism, so knowledge of the structure and function of the zebrafish brain is important and this project will address such need by providing a high-resolution guide to many of the cerebellum's important structures.



## **Molecular Dynamics Simulations to Investigate Interactions between Fullerenes and Amyloid Proteins**

James Catalano (Chemistry) and Dr. Arun Sharma (Chemistry and Physics)

Alzheimer's disease is a neurodegenerative illness that produces plaques in the brain. These neurotoxic plaques are produced by the Amyloid-Beta protein and its fibrils. A cure for Alzheimer's and associated dementia is the focus of many large scale investigations, both, in vivo, and in silico. Recently, fullerenes have been identified as potential inhibitors of the aggregation of amyloid proteins and fibrils that eventually lead to the disease. Fullerenes are hollow carbon spherical structures that are achiral, and have varying sizes. We have simulated the interaction of fullerenes of various sizes with the amyloid protein, and the beta fibrils. Our initial results show that small fullerenes can bind strongly to fibrils. The best binding pose from our docking simulation is then subjected to fully atomistic Molecular Dynamics simulation. We plan to analyze in detail the binding interactions, stability of the fullerene-fibril complex, and fullerene-amyloid complex. Our simulations will create a microscopic picture of these interactions, and shed light on the potential role of fullerenes as therapeutic targets for Alzheimer's Disease.

## **Chemistry in the Aerosol Interfacial Region: A Computational Study**

Tyler Copley (Chemistry), Gent Prelvukaj (Chemistry),  
and Dr. Arun Sharma (Chemistry and Physics)

The chemical reactions caused by atmospheric aerosol particles are substantial elements that influence radiative forcing, chemical reaction cycles, and human health. Although the general properties of aerosol particles, along with the chemical reactions of their exterior are understood, the chemical reactions that occur in the interfacial region remain ambiguous. Due to the complexity of the interfacial region, self assembled reverse micelles (RM) are used as proxies to help develop a complete understanding of the photochemical properties of the region. We performed fully atomistic molecular dynamics simulations to explore the impact of trapped ionic species on the size and shape of reverse micelles. RMs were created using Packmol and the simulations were carried out using the open source, GROMACS engine. Simulations were run at constant temperature and pressure and under different ionic concentrations. We have analyzed RMs constructed from dioctyl sodium sulfosuccinate (AOT) surrounded by isoctane solvent. The size of RM is best defined by the ratio  $w_0 = H_2O/surfactant$ . We have simulated RMs with  $w_0=5, 7.5, \text{ and } 10$ . Each micelle size has a different amount of ions

to ensure that each size has the same concentration. Preliminary simulations show that KCl holds the reverse micelle together more and makes it more spherical. Although, after running multiple simulations of different concentrations we discovered that there is a threshold concentration. When there are too many ions in the core they repel each other, which causes the reverse micelle to lose its spherical shape.

## **Racial Preference and Self-Identification in Latino Children**

Kelsey Hopland (Chemistry) and Dr. Amy Eshleman (Psychology)

A large body of research has investigated racial bias and self-identification of African American children, however the field is considerably underdeveloped as it pertains to children of Latino/Hispanic descent. As a contribution to the field, the current pilot study experimentally investigated the effect of language on racial preference, self-identification, and general racial identification in Latino children. Specifically, the researcher examined whether children would respond to the measures differently if interviewed in English or Spanish. Children were presented with nearly identical cartoons, differing only in skin tone, hair color, and eye color. Preliminary data suggest the children slightly prefer the lighter-skinned variation, particularly boys. Thus far, it appears language may impact self-identification, as two-thirds of children randomly assigned to the English-speaking condition identified with the light-skinned cartoon. Additional interviews will clarify preliminary results.

## **Survey of Molds in Different Seasonal Climates and Environments**

Amanda Pavia (Microbiology) and Amanda Weinberg (Microbiology)

Fungi are among the most important microorganisms and can be fatally dangerous to human health. Fungi have been extensively studied in indoor environments with relation to their pathogenicity. To date, the importance of studying outdoor fungal communities has not been sufficiently noted. Creating the connections between outdoor fungi and their preferred seasonal climates and environments is important for the development of further information about the way in which fungi effects on human health. This research aims to identify and enumerate the various locations, temperatures and environments of fungi that are found in outdoor settings. Using Sabouraud Dextrose Agar, samples were collected via settling and swabbing methods to isolate fungi in both rural and urban environments. Fungal cultures were given a growth period of four to fourteen days at room temperature.

Colonies were examined macroscopically and microscopically via the Tape Mount Method and the Slide Culture Method. In the rural environment, the most common culturable fungal species was identified as *Exophiala dermatidis* with 77 Colony Forming Units, followed by the yeast *Candida albicans* with 9 CFU. In the urban environment and warmer climates, specifically between 71°C and 82°C, the most isolated species was *Cladosporium* spp. with 63 Colony forming Units, followed by *Pencillium marneffe* with 15 CFU. During the colder temperature conditions, between 13° C and 27°C, the most abundant fungal species by far consisted of solely *Cladosporium* spp. This study provides insight into fungi and their indigenous environments and seasonal climates.



**Section II:**  
**The Natural Sciences**



# Detection of *MET* in the Flatworm *Girarida dorocephala* Genome

Michelle Detka (Biology)<sup>1</sup>

The mechanisms controlling morphallactic regeneration are among the most complex and well studied of all biological processes. Since the 18th century planaria have served as a model organism for the study of regeneration due to their immense developmental plasticity, simple body plan and relative abundance. In our investigation, freshwater brown planaria supplied by Carolina Biological Sciences (*Girarida dorocephala*) were employed to determine whether a variant of human mesenchymal epithelial transition factor (*MET*), a key contributor to tissue recovery in vertebrates, can be found within the planarian genome. Our preliminary data suggests that a *MET* ortholog is expressed by this species, a finding that is partially corroborated by our *in silico* investigations. An amplicon of this gene was recovered when planarian DNA was subjected to PCR amplification using human *MET* oligoprimers. We conclude that there is a *MET* variant present in the planarian genome and proteins that contribute to tissue repair in a similar fashion are undoubtedly present.

## I. Introduction

### Planarian Taxonomy

In 1766, Peter Simon Pallas had the opportunity to study an organism that would provide present day scientists with a wealth of knowledge about morphallactic regeneration (Newmark, and Alvarado, 2001). Pallas bisected a small piece of the planarian head and observed how the planarian was able to regenerate a complete organism, which was the first example of planaria regenerative capabilities (Newmark, and Alvarado, 2001). It was not until 1814 and 1822 that the work of scientists Dalyell and Johnson explored planarian regeneration even more in depth, performing experiments that involved cutting planaria horizontally and longitudinally to see how they would regenerate in response (Newmark and Alvarado, 2001). Such studies, which

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<sup>1</sup> Research conducted under the direction of Dr. Jonathan Blaize in partial fulfillment of the Senior Program requirements.

focused on isolating parts of a planarian and studying the method by which their bodies regenerate an entirely new organism, would be the focus of studies for years to come.

Planaria are freshwater flatworms, members of the phylum Platyhelminthes (Newmark, and Alvarado, 2001). These organisms are part of the Lophotrochozoa group, a group of understudied organisms that are related to the Ecdysozoa (*Caenorhabditis elegans* and *Drosophila*) and the Deuterostomes (Alvarado, 2003). The interest of our laboratory research was to understand planaria's ability to regenerate complete body parts in a span of seven to fourteen days (Alvarado, 2003). Although scientists have not agreed on a definite model of planarian wound response, biologists at Tufts University have recently proposed a comprehensive model of planarian regeneration, which has identified numerous genes within the wound response cascade. Freshwater brown planaria were supplied by Carolina Biological Sciences in an effort conclude whether a variant of human mesenchymal epithelial transition factor (*MET*), associated with human wound repair, is present within the planarian genome.

### Regenerative Capabilities

Regenerative abilities of planaria are of great importance to the scientific community because of the novel manner in which they complete wound repair in other living organisms. Planaria use a morphallactic regeneration mechanism. Morphallactic regeneration involves the regeneration of lost tissue by reorganizing and growing the remaining and adjacent tissue (Gilbert, 2000). Planaria are dependent upon the accumulation of somatic stem cells, referred to as neoblasts, at the wound site (Wenemoser et al., 2012). When a planarian undergoes an injury to a fragment of their body, it initiates a cascade of signals that work to repair the wound by regenerating lost tissue and incorporating it amongst the pre-existing structures.

### Proposed Mechanism of the First Wave of Wound Induced Gene Response

Planarian signal response constitutes the use of neoblasts, which are somatic stem cells that give the planarian the developmental plasticity necessary to regenerate body fragments ranging from the head to the trunk of their bodies (Wenemoser and Reddien, 2010). Neoblast mitosis is necessary to complete regeneration (Wenemoser and Reddien, 2010).

When a planarian has been wounded, whether it is by the prick of a needle, or gross tissue loss, the initial step of the wound response is the activation of latent transcription factors (Wenemoser, 2011). Data suggests that the wound response cascade



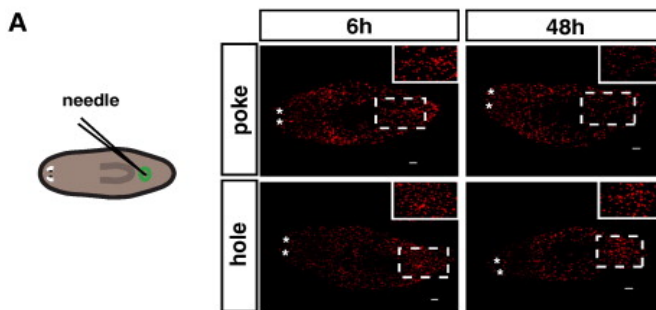
in planaria involves *MAPKKK1*, *SOS*, *c-fos*, and serum response factor (SRF) transcription factors as an immediate response mechanism after injury has occurred (Wenemoser, 2011). The activation of these transcription factors signifies the start of the first main stage of wound response. The initial phase of wound response is classified as the response of immediate early genes (Wenemoser, 2011). The genes expressed within the first 30 min. of wounding are classified as the immediate early group of genes (Wenemoser, 2011). The first mitotic phase is involved in a body-wide response, while the second mitotic phase is involved in a more localized response near the wound site (Wenemoser and Reddien, 2010). RNAi was used to study which genes were involved in the immediate early group of genes (Sen, 2006). RNAi is a post-transcriptional silencing process that requires the short interfering molecules (siRNA) to bind in a complementary fashion to the RNA-induced silencing complex (RISC) (Thermo, 2016). When associated with the RISC complex, the mRNA is identifiable and capable of cleaving the corresponding mRNA at a particular location (Thermo, 2016). Once the mRNA has been cleaved, it can possibly result in protein expression (Thermo, 2016). A downfall of this silencing process is that the gene can be silenced for only a brief period of time unless the organism is unable to survive (Thermo, 2016). Therefore, the silencing mechanism of RNAi methodically shuts down specific genes of interest in the cell to identify the components that are necessary for regeneration in planaria (Sen, 2006). RNAi screening was performed on a group of planaria to test the effectiveness of five genes: *c-fos*, *CREB1*, *jun*, *MAPKKK1*, and *PP1*, which were suspected as immediate early genes (Wenemoser, 2011). *c-fos* and *MAPKKK1* exhibited the strongest effects of wound-induced expression (Wenemoser, 2011). The genes: *jun*, *egr1*, *egr1b*, *CREB1*, *TRAF*, *PP1*, and *pim-3* were also identified as part of the first wave of genes that respond to the wounding of the planaria (Wenemoser, 2011). These early wave genes were classified as translation-independent and were heavily involved in cell-signaling (Wenemoser, 2011). After performing careful studies, immediate early genes were determined to be critical in wound-induced expression of the late wound inducing cells (Wenemoser, 2011).

Genes that respond 6-12 hrs. after wounding are classified as members of the transition stage (Wenemoser, 2011). This stage takes place prior to the second mitotic phase in planarian regeneration (Wenemoser, 2011). The genes involved in the wound response 6-12 hrs. after the injury are associated with cell-cell communication and matrix remodeling (Wenemoser, 2011). These genes include *delta*, *plaminogen*, *TFPI*, *borderline 1*, *con Williebrand-1*, and *ADAM20* (Wenemoser, 2011). After the first mitotic phase has been completed, there is a second wave of genes that is induced

approximately 48 hrs. after the injury referred to as the localized response (Wenemoser et al., 2012).

#### Tissue Loss and Differentiation During the Second Mitotic Phase

The second mitotic phase is dependent on a gross loss of tissue (Wenemoser et al., 2012). To test this hypothesis, scientists injured a planarian using two types of methods. The first method constituted a non-loss of tissue, while the second type of injury resulted in the disfigurement of the planaria (Wenemoser and Reddien, 2010). A mitotic response was only exhibited in the planarian that experienced gross tissue loss (Figure 1). These results signified that the second mitotic phase is only initiated if a planarian has undergone a disfigurement of body tissue (Wenemoser and Reddien, 2010).



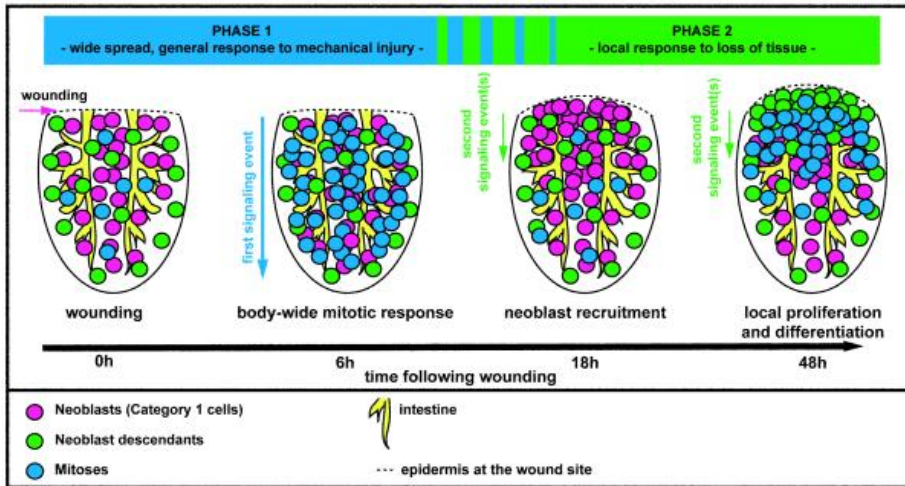
**Figure 1:** Confocal microscopy demonstrated that an injury involving a poke in the planarian body lacked an accumulation of neoblasts 48 hours after a poke, therefore not inducing a second mitotic response. When the planarian body was disfigured by a hole, resulting in a gross loss of tissue, there was a proliferation of neoblast cells, indicating a second mitotic wound response (Wenemoser and Reddien, 2010).

During the second mitotic peak, neoblasts differentiate to form new tissue at the site where there has been a loss of tissue due to injury (Wenemoser and Reddien, 2010). Irradiation techniques were exploited to determine if cell cycling cells or differentiated cells were present 48 hours after a planarian was injured (Wenemoser and Reddien, 2010). Cell-cycling cells were labeled as *smedi-1+/SMEDWI-1+*, while differentiated cells were labeled as *smedwi1-/SMEDW1+* (Wenemoser and Reddien, 2010). The results indicated that the *smed-1+/SMED-1+* cells were killed by irradiation (Wenemoser and

Reddien, 2010). The loss of *smcd-1*/*SMED-1*+ cells due to irradiation indicates that entire population of *SMEDW-1*+ cells must have been contained within neoblasts (Wenemoser and Reddien, 2010). Only a presence of *smcdwi-1*/*SMEDWI-1*+ labeled cells (differentiated cells) was observed when the irradiation techniques were performed on planaria that were being studied 48 hrs. after wounding. Therefore, the presence of differentiated cells 48 hrs. post-injury acts as a hallmark indication of wound repair in response to tissue loss (Wenemoser and Reddien, 2010).

#### The Presence of Patterning Genes During Second Mitotic Phase

Many genes identified during the second mitotic phase are associated with the formation of patterns within the planarian body during the regeneration phase (Wenemoser, 2011). The following genes have been identified as homologs of patterning factors: *wnt-P*, *nlg1*, *inhibin*, *wntless*, *dally-like*, and *follistatin* (Wenemoser, 2011). RNAi was performed again to identify the genes associated with patterning in the second mitotic phase (Wenemoser, 2011). Planaria containing the genes *unc22*, *follistatin*, and *dally-like* were chosen to undergo the RNAi procedure (Wenemoser, 2011). The wild type of these genes was used as a control (Wenemoser, 2011). The results revealed the implications of altering the pattern regulating genes *unc22*, *follistatin*, and *dally-like* genes. *Follistatin* RNAi prevented the formation of a blastema (Wenemoser, 2011). RNAi performed on the *dally-like* genes resulted in a planarian that expressed a split blastema (Wenemoser, 2011). The RNAi technique manipulated the pattern forming genes to demonstrate the significance of these genes in the remodeling of the planarian body post injury. Mutation in patterning genes such as *wnt-P*, *nlg1*, *inhibin*, *wntless*, *dally-like*, and *follistatin*, would still result in the accumulation of neoblasts at the wound site, however there would be a lack of proper alignment of cells, resulting in the planarian being incapable of regenerating a proper functioning planarian body (Wenemoser, 2011).



**Figure 2:** This image is brief overview of the two distinct mitotic phases that planaria undergo in response to tissue loss. The first mitotic phase is a body-wide response that utilizes transcription factors as a response to injury. The second phase involves a localized response that recruits neoblast cells to the wound site. Genes in the second mitotic phase are involved in patterning and differentiation (Wenemoser et al., 2012).

### Reepithelialization in Humans

The scope of this research involves studying planarian regeneration because they serve as model organisms for the study of regeneration in other organisms, such as humans. The regeneration model for human skin in response to wounding has been identified, and it parallels the planarian method of regeneration in a few aspects.

In humans, the process that is responsible for restoring function after injury is referred to as re-epithelialization. Wound response is divided into different phases similar to the way that planarian regeneration is divided into two mitotic phases. The initial step in the four stage wound response process is coagulation and hemostasis, followed by inflammation which occurs quickly after wounding, proliferation that begins within the few days following the injury, and finally maturation/wound remodeling (Velnar et al., 2009).

Bleeding can result at the site of injury. As result, blood flow must be stopped at the site of injury, but must be maintained within the rest of the body. To stop the flow of blood at the site of injury, the formation of a hemostatic plug must occur (Gale, 2011). A hemostatic plug is made up of fibrin and platelets (Gale, 2011). The activation of platelets

and fibrins occurs immediately after injury (Gale, 2011). The platelets must stay localized near the wound, whereas in planarian regeneration the immediate response to an injury constitutes a body-wide response (Gale, 2011). The formation of a blood clot does however, resemble the accumulation of neoblast cells. Similar to neoblast cells, platelet cells accumulate and adhere to the surface near the site of injury during hemostasis.

There are two components of hemostasis. The first mechanism of hemostasis involves the accumulation of platelet cells at the site of injury (Gale, 2011). Platelets change their shape, release the granule contents, and adhere to other platelets resulting in clumping (Ghoshal et al., 2014). The adherence of platelet cells to one another decreases blood loss (Gale, 2011). The secondary mechanism of hemostasis is the incorporation of fibrin into and around the platelet plug (Gale, 2011). Both the primary and secondary mechanisms involved in hemostasis occur simultaneously (Gale, 2011).

Once hemostasis has taken place, the inflammation stage is initiated. The inflammation stage is responsible for removing debris and bacterial contamination, as well as recruiting fibroblasts (Menke et al., 2007). Leukocytes, which are commonly referred to as white blood cells, are also recruited to the site of injury (Muller, 2013). Recruiting the leukocytes, more specifically the neutrophils, from the blood to the site of injury is referred to as extravasation (Muller, 2013). Neutrophils move to the site of injury using chemotaxis and clean up the wound of debris using phagocytosis (Muller, 2013). Fibroblasts are also involved in inflammation (Hannink, 2009). These are cells in connective tissue that form the structural foundation for animal tissue. Fibroblasts require platelet derived growth factor to perform cell division (Hannink, 2009). Platelet derived growth factors (PDGFs) promote cell growth and division (PlateletRich, 2004). The receptor of PDGF, PDGFR, is a receptor tyrosine kinase (PlateletRich, 2004). *MET* is also a receptor tyrosine kinase that activates a litany of signals, which promote cell division and survival. Human wound response relies on receptor tyrosine kinases such as PDGF's and even *MET* itself, therefore identifying a receptor tyrosine kinase such as *MET* in planaria would allow for planaria to act as a model of organism for the study of regeneration in other organisms.

Following the hemostasis and inflammation phases, new tissue begins to grow in the proliferation stage. Keratinocytes direct this portion of the wound healing process (Pastar, 2014). Keratinocytes are cells that produce keratin and they are critical in the re-epithelialization process (Pastar, 2014). These cells make up the stratified layers of epithelium and are also responsible for creating the barrier that protects the body from the surrounding environment (Pastar, 2014). These cells are also capable of maintaining the

epithelium because they are able to shift from a proliferative state that can be found within the basal layer to a differentiated state, which involves the migration of keratinocytes from the granular layer to the cornified layer that is made of dead cells (Pastar, 2014). The migration towards the stratum corneum requires the reorganization of the cytoskeleton (Chmielowiec et al., 2007). In humans the keratinocytes resemble the behavior of neoblast cells because they are capable of differentiating into the corneum, similar to how neoblasts are able to differentiate into either intestinal, neuronal, or other post mitotic cell types (Wagner et al., 2011).

Once proliferation has taken place, the cell begins to regulate the amount of collagen presence and remodel the collagen so that the area of injury becomes stronger and increases in vascularity as well as cellularity (Greenhalgh, 1998). This process of strengthening the area around the wound is referred to as maturation. Cells that are no longer needed at the wound site are also removed using apoptosis, which is programmed cell death (Greenhalgh, 1998).

#### The Presence of *MET* in Human and Mouse Reepithelialization

Receptor tyrosine kinases, such as PGFR's, have been studied in the inflammation stage of wound response in humans, however *MET* in particular, which is also a receptor tyrosine kinase, has had a strong association with human regeneration, such as human liver regeneration, lung, heart, kidney, and has even been identified in skin keratinocytes (Chmielowiec et al., 2007). When bound by a ligand, (*MET* ligand is Hepatocyte Growth Factor) receptor tyrosine kinases phosphorylate tyrosine residues and activate a litany of complex signaling cascades (Chmielowiec et al., 2007). These signaling cascades are involved in cell survival, differentiation, motility, migration, tubulogenesis, motility, adhesion, and cytoskeletal reorganization. As a result, the interest of this research was to identify if *MET* also has a large presence within the cascade belonging to the leaders of regeneration: planaria, since the gene has already been identified multiple times within the human regeneration cascade.

Humans are not the only mammals that have been determined to include *MET* within their genome. The role of *MET* in mouse wound healing was also studied. *MET* was mutated in the epidermis of mice by using a cre-recombinase (Chmielowiec et al., 2007). The mutated mice were compared to a group of controls, as well as mice that were able to escape recombination (Chmielowiec et al., 2007). A full-thickness wound was created in the epidermis and underlying dermis in the mice (Chmielowiec et al., 2007). By doing so, scientists were able to study the expression of *MET* in control cells in

comparison to *MET* mutant cells using in situ hybridization to analyze *MET* and HGF/SF expression between the first and tenth days of injury (Chmielowiec et al., 2007). Prior to the wounding of the mice epidermis, HGF/SF was expressed only in the hair follicles, but after the mice were wounded, HGF was expressed in the dermis near the blood clot (Chmielowiec et al., 2007). Three days after the injury, there was an abundant amount of HGF/SF in the hyperproliferative epithelium, which is epithelium that proliferates quickly and migrates quickly to the wound site (Chmielowiec et al., 2007). Due to the upregulation of its ligand, HGF/SF, *MET* was also found to be upregulated in the epidermis. This study indicated that *MET* is also present in the reepithelialization of another mammal besides a human.

*MET* is a proto-oncogene and has been associated with the progression of many cancers (Organ and Tsao, 2011). In addition to being involved in wound healing, *MET* has also been recognized as a tyrosine kinase receptor that is also specifically involved with embryonic development and organogenesis (Organ and Tsao, 2011).

#### Activation of Transcription Factors in Upstream Signaling of *MET*

Binding of HGF by *MET* results in a litany of molecular signaling cascades to become active. This results in homodimerization of *MET*, as well as the phosphorylation of the tyrosine residues Y1234 and Y1235 (Organ and Tsao, 2011). Once the phosphate group is covalently attached to the Y1234 and Y1235 tyrosine residues, the 1349 and the 1356 tyrosines in the carboxy-terminal tail, also become phosphorylated (Organ and Tsao, 2011). The phosphorylation of the two tyrosines, 1349 and 1356, forms an SH2 recognition motif (Organ and Tsao, 2011). The tyrosine phosphorylation prompts signaling of the adaptor proteins that include Growth factor receptor-bound protein 2 (GRB2), Src homology-2-containing (SHC), v-crk sarcoma virus CT10 oncogene homolog (CRK), and CRK-like (Organ and Tsao, 2011). The effector molecules that are recruited when the tyrosines 1349 and 1356 are phosphorylated include: phosphatidylinositol 3-kinase (PI3K), phospholipase C (PLC $\phi$ ) and v-src sarcoma viral oncogene homolog (SRC), Src homology domain-containing 5' inositol phosphatase (SHIP-2), and the transcription factor signal transducer (STAT-3) (Organ and Tsao, 2011). The binding of Y1313 residue to *MET* activates PI3K, resulting in cell motility and viability, while phosphorylation of Y1365 tyrosine residue by *MET* regulates cell morphogenesis (Organ and Tsao, 2011).

*MET* also forms an association with GRB-associated binding protein 1 (GAB1) (Organ and Tsao, 2011). GAB1 has two binding mechanisms that promote the formation

of downstream receptors (Organ and Tsao, 2011). GAB1 can directly bind to *MET* or indirectly, through the adaptor protein GRB2 (Organ and Tsao, 2011).

#### Co-receptors Upstream of the *MET* Receptor

Co-receptors physically bind with *MET* at the cell surface. In doing so, these receptors increase the specificity of the *MET* pathway. *MET* associates physically with the receptors resulting in the inputs from the co-receptors being translated to biological outputs. The types of biological outputs produced when *MET* associates with co-receptors include actin cytoskeleton reorganization or the enhancement of receptors such as PI3K, RAS, and SRC activators (Organ and Tsao, 2011). PI3K controls cell scattering, cell survival, motility, tubulogenesis, and cell growth. The RAS co-receptor initiates a cascade that culminates in cell proliferation, migration, differentiation, and survival. A v6 splice variant of the receptor, CD44, uses the adaptor protein, GBR2, to link *MET* signaling to the actin cytoskeleton (Organ and Tsao, 2011). In addition, Intracellular adhesion molecule 1 (ICAM-1) has been capable of substituting CD44v6, as a co-receptor for *MET* (Organ and Tsao, 2011). CD4456 knockout in mice demonstrated the ability of the newly substituted ICAM-1 co-receptor, to activate a signaling pathway involved in cell regulation (Organ and Tsao, 2011).

#### Mitogen Activated Protein Kinase Regulates Downstream Signaling of *MET*

Mitogen activated protein kinase (MAPK) activation is essential to the downstream signaling events in the *MET* cascade (Organ and Tsao, 2011). MAPK elicits transcription and translocates to the nucleus where it activates numerous transcription factors (Organ and Tsao, 2011). Activation of MAPK warrants cell proliferation, cell motility, cell polarity, cell differentiation, and cell migration. Activation of MAPK takes place when the rat sarcoma viral oncogene homolog (RAS) is activated causing proto-oncogene serine/threonine protein kinase (Raf1) to turn on. Raf1 triggers the activation of mitogen activated protein kinase (MEK1/2), which in turn activates extracellular signal related kinases (ERK1/2). Finally, ERK1/2 turns on MAPK, which results in cell proliferation, migration, survival, and differentiation. When Src homology 2 domain-containing phosphatase-2 (SHP2) is sequestered to Grb-associated binding protein 1 (GAB1), MAPK phosphorylation is extended, in turn prolonging cell proliferation, cell motility, and cell cycle progression (Organ and Tsao, 2011).



### PI3K /Akt Signaling Axis Controls Cell Survival Response

A very important signaling cascade that is activated when HGF binds to *MET* is the Phosphoinositide 3-Kinase/ Protein Kinase B (PI3/Akt) signaling axis. The p85 subunit of PI3K can utilize either the binding of GAB1 or signals triggered by the binding of HGF to the *MET* receptor, to signal through protein kinase B (Akt) (Organ and Tsao, 2011). The activation of Akt results in the activation of the heat shock protein 70 (HSP70) and the mammalian target of rapamycin (mTor). The activation of these two downstream targets results in cell survival, tubulogenesis, motility, and scattering. Activation of Akt can also turn on a different pathway in which serine/ threonine protein kinase 1 (PAK1) becomes active and results in anoikis, which is a form of programmed cell death. Lastly, Akt activation can also prompt another pathway to have an influence on cell survival. Akt also has the ability to prompt the cAMP response element binding protein (CREB) to promote gene expression. The Akt signaling cascade is critical to cell growth because serine/threonine kinase Akt is a proto-oncogene. If not regulated properly, this pathway has been seen to result in implications with cancer, diabetes, neurological disease, and cardiovascular disease.

### Cellular Migration Mediated by Focal Adhesion Kinase

The Src family of protein kinases are involved in regulating signal transduction from surface receptors (Organ and Tsao, 2011). The Src family of kinases works directly with *MET* and phosphorylates Focal Adhesion Kinase (FAK) (Organ and Tsao, 2011). Focal adhesions are the sites where proteoglycan and integrin are bound to the actin cytoskeleton (Wozniak et al., 2004). Many protein interactions, such as tyrosine phosphorylation, take place at focal adhesions (Wozniak et al., 2004). The protein FAK, is recruited to focal adhesions, where it is phosphorylated creating a docking site for SH2-containing proteins to bind and further direct subsequent kinases that control cellular behavior (Organ and Tsao, 2011). The association between c-*MET*-SRC-FAK promotes anchorage independent growth and can result in a positive feedback mechanism that activates *MET* (Organ and Tsao, 2011).

### Negative Regulation of *MET*: A Pathway for Therapeutic Cancer Studies

There have been a number of reported tumors that have been identified as having an amplified *MET* gene that results in protein overexpression and constant kinase activation (Organ and Tsao, 2011). Consequently, negative regulation of the *MET* receptor is imperative in the body. Without a negatively regulated *MET* receptor, cell

proliferation cannot be properly regulated and can result in accumulation of cells, which can result in tumor formation. Irregularities in *MET* activity can also upregulate transcription as a product of protein overexpression and form tumors in the body (Organ and Tsao, 2011).

Negative regulation can occur through a multitude of signaling steps. Y1003, a negative regulatory site for *MET* signaling, recruits c-CBL (Organ and Tsao, 2011). Another mechanism in negative regulation involves the binding of *MET* to various protein phosphatases (PTP) (Organ and Tsao, 2011). Unlike phosphorylation that involves the addition of a phosphate group to activate a protein, a protein phosphatase is an enzyme that removes the phosphate group from the amino acid that has been phosphorylated, deactivating the amino acid (Organ and Tsao, 2011). In *MET* signaling, the PTP's either dephosphorylate the tyrosine in the *MET* kinase domain or the docking tyrosines, so that the proteins it has bound to are no longer active (Organ and Tsao, 2011). Once the PTP's have inactivated the tyrosines or the docking stations, phospholipase C (PLC $\phi$ ) binds to the *MET* receptor to activate protein kinase C (PKC), which is required to negatively regulate the *MET* receptor phosphorylation and activity (Organ and Tsao, 2011). Since *MET* is a proto-oncogene, it is critical that negative regulation occurs in the body so that cell proliferation can be controlled and maintained. Without the negative regulation of protein phosphatases, cellular proliferation would be unmanageable and pose a risk of increased tumor growth.

## **II. Objective**

Injury recovery is common amongst animals, however tissue recovery methods vary from species to species. The focus of this research is to determine if there is sequence homology between the human proto-oncogenic *MET* receptor and genes associated with neoblast recruitment in planaria.

## **III. Materials and Methods**

### Bioinformatics

Prior to performing any laboratory techniques to search for *MET* in planaria, bioinformatics were utilized. Bioinformatics is a field that exploits computer software to understand biological data. BLAST, the Basic Local Alignment Search Tool, was used to look for partial homology between human *MET* and *MET* in the planarian genome.

BLAST is an algorithm that uses a series of steps to analyze and compare that are subjected to comparison. BLAST offers two tools, global and local alignment, to compare sequences between species (McClellan, 2004). The global alignment tool compares entire sequences of DNA (McClellan, 2004). The local method studies only parts of a DNA sequence and compares them to a subset of another DNA sequence (McClellan, 2004). Since the human *MET* gene is very large, local alignment techniques were employed to search for partial homology between the human *MET* gene and the planarian genome. Even though the planarian genome and the human genome are very different, the local alignment tool is successful in studying the genomes of the two species because they are related by descent. The *Schmidtea mediterranea* Genome Database (SmedGD) was used specifically when searching for homology between human *MET* and *MET* in planaria. The species being used in this experiment, *Girardia Dorocephala*, does not have a sequenced genome, therefore the *S. mediterranea* genome was used during the BLAST search.

To perform a BLAST analysis on the human *MET* gene, the *Schmidtea mediterranea* Genome Database was accessed on the Internet. The human *MET* sequence was first pasted into the text box. "Program" was then selected, which displayed a drop down menu in which the command "blastn" was selected. For the "Database (Db)," the "SmedSvl\_genome\_v31.nt" command was selected. The "E-value" was chosen as "1e-3." Finally, for the "Format," the command "table" was selected. Then, "Run Blast" was clicked.

When BLAST is running, the software is performing a multitude of algorithms and to analyze and compare these queries BLAST encounters, BLAST performs a multitude of steps (McClellan, 2004). When using the local alignment tool, BLAST first breaks the query that has been selected into short words (McClellan, 2004). A sliding window is created and requires the selection of one amino acid from the beginning of the sequence. After the first amino acid has been established, the window moves one character over and selects another three amino acid character to create a list of words (McClellan, 2004). The words are then compared to the genome of *Schmidtea mediterranea* (McClellan, 2004).

Once the sequence of words is compared to the sequence in SmedGD, a T-value of 18 is used as a seed to extend the alignment of the sequence (McClellan, 2004). The T-value scores are calculated using a scoring matrix and the extension of the sequence is stopped once the alignment value has decreased (McClellan, 2004). An Expect Value (e) is also calculated from each alignment (McClellan, 2004). The e-value is significant when analyzing the BLAST results because it represents the probability of achieving a score of

this value when using a sequence of this length against a database of this size (McClean, 2004). The lower the  $e$ -value, the more significant the alignment is at a specific probability level (McClean, 2004).

A bit score is another important value calculated from the BLAST search results (McClean, 2004). A score is simply a number used to assess the relevance of a finding, while the bit score is simply the log-scaled version of the score (McClean, 2004). The bit score is used to estimate the magnitude of the search space that must have been looked through to find a score as good or better than the current score, found by chance (McClean, 2004). For instance, if the bit-score was 25, a score of  $2^{25}$  would have to be attained to find a score that is as good or better than the current score, but by chance (McClean, 2004). In this experiment, the bit-score, the  $e$  value, and the percent identity, which is the percent homologous the sequences were, are used to analyze the BLAST search on human *MET* in *Schmidtea mediterranea*.

#### Maintenance and Homogenization of Planaria

The fresh water brown planaria were supplied by Carolina Biological Sciences (*Girarida dorotocephala*). The planaria were kept in a beaker filled with spring water, which was stored in a dark box to prevent contact with outside light. The planaria were fed 0.5 grams of boiled egg yolk after being first received from Carolina. Once fed, the planaria were starved for one week. After starvation, the planaria were cultivated and prepared for DNA extraction.

The planaria were initially pipetted out of the beaker containing spring water into a weighing boat. They were allowed to dry for 5 min. The mass of the planaria was then recorded to determine the amount of buffer that was going to be utilized for homogenization. 300  $\mu$ L of extraction buffer, at a temperature of 4°C containing 100  $\mu$ M Tris HCl Lysis buffer with a pH of 7.3, supplemented with 100  $\mu$ M of EDTA/ 0.1% SDS, was prepared. The samples were then homogenized for 15 min. using a glass homogenizer with 100  $\mu$ L of the extraction buffer. To ensure that no DNA was left on the glass homogenizer or on the sides of glass tube, the homogenizer was rinsed using 200  $\mu$ L of the homogenizing buffer. The sample was then incubated for 1 hr. in a warm water bath at 65°C. After incubation was performed, the DNA sample was centrifuged at 16,000 RPM for 15 min. Once the mixture gathered at the bottom of the tube, the supernatant was decanted by pipetting.

100  $\mu$ L of 95% cold ethanol was added to the test tube to alter the density of the sample and precipitate the DNA out of the solution. After precipitation was observed, the sample was placed into the freezer overnight.

The next day, the precipitate was removed from the test tube and placed into a separate test tube for re-suspension. The precipitate was then re-suspended in 100  $\mu$ L of nuclease free water. After the DNA was re-suspended, the Nanodrop 2000 UV-Vis Spectrophotometer was used to quantify the amount of DNA that had been successfully extracted from the planaria. After quantifying the DNA sample using the Nanodrop, the sample was stored in the freezer overnight.

The sample was removed from the freezer the next day and centrifuged for 15 min. The supernatant was again removed, and the test tube, containing the sample, was placed in the fume hood to evaporate any remaining solution that was not associated with the sample. After 5 min., 100  $\mu$ L of nuclease free water was added to the extracted DNA.

### Polymerase Chain Reaction

The PCR technique was performed to amplify sequences of interest. Human *MET* oligoprimers were used in the PCR technique. Oligoprimers are polymers made of 2 to 10 nucleotides that start as a starting point for DNA synthesis (VWR, 2015). DNA polymerases can only add nucleotides to an existing sequence of DNA, which in this experiment was the human *MET* sequence. The two oligoprimers were purchased from Integrated DNA Technologies (IDT). Using the IDT primer design tool, a forward and reverse primer was created. The forward primer sequence was: 5'- GGG AGA CAA ACA GAC AGG ATT AG -3.' The reverse sequence created was 5'- GAC TGG GCA GAA GCA TAA GTA -3.'

Proper primers are critical to a good PCR. The annealing step depends on the primers to anneal to the proper DNA sequences (Innis, 2012). It is the primers that direct where the Taq polymerase binds to and which portion of the DNA sequence that the DNA polymerase elongates (Innis, 2012). A proper melting temperature of 55°C and 65°C is required for each primer (Innis, 2012). The primer that was created using the IDT tool had to lack dimerization, lack an absence of hairpin formation, and contain a low 3' priming end (Innis, 2012). During the denaturation step, a primer with a melting temperature below 65°C-70°C could result in a noisy sequence. When designing the primer, it was also important that the 5' primer end of the primer was stickier than the 3' end (Innis, 2012).

To prepare our sample DNA for PCR, 2.52  $\mu\text{L}$  of template DNA was added to pre-made Taq polymerase. 20  $\mu\text{L}$  of nuclease free water was then pipetted into the test tube containing the solid bead of DNA. This solution was pipetted into the forward primer, leaving the solid bead. The contents of the forward primer tube were then suspended in the reverse primer tube. Finally, the combined contents of the forward and reverse primer were pipetted into the test tube so that the DNA was suspended in both the forward and reverse primers. Once the suspension of the DNA into the forward and reverse primer was completed, the tube was inserted into the thermocycler, a DNA amplifier machine, for approximately three hours during which the three steps of PCR were performed. Once the DNA was amplified it was ready to undergo gel electrophoresis.

The PCR technique consisted of three steps. In the first step, which is referred to as denaturation, the reaction was heated to 95°C to allow the DNA strand to unwind from a tightly coiled state and denature the double-stranded helix (Innis, 2012). Annealing was the next step in PCR, and it involved the cooling of the reaction to 50°C so that the primers could bind to the sequences that were being amplified in the DNA template (Innis, 2012). In the final step of PCR, the reaction underwent elongation, which occurred at 72°C (Innis, 2012). During the elongation portion of PCR, the pre-made Taq polymerase polymerized the nucleotides from the 3' end of the primer to form a new daughter strand (Innis, 2012). This entire cycle was then repeated approximately 25-50 times so that there was an increased concentration of the double stranded DNA template created, which contained the *MET* sequences (Innis, 2012).

### Gel Electrophoresis

Gel Electrophoresis was used as a preparatory technique, prior to the use of Southern blotting, to identify if the *MET* gene was present within the planaria genome. Electricity, provided by immersed electrodes, moved charged molecules through the agarose gel that was cast (Hames,1998). The gel was used as filtering mechanism as the electricity was used to move the charged particles across the gel. An agarose gel was utilized because the DNA fragments ranged between 50 and millions of base pairs.

A 1.0% concentration of agarose was required to construct the gel. 0.5 grams of agarose powder were combined with 50 mL of electrophoresis buffer in an Erlenmeyer flask. The solution was microwaved for 50 sec. until the solution was transparent and boiling. Once the solution was prepared, it was poured into the casting tray. A comb was

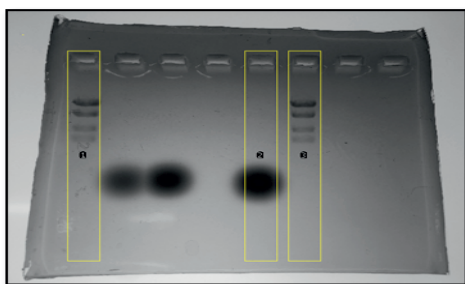
placed into the gel and left to polymerize for approximately 25 min. After the gel was created, it was suspended in the electrophoresis chamber and buffer was added.

20  $\mu$ L of sample was added to each well. 10  $\mu$ L of molecular weight size marker was added to the outermost well. The amplicons were electrophoresed at 100V for one hour. After one hour, the gel was stained in Fast Blast DNA Stain for 24 hrs. prior to visualization in the light box. Since the DNA was not transferred onto a membrane and then onto a piece of paper, the initial portion of the Southern Blot had only been completed. ImageJ was used to quantify the results of the Southern Blot.

### Quantifying blots using ImageJ

ImageJ software was used to analyze the bands from the southern blot. ImageJ is capable of performing desitometric imaging on the intensity of bands from different types of, such as Western and Southern blots (Miller, 2010). To prepare the blot for desitometric analysis the first step included opening the image in the program and changing the image to gray scale. To do this the command needed was “Image>Type>8-bit” (Miller, 2010).

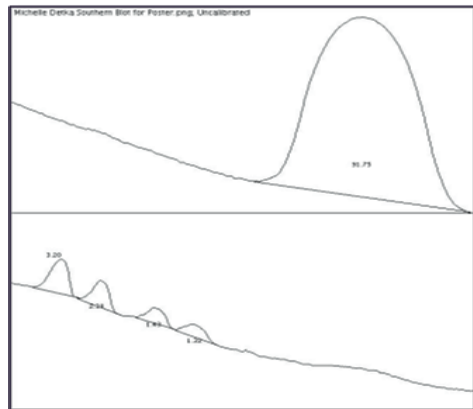
Once the blot was changed to gray-scale, the rectangular selection tool was used to draw a vertical rectangle that was narrow and tall around each lane (Figure3). After the first rectangle was drawn over the first lane the command “Analyze>Gels>Select First Lane” was used to set the rectangle in place (Miller, 2010). The next rectangle was formed by holding the middle of the rectangle in the first lane and dragging it over so that it is selected around the next lane over that had the ladder in it (Miller, 2010). Then the command “Analyze>Gels>Select Next Lane” was selected.



**Figure 3:** Pictured is the gray-scaled version of the blot as well as the commands, “Analyze>Gels>SelectFirstLane” and “Analyze>Gels>Select Next Lane” commands. The fifth and sixth lanes were selected by pressing the middle of the first rectangle created and dragging them over.

After the rectangles were created around the lanes, the command “*Analyze>Gels>Plot Lanes*” was selected to draw a profile plot of each lane (Miller, 2010). The profile plot presented the density of the contents that were represented by each lane in the Southern blot. Higher peaks represented darker bands that covered a larger area on the gel (Miller, 2010).

When the density plots were created, the background noise was eliminated from the blot. To do this the “Straight Line” tool was chosen and a line was drawn at the base of each peak enclosing the area within the peaks (Figure 4). The line was drawn at the base of the peak, where it began and where it ended (Miller, 2010). Once this was done to each peak that was determined as valuable for analysis, the “Wand” tool was used to select inside each peak that had been enclosed (Miller, 2010). Measurements would appear in a table as each peak appeared, as well as within the peak (Figure 4). These measurements would include the area of each peak, while the percent area of each peak occupied relative to the other peaks, and the relative density of the peak could be calculated (Miller, 2010).



**Figure 4:** This figure is an example of how the density plot of each analyzed peak should look after the “Straight Line” command has been used to close off each peak. The numerical values within each peak are representative of the area of the peak.



## **IV. Results**

### **BLAST Search of *MET***

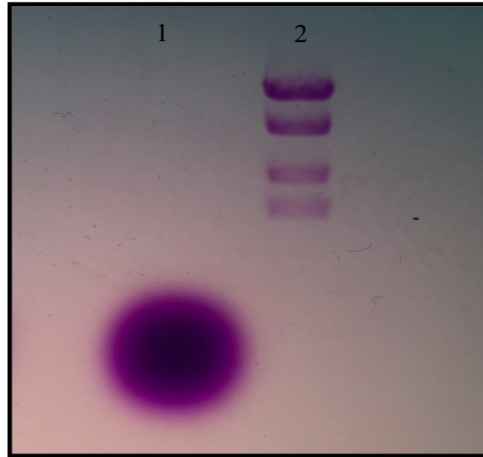
The human *MET* sequence inserted into the BLAST search within the *Schmidtea mediterranea* Genome Database is featured in the appendix portion of this paper due to the extent the sequence. The first third of the sequence was used in the analysis of homology between human and planaria *MET*. The BLAST search performed on human *MET* within the *Schmidtea mediterranea* genome produced results that analyzed the sequence homology between human *MET* and *MET* found in planaria (Figure 5).

**Table 1:** *MET* Homology Analysis

Query ID	% Identity	E-value	Bit score
Chromosome: GRCh38:7:116671790:116798986:1	91.9	3.05E-05	68.38

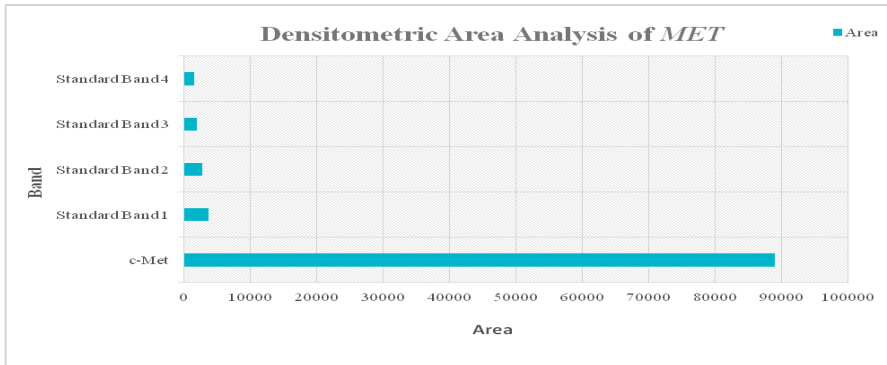
**Table 1:** This table presents the average values in respect to each category that BLAST used to analyze the sequence homology of *MET* between humans and planaria. The lower the *e* value, the more likely the homologous sequences and that it is unlikely that random chance lead to the current alignment of bases. 3.05E-05 is a very small average *e*- value, indicating that the sequences are homologous, but not by random chance. The bit score is 68.38, therefore it would require  $2^{68}$  independent segment pairs, to find this score by chance. The average percent identity was greater than 90%, indicating a strong homology between the first third of human *MET* and planarian *MET*.

Electrophoresed amplicons of *Girarida dorocephala*



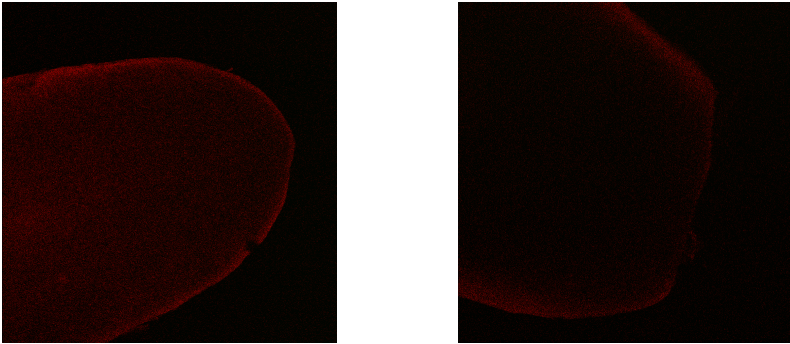
**Figure 5:** Positive immuno-reactivity was observed in lane 1 of the southern blot. The results of this experiment suggest that *MET* or a *MET* ortholog is present in the genome of planaria.

Densitometric Analysis of *MET* using ImageJ Gel Analysis Software



**Figure 6:** ImageJ software was used to quantify the *MET* ortholog identified in the southern blot. From the gel image, ImageJ formed two histograms. When using Image J the image was first changed to gray scale. This allowed for the program to compare the white, gray, and black colors. Black indicated no signal in a lane, white indicated a presence of signal in the lane. Comparing color intensity in the gray scale version of the blot, the relative area of each peak could be calculated and is pictured above in a graphical representation.

Confocal micrographs of *Girarida dorocephala*



**Figure 7:** This figure illustrates a subtle, though not completely obvious change in fluorescence intensity between primary antibody omission (left) and complete immunohistochemical reaction (right). These images were gathered in an experiment performed previously. The *MET* protein seems to be present in the confocal microscopy performed in the previous experiment, which is the reason that the search for the *MET* gene was initiated as the next step in providing additional support of *MET* existence in planaria.

Western blot analysis of *G. dorocephala* lysate



**Figure 8:** Positive immuno-reactivity is observed in three separate homogenate populations (lanes 1,2 & 3) resolved by the same gel. The results of this experiment suggested the existence of *MET*, or a molecularly similar protein expressed by this species of planaria. This western blot gave rise to the search for the *MET* gene to provide further evidence of *MET* presence in planaria.

## **V. Discussion**

### **Interpretation of BLAST Homology Search**

*A sizeable amount of homology was discovered in the BLAST search (Appendix) that was performed by inserting human MET into the Schmidtea mediterranea Genome Database, which was a very closely related species to the Girarida dorotocephala. MET had a very large average percent identity, approximately 91%, which indicated strong homology between the human MET gene and the genome of S. mediterranea. The average e value was a miniscule number of 3.05E-5. Such a low e-value is a strong indicator that the sequence used was homologous to the sequence to which it was aligned to in the database (Smed). The bit score of 68 represented the value of 2<sup>68</sup>, which is the size of the gene that we entered into BLAST search within the SmedGD. A high percent identity, a very low e value, and a high bit score was indicative of MET or a MET ortholog presence.*

### **Interpretation of Southern blot Electrophoresis**

Figure 5 illustrates the presence of a *MET* amplicon in the initial step of the Southern blot created. A large band is visualized in first lane of the blot where *MET* was loaded. The second lane was loaded with a ladder that ranged in molecular weights starting at 1200, 800, 600, and 400 base pairs (bp) respectively. *MET* had a molecular weight of approximately 100 kilo-base pairs. All of the densitometry studies indicate a strong presence of *MET* within the blot. A western blot that was performed in previous research demonstrated positive immune-reactivity for the *MET* protein. Confocal microscopy shows fluorescence when an immuno-histochemical reaction occurs during the binding of a primary *MET* antibody to the secondary *MET* antibody that has a fluorescence marker attached to it. The confocal microscopy presents additional support for the presence of *MET* or a *MET* ortholog within the planarian genome. Figures 7 and 8 motivated us to continue research that would provide further evidence of *MET* presence. As a result, the investigation of the *MET* gene presence in planaria was borne of previous studies that discovered *MET* protein presence in planaria. In silico inquiries, presence of bands in both Western and Southern blots, and confocal microscopy evidence, lead us to conclude that there is a *MET* variant present in the planarian genome.

### Future Experiments

The first avenue of future research would incorporate the completion of the Southern blot that was performed in this research. The entire experiment would be performed again, but in future research the *MET* DNA fragments from the agarose gel would be transferred onto a membrane. Then the membrane would be imprinted with DNA bands and a labeled hybridization probe would be applied to the membrane (Brown, 2001). Complementary probes would anneal to the DNA on the membrane allowing for *MET* to be visualized. If a probe labeled with a fluorescent marker were used, the fluorescence of the bands would support the presence of *MET* in planaria.

Another possible avenue of research would involve probing with a specific complementary sequence and using RNAi to knock down *MET*. Once knock down had been completed, the planarian could be observed for the effects of *MET* inhibition using *in-situ visualization*. Studying the results of *MET* inhibition due to RNAi techniques could possibly provide data about when *MET* is being specifically expressed in planarian regeneration. Information about the types of genes associated with each mitotic phase has already been presented; therefore a hypothesis could be drawn for future research that predicts the presence of *MET* in the first mitotic phase. Genes expressed during the initial phase of wound response are involved in cell-cell signaling, which resembles the behavior of *MET* in the human genome, while the genes in the second mitotic phase are associated in patterning. Inhibiting *MET* and using *in-situ visualization* to observe which mitotic phases are implicated could produce possible evidence of when *MET* is present in the regeneration cascade of planaria.

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#### Appendix A: Human *MET* Gene Inserted into BLAST Search

Below is the human *MET* gene that was inserted into the BLAST search performed on the *Schmidtea mediterranea* Genome Database. The highlighted portions represent the exons within the sequence. Due to its large size, only the first third of the human *MET* sequence was inserted into the BLAST search.

#### **Human *MET* sequence:**

```
>chromosome:GRCh38:7:116671790:116798986:1
TAGCGGAGACGTGGGAGAGGCCGAGAGCAAAGCTCGCGCCCTTCCGGGGTTCAGCGAGCG
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```



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# **Section III: The Social Sciences**



# **Reaping the Benefits of Racial and Ethnic Diversity: The Competitive Advantage for Top Level Management**

Kadijah Singleton (Business Administration)<sup>1</sup>

This research illustrates how corporate America uses its resources to address external and internal challenges by embracing diversity. These activities will be demonstrated through the use of content analysis of current financial reports, non-financial reports, literature review and the exploration of how racial and ethnic diversity in top level management affects financial performance. Top level management refers to both top management teams and boards of directors. A common presumption is that companies in the United States with diverse workforces have a much higher financial performance and a competitive advantage over companies that lack diversity. The thesis will explore why this presumption is true and how it can be helpful for companies to understand the ways in which they can improve performance through implementing racial and ethnic diverse policies.

## **I. Introduction**

Currently the “University of Missouri is facing an image crisis after days of protests over concerns about the administration's handling of racial issues and subsequent leadership resignations” (Ballentine, 2015). As students experience racial and ethnic tension in their own university, they intended to seek out opportunities to learn how to deal with these problems with the support of the top university officials. There have been numerous reports of racist incidents and perceived lack of response from administration. Consequently, “the president and chancellor of the University of Missouri resigned after weeks of mounting student protests over what they called poor handling of several recent racial incidents, marking the first time in decades students have forced out the head of a major American university” (Belkin & Korn, 2015).

As the school deals with its tarnished reputation, the new focus has turned to communicating what steps are being taken to address student concerns; including the development of diversity training for administrators, faculty, and students and the new

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<sup>1</sup> Written under the direction of Dr. Shani Carter in partial fulfillment of the Senior Program requirements.

administrative position of vice chancellor for inclusion, diversity and equity (Ballentine, 2015). Mr. Wolfe is the latest among college and university presidents who have been forced out by the kaleidoscope of pressures facing leaders in higher education” (Belkin and Korn). This is a clear example of how a lack of diversity can negatively influence business. There is growing trend for the proper implementation of diversity in order to prevent issues similar to this in the future.

Recent 21<sup>st</sup> century research suggests that having racial and ethnic diversity in the workplace utilizes American workers’ skills to their fullest, and contributes to overall growth and prosperity for the United States. The reality of the situation today, however, is that most companies have a long way to go to achieve high levels of diversity and progress remains slow. The theory is that a lack of racial and ethnic diversity hinders a company’s ability to make the appropriate decisions when faced with a changing business environment because the company has inevitable blind spots. A racial and ethnic diverse workplace offers more than just exposure to employees from different cultures and backgrounds, but a greater outlook on life (Mayhew, 2013).

Technological advancement, the growing global economy, and fluctuating markets have resulted in companies’ paying greater attention to racial and ethnic diversity. The advantages of a culturally diverse workforce and creating a cultural understanding in their corporate environment are becoming increasingly important to corporations, this strategic business objective gives the company an advantage over its competitors. As the value of understanding racial and ethnic diversity increases in corporate America, companies are identifying methods to increase employee awareness of diversity (Green, 2011). “As workforce demographics shift and global markets emerge, workplace diversity is significantly closer to becoming a business necessity instead of a banner that companies wave to show their commitment to embracing differences and change. Employees reap tangible and intangible benefits from workplace benefits, not the least of which include respect from co-workers and business gains” (Mayhew, 2013).

#### Race vs. Ethnicity

The categories of diversity include race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies. More specifically, racial and ethnic diversity includes two separate entities. Ethnicity refers to common nationality or shared cultural traditions, while race refers to sets of physical characteristics such as skin color (Green, 2011). “Over time, academic

and popular understandings of racial and ethnic identities have changed dramatically. Prior to the 20<sup>th</sup> century, racial and ethnic groups were perceived as permanent, biological types” (Anderson, 2004).

While race and ethnicity share an ideology of common ancestry, they differ. Ethnicity is defined as a state of belonging to a social group that has a common national or cultural tradition (Diffen, 2015). It can also be construed as a population of human beings whose members identify with each other, on the basis of a real or a presumed common genealogy or ancestry (Riley, 2011). On the other hand, race is defined as a group of people with common physical features (Diffen, 2015). Race presumes shared biological or genetic traits, whether actual or asserted (Riley, 2011).

In many cases today, race is unitary because if a person belongs to one race, that person may claim ethnic membership in multiple different groups (Diffen, 2015). “Racial categories presume a shared genealogy, although this often is not the case. Most races actually share multiple genealogies with significant crossover” (Riley, 2011). A major difference between race and ethnicity is related to the ability to self-identify. A person’s race is assigned by today’s society based upon physical features and traits, and is determined at birth. “However, ethnicity is self-identified. An individual can learn a language, social norms and customs, and assimilate into a culture to belong to an ethnic group” (Diffen, 2015). Overall, ethnicity can be inherited by an individual as a result of her geographic location, religion, morals and values.

#### United States Census Review

Views of racial and ethnic identities have changed over time. “The U.S. Census has classified people into racial groups since its origin in 1790. However, the list of categories and the method of measuring race or ethnicity has changed many times in the intervening decades, as the political and economic forces shaping the collection of racial data have changed” (Anderson, 2004). The list of categories in the Seventh Census of the United States: 1850 were listed as Whites, Free colored, and Slaves (Gauthier, 2002).

Starting in 1997, there were five categories to classify people into racial groups; White, African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander (United States Census Bureau, 2013). For respondents unable to identify with any of these five race categories, individuals were presented with the option to self-identify with more than one race for the first time in Census 2000 and this continued with the 2010 Census (United States Census Bureau, 2013). People who identify with more than one race may choose to provide multiple races in response to the

race question if they deem necessary. Changes in the U.S. Census categories over time reflect changes in the ways in which corporate America will approach their diversity and inclusion strategies.

### Objective

It is important for top level management to understand the importance of racial and ethnic diversity and the benefits it can have in business. Companies in corporate America still have a lot of strategic planning to complete before being able to use diversity as one of their advantages. To address this lack of knowledge, this thesis will show that successfully implementing racial and ethnic diversity strategy can give companies in corporate America an advantage. This advantage will be illustrated by examining cases in which companies have successfully used diversity to respond effectively to the constantly changing environment. The advantage will be demonstrated through the analysis of financial and non – financial reports. The objective is to show that racial and ethnic diversity have a role in company success and to show how companies can use diversity as a competitive advantage.

## **II. Importance of Top Management Teams**

Top management teams have an enormous influence on the success of their entrepreneurial firms. The underlying reasons include that diverse large (i.e., 4–5 members) teams simply have more people with more unique skills to do the intense and multi-faceted work of founding a new firm (Eisenhardt, 2013). Specifically, larger teams, teams with more diversity in age and experience, and teams with a history of working together are much more likely to launch successful entrepreneurial firms with significant growth (Eisenhardt & Schoonhoven, 1990). Teams with members that have extensive industry experience and other teams without industry experience often bring diverse points of view (Eisenhardt, 2013).

There is also a very strong interaction effect between top management teams and markets. That is, entrepreneurial firms with superior teams (i.e., large, diverse age and experience, prior experience together) and in growth markets (i.e., markets that are growing at over 20 percent per year) are likely to perform significantly better than other entrepreneurial firms (Eisenhardt & Schoonhoven, 1990). So, although the effects of top management teams is significant and the effects of markets are significant, the interaction effects between teams markets are stunningly strong.

In contrast, firms either founded by small and homogeneous teams with little experience together or founded in emergent or mature markets perform less well

(Eisenhardt & Schoonhoven, 1990). “Emergent markets are problematic because the timing of their take-off can be very long, and entrepreneurs are challenged by the delays and their own limited resources. Mature markets are better in that entrepreneurial firms can sometimes locate very profitable niches such as military products, but these markets are too stable and often dominated by established incumbents” (Eisenhardt, 2013). Overall, the combination of a superior team in a great market is over-whelming in its likelihood of leading to high performance.

### Demographics

The U.S. workforce is undoubtedly becoming more diverse. As of June 2012 African Americans, Asians, and Hispanics made up 36 percent of the labor force. “Breaking it down by race and ethnicity, approximately 99.9 million (64 percent) in the labor force are non-Hispanic white; 24.6 million (16 percent) are Hispanic; 18.7 million (12 percent) are African American; and 8.2 million (5 percent) are Asian. Approximately 4.8 million people (3 percent) in the labor force do not identify in any of these racial or ethnic categories” (Burns, Barton, & Kerby, 2012). The proportion of African Americans, Hispanic, and Asian people participating in the workforce will only increase as the United States becomes a more racially and ethnically diverse country. Census data indicates that by 2050 there will be no racial or ethnic majority in our country. Further, between 2000 and 2050, new immigrants and their children will account for 83 percent of the growth in the working-age population. In regards to race and gender in the labor force, these communities have more Hispanic men and African-American women (aged 20 and over) are in the labor force than Hispanic women and African-American men. Of Hispanics in the labor force, 58 percent are men, and 42 percent are women. Of African-Americans in the labor force, 53 percent are women, and 47 percent are men (Burns, Barton, & Kerby, 2012).

### Data Analysis

Table 1, which includes data from Dr. Carter’s research outlining the percentage or employment by race, illustrates that employment by race has significantly changed from 1983 to 2013. During the last 40 years, there has been significant growth in the percentage of employees who are African Americans, Hispanic, Asian, and women. “In addition there is a continued shift in the age composition of the labor force due to the aging of the large Baby Boomer generation. The labor force will continue to change significantly in the coming decades” (Carter, 2012).

There is a continuous increase in the number of African Americans, Latino, and Asian employees. “Specifically, employees of different cultural backgrounds may need to be trained to interact effectively with each other, thus increasing organizations’ cultural sensitivity development needs”(Combs & Griffith, 2007). Workshops can ensure employee development in regard to having cross-cultural interactions. If workshops are held, a cross-section of races and ethnicities should be represented in order for the workshop to be seen as valid by employees and this can be successful implemented with the help of the workshop leaders” (Cross, 2010). “Furthermore, the workshops should cover subtle cross-cultural communication and sensitivity issues such as how to build trust in different cultures, and not just obvious or overt cross-cultural issues” (Chebium, 2015).

Table 1: Employment by Race (%)

<b>Year</b>	<b>African Americans</b>	<b>Hispanic</b>	<b>Asian</b>	<b>White</b>
1983	10.0	5.4	0.0	84.6
1993	11.5	9.2	0.0	79.2
2003	11.1	12.7	4.2	71.9
2013	11.7	15.8	5.6	66.9

(Carter, 2012)

### **III. Racial and Ethnic Diversity in the Workplace**

Workplace diversity refers to the variety of differences between people in an organization (Greenburg, 2004). Diversity is the way in which people differ from each other. These differences among employees could arise due to their age, gender, race, ethnicity, personality, educational background, organizational function and the tenure (Joshi Pant & V., 2015). These differences among employees create diverse experiences for everyone in their organization in terms of performance, motivation, communication and inclusion. Additionally, diversity involves how people perceive themselves, but the most important component is how they perceive others, and these perceptions can affect their interactions (Khan, 2010). “Thus, diversity includes those differences in people that



not only impact how they see themselves but also how they see and interact with each other at work” (Joshi Pant & V., 2015).

In order for employees to function effectively as an organization, human resource professionals must address issues such as communication, adaptability and change which will help diversity increase significantly over time (Greenburg, 2004). Successful organizations realize that immediate action is necessary when implementing diversity and they are ready and willing to spend the necessary resources on managing diversity in the workplace today (Greenburg, 2004). “An organization’s success and competitiveness depends upon its ability to embrace diversity and realize the benefits. When organizations actively assess their handling of workplace diversity issues, and develop diversity plans to implement, multiple benefits are reported” (Khan, 2010). “Organizations should seek to perform on a diverse set of measures, including integrity on stated core values such as fair and respectful treatment of all members and/or promotion of equal employment opportunities in the broader society” (Cox, 2011).

#### Advantages

“Employees from diverse backgrounds bring individual talents and experiences and often suggest ideas that are flexible in adapting to fluctuating markets and customer demands” (Sarkar, 2014). There is also a much broader service range because a diverse collection of skills and experiences (e.g. languages, cultural understanding) allows a company to provide service to customers globally (Greenburg, 2004). A diverse workforce where all employees feel comfortable communicating varying points of view provides a larger pool of ideas and experiences (Sarkar, 2014). The organization can draw from that pool of ideas to meet business strategy needs and customer need more effectively. This can lead to effective execution of employee performance because companies that encourage diversity in the workplace inspire all of their employees to perform to their highest ability. Company-wide strategies can then be executed, resulting in higher productivity, profit, and return on investment.

Other benefits of diversity are that diverse organizations will find it easier to recruit because there will be a far larger labor market from which to choose, so the companies will enjoy access to a greater wealth of experience, skills and talent, and companies will gain improved public image, and increased staff motivation (Khan, 2010). Companies can further increase employee motivation through having role models for diverse employees, thus helping future company growth in the management ranks which could increase the companies’ market penetration. In the end, diverse companies will

have better overall financial performance than non-diverse companies have (Spiers, 2008).

### Challenges

Managing a complex and constantly shifting network of employees, collaborators, and business partners poses significant challenges. In one study, the potential for cultural mismatches and communication difficulties among the workforce was highlighted, along with the risk of data security breaches which was of greatest concern to respondents, followed by disclosure of competitively sensitive information, while some respondents were worried about the effect of poor communication on their organization's ability to make timely decisions. A significant challenge for managers is the capacity to retain oversight and control over the performance and productivity of the workforce (Hagel, 2015).

Taking full advantage of the benefits of diversity in the workplace is not without its challenges. Some of those challenges are lack of communication, resistance to change, difficulty of implementing diversity in workforce policies, and difficulty of successful management of diversity amongst the workplace (Greenburg, 2004). Communication becomes a challenge when perceptual, cultural and language barriers need to be overcome for diversity programs to succeed. Ineffective communication of key objectives results in confusion, lack of teamwork, and low morale. When employees refuse to accept changes in social and cultural makeup of the workplace, the company is faced with the challenge of resistance to change (Greenburg, 2004). Some employees believe the way things were previously done is best and there is no need for change because it will only cause more problems rather than benefit the company.

Moreover, implementing diversity in workplace policies can be challenging to diversity advocates. Armed with the results of employee assessments and research data, diversity advocates must build and implement a customized strategy to maximize the effects of diversity in the workplace. Most important, the successful management of diversity in the workplace is undoubtedly the biggest challenge. "Diversity training alone is not sufficient for ensuring success of the organization's diversity management plan; rather, a strategy must be designed and implemented to create a culture of diversity that permeates every department and function of the organization" (Hagel, 2015).

### Multiculturalism

Multiculturalism is the difference between cultures and it has become a norm internationally. “U.S. multinationals perform better with CEOs with international assignment experience at their helms, especially when such human capital was bundled with other organizational resources and capabilities” (Carpenter, Sanders & Gregersen, 2001). The intent of multiculturalism is to preserve cultures identity within a larger society and finding the connection and acceptance between among different cultures (Raatikainen, 2002).

The greatest benefit comes from the understanding of the diverse markets. Companies with diverse groups make better decisions, enhances creativity and has a better understanding of customers (Raatikainen, 2002). According to the resource-based theory, a firm's growth and competitive advantage are functions of the unique bundle of resources that it possesses and deploys (Carpenter, Sanders & Gregersen, 2001). Therefore, racial and ethnic diversity does, in fact, add value to multiculturalism and, within the proper context, contributes to firm competitive advantage.

### Diversity Trends

This year more than 1,600 companies participated in the survey for Diversity Inc. The top 50 most diverse companies are announced and celebrated nationwide. Every company in the top 50 receives a free report card assessing its performance against all competitors. The survey, now in its 16th year, leads to a detailed, empirically driven ranking. The free report card assesses performance based on four key areas of diversity management (Diversity Inc., 2015). “(1) Talent Pipeline: workforce breakdown, recruitment, diameter of existing talent, structures. (2) Equitable Talent Development: employee resource groups, mentoring, philanthropy, movement, fairness. (3) CEO/Leadership Commitment: accountability for results, personal communications, visibility. (4) Supplier Diversity: spend with companies owned by people from underrepresented groups, accountability, and support” (Diversity Inc., 2015).

Across the companies that made the Diversity Inc. top 10 are some common themes; the top ten companies include Novartis, Kaiser Permanente, PricewaterhouseCoopers, Ernst & Young, Sodexo, MasterCard, AT&T, Prudential, Johnson & Johnson, and Procter & Gamble. Overall, the top 50 companies are significantly more diverse than average U.S. corporations. “Equal Employment Opportunity Commission (EEOC) statistics show that Diversity Inc.’s top 50 companies have 20% more African Americans, Latino, and Asian employees in management, and

13% more women. Among the top 10, the discrepancy is more pronounced, with 41% more African Americans, Latino, and Asian employees in management positions, and 46% more women than the U.S. corporate average” (Dishman, 2015).

Across the companies that made the Diversity Inc. top 10 have a few common themes. As sources of labor become increasingly diverse, these companies are able to hire, retain and effectively utilize workers from all social-cultural backgrounds and may gain an advantage in human assets that effectively meet their diversity goals (Cox, 2011). Moreover, these companies also have supplier diversity in which they require suppliers to incorporate their own diversity values and even compensate supply-chain executives based on diversity goals. For example, Procter & Gamble has an executive compensation plan that is tied to successful completion of staff and supplier diversity initiatives (Rosenbaum, 2015). Additionally, their CEOs and TMT’s directly involved: “While many companies have chief diversity officers, or a head of human resources who oversees diversity efforts, it’s the companies where the CEO is actively engaged in diversity efforts and either founded or heads diversity business groups that stand out. AT&T Chairman and CEO Randall Stephenson heads the company's executive diversity council and founded it in 2008” (Rosenbaum, 2015).

Subsequently, in the previous year, The National Association of African American Owned Media (NAAAOM) filed a \$10 billion dollar lawsuit alleging racial discrimination against AT&T and DirecTV (Allen, 2014). The suit alleges that AT&T refused to consider carriage agreements with black-owned companies (Rosenbaum, 2015). However, lawsuits reference events that happened in the past, so they do not necessarily condemn companies in terms of diversity efforts; what matters is how companies are being responsive to them through new policies and procedures (Rosenbaum, 2015). Therefore, Diversity Inc. does not take events of this nature into consideration, but rather the overall effort of the company to embrace diversity.

#### **IV. Implementation of Racial and Ethnic Diversity Programs**

Companies that are successful in embracing diversity have a better understanding of individual differences, which stem from their unique experiences. “There is a better understanding of their capabilities and heritage that can contribute to the overall success of the organization. Therefore, the diversity programs should promote those same values” (Enoch, 2003). It should promote understanding, mutual respect, awareness, understanding and organizational cohesiveness. “Because of increased globalization and the extensiveness of international business operations, corporations

would likely benefit from research findings concerning the adoption of diversity programs in different cultures and under different organizational conditions, and their relative effects on important organizational outcomes” (Peretz, 2015).

Efforts to take advantage of the benefits inherent organizational diversity should go hand in hand with existing management philosophies relating to workers and their potential. There is managerial process for developing an environment that works for all members of the organization. For organizations to embrace the philosophy, they must accept the position that diversity initiatives will help organization survive in the 21<sup>st</sup> century (Enoch, 2003). Organizations can also embrace the philosophy by emphasizing the potential contributions of diversity to organizational outcomes in their onboarding or orientation programs, signaling the importance of the values of openness and inclusion (Peretz, 2015).

### Diversity Management

The personal commitment of top management teams is essential. Executive leaders and managers within organizations must incorporate diversity policies into every aspect of the organization’s function and purpose (Avery, McKay & Morris, 2008). “Attitudes toward diversity originate at the top and filter downward. Management cooperation and participation is required to create a culture conducive to the success of the organization’s plan” (Greenburg, 2004). Diversity leadership must drive innovative perspectives. Companies have not yet figured out how to unlock the potential within markets and processes that must be enabled globally (Llopis, 2011). With the increase in numbers of personnel from underrepresented groups entering firms, diversity management will become more paramount (Avery, McKay & Morris, 2008).

Diversity management is the key to growth in today’s fiercely competitive global marketplace. Businesses cannot thrive if their leaders have a habit of hiding behind their lack of cultural intelligence (Llopis, 2011). “Numerous benefits of diversity have been offered including coverage of projected labor shortages, increased access to untapped consumer markets, improved corporate image, reduced legal liability, and greater creativity, problem-solving ability, employee performance, and market share” (Sacco & Schmitt, 2005). “Effective diversity management (i.e., a highly pro-diversity climate) should foster greater organizational identification (OI) among employees because they feel the firm serves their best interests” (Avery, McKay & Morris, 2008). In today’s new workplace, diversity management is a time-sensitive business imperative (Llopis, 2011).

## **V. Financial Performance of Top Management Teams**

The theory is that racial and ethnic diversity within a top management team (TMT) is what drives the leaking effect on the rest of the entire organization. The result could lead to a greater deal of success. Correlation does not equal causation; greater racial and ethnic diversity in corporate leadership doesn't automatically translate into more profit. However, the correlation does indicate that when companies commit themselves to diverse leadership, they are more successful in the long run (Certo, Lester, Dalton, & Dalton, 2006). "Companies in the top quartile for gender or racial and ethnic diversity are more likely to have financial returns above their national industry medians. Companies in the bottom quartile in these dimensions are statistically less likely to achieve above-average returns" (Hunt, Layton & Prince, 2015).

More diverse companies are able to utilize cultural intelligence and improve their customer orientation, employee satisfaction, decision making, and all that leads to a virtuous cycle of increasing returns. "This in turn suggests that other kinds of diversity—for example, in age, sexual orientation, and experience (such as a global mind-set and cultural fluency)—are also likely to bring some level of competitive advantage for companies that can attract and retain such diverse talent (Hunt, Layton, & Prince, 2015). In the United States, there is a linear relationship between racial and ethnic diversity and better financial performance: for every 10 percent increase in racial and ethnic diversity on the top management team, earnings before interest and taxes (EBIT) rise 0.8 percent (Hunt, Layton & Prince, 2015). The United Kingdom does comparatively better in racial diversity, albeit at a low level: some 78 percent of UK companies have senior-leadership teams that fail to reflect the demographic composition of the country's labor force and population, compared with 91 percent for Brazil and 97 percent for the United States (Hunt, Layton & Prince, 2015).

On the other hand, it is important to understand that "while the preponderance of evidence suggests a positive relationship between TMT size and firm performance, there are also some disadvantages associated with large TMTs that may outweigh the proposed benefits. As TMTs increase in size, for example, communication, coordination, and cohesiveness may become problematic" (Certo, S. T., Lester, R. H., Dalton, C. M., & Dalton, D. R., 2006).

Additionally, "while cultural difference among individuals in organizations is a well-researched phenomenon, only a few researchers have investigated cultural diversity in the TMT and its influence on organizational outcomes. The presence of culturally diverse top management is continuously increasing (Interpress, 2013)." The findings of

these rare studies are most likely mixed. TMT cultural diversity can have both positive and negative effects on organizational outcomes. For instance, a negative effect should be a split in opinion between theoretical and empirical papers in workgroup cultural diversity research, where theoretical studies claim that cultural diversity in groups would lead to creativity and innovative ideas (Certo, S. T., Lester, R. H., Dalton, C. M., & Dalton, D. R., 2006). Also, group cultural diversity could result in decreasing group effectiveness and performance because of the difficulties associated with group processes such as lack of communication, increasing conflict and decrease in social integration (Interpress, 2013).

However, there is a considerable amount of research that specifically investigates a linkage between top management team characteristics and firm financial performance. “The influence of top executives on firm performance remains one of the most widely studied relationships in strategic management. Evidence of the importance of TMT characteristics, a significant amount of research proposes that TMTs play a fundamental role in influencing firm performance” (Certo, S. T., Lester, R. H., Dalton, C. M., & Dalton, D. R., 2006).

#### Financial Overview

Amongst the top ten of Diversity Inc.’s companies for diversity is health care giant Johnson & Johnson and has been on the list for the ninth year in a row (Diversity, Inc., 2015). The CEO Alex Gorsky and his top management team is commitment to diversity, which brings richness to the work environments (Our People & Diversity, 2015). By attracting, developing and retaining a base of employees that reflects the diversity of customers, this TMT has been successful in learning how to embrace diversity and use it as a competitive advantage (Our People & Diversity, 2015).

“By bringing together individuals from different backgrounds and experiences, businesses can more effectively market to consumers from different racial and ethnic backgrounds, women, and consumers who are gay or transgender” (Burns, Barton, & Kerby, 2012). This in turn has helped Johnson & Johnson increase sales. By tapping the insights and understanding of people of different cultures and ethnic groups, this results in designing and selling products and services to a culturally diverse marketplace (Cox, 2011).

Over the course of five years Johnson & Johnson has invested heavily in diversity and Inclusion. Johnson & Johnson’s Supplier Diversity and Inclusion Program’s goals and actual spending results are illustrated in Table 2 (Strategic Framework, 2015).

This five year investment has nearly spiked the company’s sales for the years to come. Refer to Table 3 for the sales from year 2010 and 2014. By the end of 2014, Johnson & Johnson has increase sales by 20.6%. The top management’s strategic plan to aggressively spend in the area of improving and implementing diversity amongst their organization has contributed to long term growth and increased sales for years to come.

**Table 2: Johnson & Johnson’s Diversity Spending**

<b>Years</b>	<b>Goal</b>	<b>Actual</b>
2010	\$1 Billion	\$1.12 Billion
2011	\$1.12 Billion	\$1.31 Billion
2012	\$1.18 Billion	\$1.23 Billion
2013	\$1.23 Billion	\$1.36 Billion
2014	\$1.3 Billion	\$1.52 Billion

Racial and ethnic diversity stimulates innovation, productivity, and creates a business that can outperform the competition. Implementing racial and ethnic diversity amongst workgroups creates a richer flow of ideas and thus has the potential to increase creativity, productivity, innovation; this, in turn, can improve organizational financial performance (Cox, 2011). Ranking number one in the top ten of Diversity Inc.’s

**Table 3: Johnson & Johnson’s Revenue/Sales**

<b>Year</b>	<b>Sales (Billions)</b>
2010	\$61.64
2011	\$65.04
2012	\$67.28
2013	\$71.26
2014	\$74.33



companies for diversity is Novartis Pharmaceuticals Corporation (Diversity, Inc., 2015). Data from the 1996 to 1997 National Organizations Survey explores the relationship between racial and gender workforce diversity and several indicators of business performance, such as sales revenue, number of customers, relative market share, and relative profitability (Herring, 2009). “The 1996-1997 National Organizations Survey consists of data on 1,002 United States work establishments and was conducted from June 10, 1996, to June 13, 1997, using a stratified random sample from approximately 15 million work establishments in Dun and Bradstreet’s Information Services data file” (Kalleberg, Knoke, & Marsden, 2001).

**Table 4: Levels of Diversity** (Kalleberg, Knoke, & Marsden, 2001).

Characteristics	Racial Diversity Level		
	Low (< 10 %)	Medium (10 - 24 %)	High (25% +)
Percent in racial diversity	30	27	43
Mean Sales Revenue ( In millions)	51.9	383.8	761.3
Mean Number of Customers ( In thousands)	22.7	30	35
Percent with higher than average market share	45	59	60
Percent with higher than average profitability	47	63	61

Table 4 presents means and percentage distributions of various business outcomes of establishments by their levels of diversity according the 1996 to 1997 National Organizations Survey data (Herring, 2009). “Average sales revenues are associated with higher levels of racial diversity: the mean revenues of organizations with low levels of racial diversity are roughly \$51.9 million, compared with \$383.8 million for those with medium levels and \$761.3 million for those with high levels of diversity” (Kalleberg, Knoke, & Marsden, 2001).

“Higher levels of racial and gender diversity are also associated with greater numbers of customers: the average number of customers for organizations with low levels of racial diversity is 22,700” (Kalleberg, Knoke, & Marsden, 2001). This compares

with 30,000 for those with medium levels of racial diversity and 35,000 for those with high levels. The mean number of customers for organizations with low levels of gender diversity is 20,500 (Herring, 2009). This compares with 27,100 for those with medium levels of gender diversity and 36,100 for those with high levels. “Table 4 also shows that businesses with high levels of racial (60 percent) and gender (62 percent) diversity are more likely to report higher than average percentages of market share than are those with low (45 percent) or medium levels of racial (59 percent) and gender (58 percent) diversity” ((Kalleberg, Knoke, & Marsden, 2001). A similar pattern emerges for organizations reporting higher than average profitability. According to the 1996 to 1997 National Organizations survey, it was found that indeed racial diversity is correlated with increased sales revenue, more customers, greater market share, and greater relative profits.

## **VI. Conclusion**

This research illustrates how organizations can use their resources to address external and internal challenges in embracing diversity. Indeed, organizations with a racial and ethnic diverse workforce will have a much higher financial performance and a competitive advantage over companies that lack diversity. Although corporate America still has a long way to go before all organizations are able to successfully use diversity as one of their greatest keys to success, the first stepping stone for most is having a top management that is equipped with the resources to properly implement a racial and ethnic diverse workplace. In addition to networking and relationship building, members of top management teams should find that their experiences in participating in the cultural aspects of the organization provides them with insights into growth strategies, innovative business processes and best practices that can greatly benefit their businesses. Implementing racial and ethnic diversity inclusion initiatives must start with the commitment from top level management. With a commitment from top leaders in an organization to change the existing culture to one of diversity inclusion, the diversity change management process can succeed. “This process includes analyzing where the organization is currently at through a diversity audit, creating a strategic action plan, gaining support by seeking stakeholder input, and holding individuals accountable through measurable results” (Harvey, 2012). Research clearly shows that our nation will continue to become increasingly more diverse, as more of corporate America takes on the initiative to reap the benefits.

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# **Section IV: Critical Essays**





# **From Riots to Organizations: New York City's Role in the Gay Rights Movement**

Christine Shouldis (History)<sup>1</sup>

The gay rights movement in America is different than any other civil liberties movement that occurred in the 20<sup>th</sup> century because it did not have one, prominent figurehead. Rather than follow a charismatic leader, the gay rights movement was driven by two important organizations that formed after the Stonewall riots of 1969. These two organizations, the Gay Liberation Front (GLF) and Gay Activists Alliance (GAA), were radicalized by the overall 'anti-establishment' feeling of the 1960s and 1970s, which was the differentiating factor that separated the GLF and GAA from pre-Stonewall organizations. Nevertheless, pre-Stonewall organizations provided the crucial structure that allowed gays and lesbians to effectively organize after the Stonewall riots. While radicalization was a key part as to why organizations in the aftermath of Stonewall were able to generate change, the GLF was too radicalized to even properly function as an organization. Therefore, the most important organization to form in the immediate aftermath of the Stonewall riots was the GAA because they combined the respectability factor from homophile organizations of the 1950s with the liberated mindset of the 1960s and 1970s. Based on the exploration of the GAA's archive at the New York Public Library this paper will argue that the GAA's constitution, and the structure of various different sub-organizations that operated under the "umbrella" of the GAA allowed them to foster change for the legal situation for gays and lesbians in America.

The situation for gays and lesbians from 1945 to 1969 was bleak. There were numerous laws that specifically penalized, and targeted homosexuals. For example, a Mattachine Society poster from 1964 describes all punishments for various sex offenses in the United States.<sup>2</sup> The first column lists sex offense of sodomy acts, which were described on the poster as, "sexual activity with animals or with another person of same

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<sup>1</sup> Written under the direction of Dr. Alison Smith for HI297: *The Historian as Detective: Exploring the City*.

<sup>2</sup> "Penalties for Sex Offenses in the United States," Manuscripts and Archives Division, The New York Public Library Digital Collections. <http://digitalcollections.nypl.org/items/671159d8-0456-a33c-e040-e00a180655cb> (Accessed May 3, 2016).

sex.” The penalty for New York was up to three months in prison, however in the neighboring state of New Jersey a gay or lesbian couple could face up to twenty years in prison for simply having consenting sex.<sup>3</sup> Additionally, even if a homosexual was not penalized for their sexuality in court, they suffered in other ways. Today the world baffles at how Hitler sterilized Afro-Germans and Jews during World War II, but many people fail to realize that approximately 65,000 Americans were sterilized from the 1900s to the 1970s for being homosexual.<sup>4</sup> Further, gays were also discriminated against in the military. During and after World War II if a service member was found to be a homosexual they were discharged under section 8 from the U.S. military. The Veterans Administration ultimately decided that these service members would be denied the, “numerous benefits of the GI Bill, such as college tuition, occupational training, mortgage insurance, and loans to start business,” it also ensured that, “former service member[s] [were] unable to get a job in civilian life.”<sup>5</sup> During this time period no politician would publicly support homosexuals, since during the McCarthy Era homosexuals were seen as a threat to national security and it is also reported that the State Department fired more accused homosexuals than accused communists during this time.<sup>6</sup> Lastly, gays and lesbians did not even receive support from special interest groups such as the American Civil Liberties Union, who deemed the discrimination and persecution of homosexuals as fully legal and constitutional until they changed their position in 1964.<sup>7</sup> The social and legal implications of being gay restricted homophile organizations post-World War II, in fighting for real change, by only allowing them to meet in secrecy for fear of being accused of homosexual, deviant behavior.

During the pre-stonewall era the two major national homophile organizations that had New York City based chapters were the Mattachine Society and the Daughters of the Bilitis. The goals of these homophile groups were different than the goals of gay rights groups post-Stonewall because the social and legal implications for being gay were harsh and more severe. This can be evidenced by the fact that they are referred to as “homophile” organizations rather than “gay rights” organizations; the members of these

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<sup>3</sup> Ibid.

<sup>4</sup> Michael Bronski, *A Queer History of the United States*, Revisioning American History (Boston: Beacon Press, 2011), 133.

<sup>5</sup> Bronski, *A Queer History of the United States*, 165.

<sup>6</sup> Walter Frank, *Law and the Gay Rights Story: The Long Search for Equal Justice in a Divided Democracy* (New Brunswick, New Jersey: Rutgers University Press, 2014), 14.

<sup>7</sup> Frank, *Law and Gay Rights Story*, 17.

groups could not imagine publicly stating they were homosexual while demanding their rights. An interview with Henry Hay, one of the founders of the Mattachine society, reveals that the group was named after a secret fraternity in France by stating, “So we took the name Mattachine because we felt that we 1950s gays were also a masked people, unknown and anonymous, who might become engaged in morale building and helping ourselves...to move towards total redress and change.”<sup>8</sup> The ultimate vision of the Mattachine society in 1950 was to transform ‘out of the closet’ homosexuals from a small minority to a larger majority, and ultimately introduce an amendment to the United States Constitution, but Hay later recognized that that goal was impossible to achieve in the 1950s because the society “had to move with what the times would allow.”<sup>9</sup> Additionally, during the pre-Stonewall era gay men and lesbians did not unify.<sup>10</sup> In turn, the predominant lesbian organization was the Daughter of the Bilitis (D.O.B), formed in 1955; the organization was named after a collection of poems titled *Songs of Bilitis* written by Pierre Louÿs<sup>11</sup>. Similar to the Mattachine, D.O.B was founded on the principle of secrecy. In the book *Before Stonewall: Activists for Gay and Lesbian Rights in Historical Context* Phyllis Lyon, whose partner Del Martin ultimately became the founding president of D.O.B in 1955, describes how they were asked by their friend if they would join her “in starting a secret club for lesbians,” that later became the D.O.B.<sup>12</sup> Similar to Harry Hay of the Mattachine Society, the founders of D.O.B could not imagine fighting for their civil rights in the 1950s so the original goal was simply to be a social organization aimed at introducing lesbians to one another.<sup>13</sup> Although during this time period there was no significant advancement, legally or socially, for gays or lesbians, the Mattachine and D.O.B organizations allowed these groups of people to socialize in a safe environment. This socialization created a structure that allowed for immediate action after the Stonewall riots.

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<sup>8</sup> Jonathan Katz, “The Founding of the Mattachine Society: An Interview with Henry Hay,” *Radical America* 11, no. 4 (September 1977): 34.

<sup>9</sup> Jonathan Katz, “The Founding of the Mattachine Society,” 30.

<sup>10</sup> Jonathan Katz, “The Founding of the Mattachine Society,” 34.

<sup>11</sup> “Daughters of Bilitis (DOB) | American Organization.” *Encyclopedia Britannica*. <http://www.britannica.com/topic/Daughters-of-Bilitis> (Accessed April 23, 2016).

<sup>12</sup> Vern L. Bullough, *Before Stonewall: Activists for Gay and Lesbian Rights in Historical Context*, Haworth Gay & Lesbian Studies (New York: Harrington Park Press, 2002), 163.

<sup>13</sup> Bronski, *A Queer History of the United States*, 180.

The riots that took place at the Stonewall Inn on Christopher Street in Greenwich Village in June of 1969 were different than other riots that occurred throughout the rest of the country. After the riots, many gays and lesbians felt empowered, which caused organizations such as the Gay Liberation Front and later the Gay Activist Alliance to form. Prior to Stonewall, there were other riots in San Francisco and Los Angeles.<sup>14</sup> However, the Stonewall riots were unique because for the first time in history gays and lesbians had control over the police, because the police were outnumbered and had to barricade themselves inside the Inn. In David Carter's detailed book about the riots, Carter describes this unique, unprecedented situation by writing, "As all kinds of objects continued to crash around the police, Pine [who was the lead detective in the original bar raid on the Inn that night] decided that his only recourse was to take refuge inside the Stonewall Inn: it was either that or risk being assaulted by a wild mob."<sup>15</sup> The time that elapsed between when the police barricaded themselves inside the bar and before reinforcement from the sixth precinct arrived to disperse the crowds changed the momentum of the gay rights movement. From that time forward, gays and lesbians would no longer allow themselves to communicate in secrecy or live in fear. Once they had a sense of what being liberated felt like, the movement became radical. Instead of trying to portray themselves as being respectable people they embraced the radicalization of the 60s and demanded their rights rather than politely asking for them.

The original coverage of the first night of the riots by New York City newspapers such as the *New York Times* either downplayed the atmosphere of the first night of the riots, or did not comprehend that this was not an ordinary police raid on a well-known gay bar. The next morning the *New York Times* ran an article titled "4 Policemen Hurt in 'Village' Raid," in which the author left out any mention of the word "riot," but instead focused on how four cops were injured and a famous folk-singer, Dave Von Ronk, was among the people who were arrested.<sup>16</sup> However, gays and lesbians recognized the importance of what happened during the first night of riots and by the next morning they were back on Christopher Street to assert their freedom and place unrelenting pressure on the police.<sup>17</sup> As mentioned in the book *Stonewall: The Riots That*

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<sup>14</sup> Henry Abelove, "How Stonewall Obscures the Real History of Gay Liberation," *Chronicle of Higher Education* 61, no. 40 (July 10, 2015): B14–16.

<sup>15</sup> David Carter, *Stonewall: The Riots That Sparked the Gay Revolution* (New York: St. Martin's Press, 2004) 157.

<sup>16</sup> "4 Policemen Hurt In 'Village' Raid; Melee Near Sheridan Square Follows Action at Bar," *The New York Times*, June 29, 1969.

*Sparked The Gay Revolution*, Chris Babick, a gay man living in the village, recognized the importance of the riot and vowed to go to the Stonewall Inn to protest for the rest of the weekend.<sup>18</sup> After a second night of riots, the *New York Times* finally ran a story on Sunday properly titled, “Police Again Rout ‘Village’ Youths: Outbreak by 400 Follows a Near-Riot Over Raid.” The author of the article noted the slogans on the wood that boarded up the Inn included the sayings, “Support gay power...and legalize gay bars.”<sup>19</sup> That slogan is indicative of the radicalization that occurred as a result of the riots because it resembles the popular saying of “black power” used in the civil rights movement. The slogan on the Stonewall Inn would become the mission statement of the first and most radical gay rights organization to form in the immediate months after Stonewall: the Gay Liberation Front.

The Mattachine Society tried to capitalize on the momentum of the riots as evidenced by a poster titled, “Where Were You During The Christopher St. Riots?” The poster then goes on to state, “Join and actively participate in Mattachine...now is the time for all homosexuals to unite in common action!”<sup>20</sup> However, the movement did not unite under the umbrella of the Mattachine Society, but rather the Gay Liberation Front. Why did radicalized gays and lesbians reject the Mattachine Society? While there was no clear mandate to reject Mattachine, the author Don Teal describes the rejection of the Mattachine by the gay community in New York City by writing, “It spoke to a generation short on patience and distrustful of red tape.”<sup>21</sup> Therefore, by 1971 both the Mattachine Society and Daughter of Bilitis had dissolved.<sup>22</sup> As evidenced by the following paragraphs, gays and lesbians of New York City were tired of working from within the system to improve their lives, instead they felt they needed to transform the ‘system’ from the outside.

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<sup>17</sup> Carter, *Stonewall: The Riots That Sparked the Gay Revolution*, 183.

<sup>18</sup> Carter, *Stonewall: The Riots That Sparked the Gay Revolution*, 182.

<sup>19</sup> “Police Again Rout ‘Village’ Youths; Outbreak by 400 Follows a Near-Riot Over Raid,” *The New York Times*, June 30, 1969.

<sup>20</sup> “Where Were You During the Christopher Street Riots?” Manuscripts and Archives Division, The New York Public Library Digital Collections.

<http://digitalcollections.nypl.org/items/671159d8-0457-a33c-e040-e00a180655cb> (Accessed May 9, 2016).

<sup>21</sup> Donn Teal, *The Gay Militants*, Stonewall Inn Editions (New York: St. Martin’s Press, 1995), 21.

<sup>22</sup> Diana Kardia. “Gay Liberation Front Is Formed.” *Salem Press Encyclopedia Research Starters*, EBSCOhost, 2015 (Accessed May 10, 2016).

The Gay Liberation Front (GLF) was the first organization to take advantage and perpetuate the radicalization of the movement that Stonewall created. Ironically, this radical stance ultimately led to its destruction. The first leaflet that was put out for the organization that would later name itself the GLF stated, “Do you think homosexuals are revolting? You bet your sweet ass we are. We’re going to make a place for ourselves in the revolutionary movement.”<sup>23</sup> This pamphlet was also the first sign that the GLF was not solely concerned with gay rights but with aligning themselves with the “revolutionary movement,” of the 1960s. For example, from a photograph of a GLF demonstration in front of Bellevue hospital in New York City, a GLF member is holding a sign that reads, “Free all political prisoners from Bellevue’s Auschwitz of Sexist Brainwashing.”<sup>24</sup> Moreover, the GLF participated in picket lines similar to civil rights organizations and also publicly confronted local politicians. One of the GLF’s first major success occurred in November of 1969 when they protested against the *Village Voice* for censoring their radicalized ads, which resulted in a picket line that ultimately led to a meeting with three GLF representatives and the editor of the *Village Voice*; the GLF ultimately got the magazine to change their policy on classified ads.<sup>25</sup> The success of forcing the *Village Voice* to change their position on ads encouraged members of GLF to continue using this successful method of protesting. Additionally, as reported in the *Come Out! Magazine*, the first newspaper written by gays and lesbians after Stonewall, the 1969 mayoral candidates for NYC were all invited to a Q&A at Temple Torah that was hosted by the League of Women Voters.<sup>26</sup> The magazine reported that a GLF member, Marty Robinson, challenged Mayoral Candidate Mario Procaccino, “ ‘It’s 1976, Mr. Procaccino. The homosexual revolution has begun,’ and asked him what he was going to do about the homosexual community.”<sup>27</sup> When Marty Robinson, who eventually became a founding

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<sup>23</sup> “Do You Think Homosexuals Are Revolting? You Bet Your Sweet Ass We Are.” In Teal, *The Gay Militants*, 19.

<sup>24</sup> “Gay Liberation Front demonstration at Bellevue Hospital,” Manuscripts and Archives Division, The New York Public Library Digital Collections.  
<http://digitalcollections.nypl.org/items/510d47e3-752f-a3d9-e040-e00a18064a99>  
(Accessed April 24, 2016).

<sup>25</sup> Michael Brown, Michael Tallman, and Leo Martello: “The Summer of Gay Power and the *Village Voice* Exposed!” *Come Out!*, November 14, 1969. In Teal, *The Gay Militants*, 47-48.

<sup>26</sup> “The Come Out! Archive · Come Out! Magazine, 1969-1972.” *Outhistory.org*.  
<http://outhistory.org/exhibits/show/come-out-magazine-1969-1972/the-come-out-archive>  
(Accessed April 23, 2016).

member of GAA, mentions 1776, the first year of the American Revolution, he poses the gay rights movement in the context for a fight for basic freedoms that all Americans should have. This is reflected in the *San Francisco Free Press* in late 1969 that while many members of the gay liberation movement wanted to, “end discrimination against homosexuals...and build the Gay counter-culture,” there were many members who thought that various gay liberation organizations were not involved for the, “freedom for Gay brothers and sisters but blood-in-the-streets revolution.”<sup>28</sup> This divide on how to approach the fight for gay rights plagued the GLF and is one of the main reasons the GLF was ultimately responsible for the formation of the Gay Activist Alliance, which eclipsed the GLF and became the major gay rights organization in the immediate post-Stonewall years and through the rest of the 1970s.

From its inception, the GLF never had a proper structure in order to contain the feelings of counter-culture, anger at the establishment, and even anger at other conservative gay rights organizations that did not embrace radicalization. As quoted in the book *Gay Militants* Charles Pitts, a GLF member recalls that, “There was no agreement about methods or philosophy...there was a rather sharp division in the meeting as to whether the purpose of the group should be self-enlightenment or integration immediately with other revolutionary or militant movement.”<sup>29</sup> Ultimately, GLF decided that it would align itself with other militant movements. This is evidenced by the GLF’s decision to donate money to the Black Panther Party, even though, “the Panthers employed language even more virulently homophobic than anything used by the reviled Marchi or Procaccino.”<sup>30</sup> Coincidentally, John Marchi and Mario Procaccino were New York City mayoral candidates in 1969. While the GLF did not become the most dominant, influential gay rights group in New York City in the 1970s, they were crucial in the overall success of this time period since they immediately took advantage of Stonewall by asserting their presence in local politics; forcing local politicians and the general public to take the gay rights movement as a serious civil rights issue. This allowed the GAA to have leverage when it started to file motions in court to obtain rights for the gay community.

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<sup>27</sup> The Gay Commandoes: “The October Rebellion,” *Come Out!* November 14, 1969. In Teal, *The Gay Militants*, 84.

<sup>28</sup> Marcus Overseth: “Inside Look At Where We Stand,” *San Francisco Free Press* Vol. 1, No.9. In Teal, *The Gay Militants*, 35.

<sup>29</sup> Teal, *The Gay Militants*. 34.

<sup>30</sup> Carter, *Stonewall: The Riots That Sparked The Gay Revolution*, 232.

The historiography of the gay rights movement has widely focused on a particular section of the gay community: white, gay, and middle-class men; this was the majority of the demographic makeup of both the GLF and GAA. This leaves many wondering about the other members of the gay community such as lesbians, non-white gays and lesbians, and transgender people. Stemming from the tension in the GLF between the gay white men in the organization, minorities were prompted to create their own organizations to ensure their voice was heard in the gay rights movement.<sup>31</sup> These groups were named, “The Gay Liberation Front Women, Lavender Menace/Radicalesbians, Lesbian Feminist Liberation, Third World Gay Revolution, and Street Transvestite Action Revolutionaries.”<sup>32</sup> These different organizations ensured that the voices of these minorities were heard both within and outside the gay community, despite the GAA becoming the ‘face’ of the gay rights movement in the 1970s.

The archival research for the works cited in relation to the Gay Activist Alliance in this paper was conducted at the manuscript and archives division of the New York Public Library (NYPL) Stephen A. Schwarzman Building. The collection that compile the GAA’s archive is extensive and covers topic, including but not limited to, letters, hate mail, meeting minutes, GAA ephemera, GAA election ballots, and finance reports. The reason that the GAA left such an extensive paper trail is because they had archivists dedicated to preserving, “the historically valuable records of the Gay Activist Alliance.”<sup>33</sup> Since this paper compares the structure of the GLF and GAA I felt it was appropriate to focus on series 1 of the archives, containers 15-17, since they included meeting minutes, committee files, and media relations documents. The GAA archives can be accessed through contacting the manuscripts and archives division of the NYPL.

The three men who were founding members of the GAA—Arthur Evans, Jim Owles, and Marty Robinson—met while they were members of the GLF and became close to one another over one common thing: how to accomplish creating a rational and political platform for the gay rights movement.<sup>34</sup> While other people were present at the preliminary meetings in late November and early December of 1969, these three men

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<sup>31</sup> Kardia, “Gay Liberation Front Is Formed,” *Salem Press Encyclopedia* (Accessed May 10, 2016).

<sup>32</sup> *Ibid.*

<sup>33</sup> “G.A.A Committees and Services—Page 2,” Gay Activists Alliance Records, Manuscripts and Archives Division, The New York Public Library, Astor, Lenox and Tilden Foundations.

<sup>34</sup> Carter, *Stonewall: The Riots That Sparked The Gay Revolution*, 233.



became the most prominent founding members of the Gay Activist Alliance. Arthur Evans played an extremely influential role by drafting the preamble to what would become the key to the effectiveness of the GAA: its constitution.<sup>35</sup> Additionally, all three men would become leaders of the group in demonstrations and sit-ins. For example, when the GAA protested Mayor Lindsay against job discrimination in February of 1970, it was Jim Owles who ended up meeting with the mayor's chief adviser to discuss the complaints of the gay community.<sup>36</sup> These three men became crucial to the overall success of the GAA.

The former member of GLF Arthur Evans, Jim Owles, and Marty Robinson, decided to leave the organization over its support of other counter-culture movements, despite the fact that they were homophobic. This tension reached its climax when the GLF decided to donate money to the homophobic Black Panther Party in November of 1969.<sup>37</sup> The founding members of the GAA learned from the mistakes of GLF. One of the major mistakes committed by the GLF was not creating a structure for the organization that would allow for productive, civil meetings. The second mistake was allowing the organization to demonstrate and protest for all counter-culture movements, rather than just specifically focus on discrimination against gays and lesbians. The founding members of the GAA prevented these problems from influencing the GAA by creating a constitution for the organization that closely resembles the United States Constitution. In fact, in an information pamphlet put out by the GAA talk-group committee they summarized their own beginning by stating, "The constitution of the new GAA made it a one-issue organization focused on gay liberation as it's single goal."<sup>38</sup> In the preamble of the constitution it is stated that, "We as liberated homosexual activists demand the freedom for expression of our dignity and value as human being through confrontation with and disarmament of all mechanisms which unjustly inhibit us: economical, social, and political."<sup>39</sup> The constitution goes on to describe, in detail, membership eligibility, duty of officers, how elections and votes on motions will be held, and how various sub-committees will operate. Moreover, it is arguable that the most

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<sup>35</sup> Carter, *Stonewall: The Riots That Sparked The Gay Revolution*, 234.

<sup>36</sup> Carter, *Stonewall: The Riots That Sparked The Gay Revolution*, 238.

<sup>37</sup> Carter, *Stonewall: The Riots That Sparked The Gay Revolution*, 232 -233.

<sup>38</sup>"Talk Groups' in New York City's Gay Activist Alliance," Gay Activists Alliance Records, Manuscripts and Archives Division, The New York Public Library.

<sup>39</sup> "Constitution and Bylaws of Gay Activists Alliance," *Pagan Press Books*. <http://paganpressbooks.com/jpl/GAA.HTM>, (Accessed May 10, 2016).

important section are the bylaws where it states that the GAA, “will not endorse, ally with, or otherwise support any political party, candidate for public office and/or any organization not directly related to the homosexual cause...meetings shall be conducted according to Roberts Rules of Order.”<sup>40</sup> By putting that bylaw in the Constitution the founders of the GAA would ensure that the GAA would not get caught up in other civil liberties movement, but would always hold the plight of gays and lesbians at the forefront of the GAA’s mission. These unmistakable references to the problems of the GLF and statement of beliefs reflected that GAA was going to be a new type of organization that shared characteristics of the liberated GLF, but also the respectable traits of the Mattachine Society. This constitution that laid the foundation for this hybrid model of a gay rights organizations was the reason why the GAA became the most successful and influential gay right group in the 70s.

While the GAA had a constitution that created structure, and sounded theoretically effective, they also implemented practical strategies. A key strategy utilized by the group was to inform the general public and key public institutions about what being a homosexual actually was, in order to dismantle the negative and unfounded stereotypes many gays and lesbians had to confront on a daily basis. The GAA put out a pamphlet titled “20 Questions About Homosexuality” (the circumstances surrounding this pamphlet are unknown) that addressed several misconceptions about homosexuality through answering common questions such as, “How do they get that way?” Or, “Can they be turned to heterosexuals?”<sup>41</sup> Additionally, there are numerous letters from psychology and sociology departments from various academic institutions requesting a representative from the GAA to speak to their students. Through letters such as the one from David F. Greenberg of New York University in 1974, who requested a GAA representative to, “speak to [his] sociology course on the gay liberation movement.”<sup>42</sup> Through informative pamphlets and public speaking events, the GAA exerted their rights as the GLF had, but they asserted them in a way that also educated the public so they would not be fearful of homosexuals. Moreover, by having a GAA representative speak to students of various academic institutions, it helped influence a new generation of

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<sup>40</sup> Ibid.

<sup>41</sup> “20 Questions About Homosexuality,” Gay Activist Alliance Records, Manuscripts and Archives Division, The New York Public Library.

<sup>42</sup> Letter from David F. Greenberg of New York University to Gay Activist Alliance, September 20, 1974, Gay Activists Alliance Records, Manuscripts and Archives Division, The New York Public Library.

scholars. Additionally, the GAA influenced a whole generation of gays and lesbians in New York City by forming the agitprop committee which was dedicated to working, “with teachers, administrators, and student leaders...to politicize high school students who are gay, and to motivate them to assert their rights and dignity by coming out and joining the struggle for gay liberation.”<sup>43</sup> By working within institutions, instead of trying to revolt against them like the GLF did, the GAA were able to achieve change on a wider scale.

The structure of the GAA outlined in its Constitution allowed for many sub-committees to form that focused on specific social, political, and legal areas that discriminated against the gay community in New York City. For example, several GAA sub-committees were titled: Political projects, police power, municipal fair employment law, fair tax, municipal government committee, state government, legal committee, news, leaflets and graphics, fundraising, social affairs, orientations, and agitprop committee.<sup>44</sup> By forming these sub-committees the sphere of influence of the GAA expanded, since it allowed the organization to focus intensely on multiple issues. For example, the news committee helped, “to provide the mass media with information about GAA and its committees,” and the municipal fair employment law committee allowed the GAA to focus to, “effect passage in the City Council of a bill outlawing public and private job discrimination against homosexuals.”<sup>45</sup> Additionally, one of the reasons why the GAA became the ‘face’ of the Movement in the 1970s is because they were aware that the gay community had to unite. Therefore, the GAA set up a specific committee titled “Gay Movement Committee” which was meant, “to act as a liaison between GAA and other Gay organizations; to foster solidarity of all groups within the gay community.”<sup>46</sup> The subcommittees advised members on strategies that the GAA used to confront specific issues that held the organizations attention, making their strategies highly effective.

In the GAA’s constitution they declared themselves as politically neutral, but they also pressured various New York City politicians and national politicians to endorse the gay rights movement. The GAA branch of the “Reform Democratic Club” spearheaded the GAA’s political activism by making gays and lesbians, “noticed as an

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<sup>43</sup> “The GAA Agitprop Committee,” Gay Activists Alliance Records Manuscripts and Archives Division, The New York Public Library.

<sup>44</sup> “Gay Activist Alliance Committees,” Gay Activists Alliance Records, Manuscripts and Archives Division, The New York Public Library.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

existing force at election time,” and by hosting political candidates at the, “GAA Firehouse in order to face the gay community and to present their opinion’s and philosophy.”<sup>47</sup> At the local level of politics in New York City, a bill was introduced in 1972 to end discrimination against homosexuals.<sup>48</sup> When that bill failed to pass the City Council in 1973, GAA activists decided to interrupt a City Council meeting by screaming, “bigots” at the City Council members every three to four minutes.<sup>49</sup> On the national level of politics, GAA members also pressured presidential candidates of the democratic party to reveal their position on homosexuals. In 1972, members of the GAA protested at democratic presidential nominee, Senator George McGovern’s New York campaign office and demanded that he reveal his position on civil rights for gays and lesbians.<sup>50</sup> By strategically targeting and choosing problems to protest, the GAA was able to pressure local and national politicians into discussing their stance on the gay rights issues. Most importantly, the GAA transformed the power that Stonewall provided by changing the movement from a radical counter-culture movement into a serious civil rights movement.

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<sup>47</sup> “Reform Democratic Club—GAA Branch,” Gay Activists Alliance Records, Manuscripts and Archives Division, The New York Public Library.

<sup>48</sup> David E. Newton, *Gay and Lesbian Rights: A Reference Handbook*, Contemporary World Issues (Santa Barbara, Calif.: ABC-CLIO, 1994), 35.

<sup>49</sup> Edward Ranzal, “10 Gay Activists Are Seized in City Hall; Chant at Ceremony Threats Are Revealed,” *The New York Times*, May 1, 1973.

<sup>50</sup> “Gay Activists in Protest Occupy McGovern Office,” *The New York Times*, August 22, 1972.



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The historiography of the gay rights movement often places too much emphasis on the Stonewall riots, while ignoring the importance of the gay rights organization that immediately formed in New York City in the aftermath of the riots. Without the Gay Liberation Front radicalizing the mindset of gays and lesbians to continue to unapologetically enforce their presence as homosexuals on society, Stonewall could have simply joined the list of riots against police bar raids in other cities across the country. However, as important as the Gay Liberation Front was to the Movement in continuing the momentum from the Stonewall riots, the Gay Activist Alliance soon eclipsed them. The founding members of the Gay Activist Alliance understood that they had to keep the liberated mind-set of the Gay Liberation Front, but no true social or legal change would occur if they violently protested along with the other counter-culture movements that were taken place in the 1970s. Therefore, the Gay Activist Alliance opted to assert their presence as homosexuals through educating the general public and academic community about homosexuality in order to dismantle the negative stereotypes of gays and lesbians.

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<sup>51</sup> "GAA Board of Education zap, 1971," Manuscripts and Archives Division, The New York Public Library Digital Collections. <http://digitalcollections.nypl.org/items/671159d8-0456-a33c-e040-e00a180655cb>(Accessed April 29, 2016). Members of the Gay Activist Alliance during one of their famous "zaps," against the New York City Board of Education in 1971.

On that account the most important years in the gay rights movement are the immediate years after Stonewall because without the pressure that was applied on all parts of society by the Gay Liberation Front and Gay Activists Alliance the Stonewall riots could have been just another local news story, rather than a major event in the history of the fight for equal rights in America.

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Gay Activists Alliance Records, Manuscripts and Archives Division, The New York Public Library, Astor, Lenox and Tilden Foundations.

The Gay Activist Alliance Archives at the New York Public Library contains 11 boxes of various primary documents from 1970-1983. These 11 boxes are divided into five series: committee files, topical files, international list of gay organization and publications, printed ephemera, and restricted records (set to be released in 2055). The following documents from "Series 1, Committee Files," were cited in this paper:

"G.A.A. Committees and Services—Page 2"

"Letter from David F. Greenberg of New York University to Gay Activist Alliance, 20 September 1974"

"Talk Groups' in New York City's Gay Activist Alliance"

"The GAA Agitprop Committee"

“Gay Activist Alliance Committees”  
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“GAA Board of Education Zap, 1971”



# **Anthropological Effects on Business Operations**

Erynn Tuerk (Business Administration)<sup>1</sup>

Anthropology has many different facets that range from Medical Anthropology to Paleoanthropology. Today there is an increased trend among corporations to hire anthropologists and to include more anthropological views in business practices. This paper aims to analyze what components of the general field of anthropology are crucial to business anthropology. By looking at key components of anthropology, companies can better position themselves among competitors, with employees, and in terms of running more efficiently. Some topics covered include the placebo effect and the implicit person theory. Furthermore, comparisons between the business anthropology practiced in United States and that practiced in other countries are made in order to highlight that anthropology examines various cultures and it cannot be expected to operate in the same way for every single company.

## **I. Introduction**

Today, there is a noticeable trend of large corporations hiring business anthropologists. To understand this trend and the benefits of having anthropologists work with large companies, one must comprehend the meaning of anthropology. Anthropology is defined as “the objective and systematic study of humankind in all times and places” (Haviland, Prins, McBride, & Walrath, 2008, p.22). To rephrase the standard definition, anthropology is the holistic study of human experiences. The aim of this social science is to interpret how cultural and biological aspects of everyone’s lives fit together. The interpretation of cultural aspects is crucial in the business world. Interpreting culture can affect how employees work with one another, how they work with customers, and what products can succeed where.

Business anthropology is a form of applied anthropology, meaning that anthropological knowledge is used in solving practical problems (Haviland et al., 2008). The subject of business anthropology covers any behavior that has to do with an organization. This behavior could apply to a consumer of a product or service from the

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<sup>1</sup> Written under the direction of Dr. Shani Carter in partial fulfillment of the Senior Program requirements.

organization as well. Business Anthropologist Ann T. Jordan, of the University of North Texas, explains that her job is to examine various business issues. These issues range from work processes and group behavior to organizational change, diversity, and globalization (2013).

### Trends

The idea of hiring anthropologists for business applications is not new, and in the United States, employment of business anthropologists began in the 1930s. From the 1930s until the 1950s, business anthropologists played a crucial role in developing the field of management. Employment of business anthropology began to increase again after the management field was established because there was a decline in faculty positions available, so many anthropologists were displaced into the business world (Stewart & Aldrich, 2015). Companies have continued hiring anthropologists today in order to keep abreast of new research. For example, as of 2013, Intel has hired fifteen Ph.D. anthropologists and Microsoft has hired seven (Jordan). Google also is recognized for employing anthropologists (Baer, 2014).

Business anthropologists today are most notable in large technology corporations. Business anthropologists shift into technology because many higher-level employees in the technology industry tend to delve into consumer insights and how the company's products affect people's everyday lives. This leaves an evident gap between what higher-level employees suspect their consumers want and what anthropologists find the company's consumers are actually thinking (Baer, 2014).

An example of where higher-level employees mistook their consumers' wants was in the case of Adidas and its anthropological study of motivation. Adidas' anthropologists were assigned the task of determining what motivates Adidas' consumers to purchase Adidas' products. The company believed that its consumers were motivated by aiming to excel in a specific sport. Adidas' anthropologists spent 24 hours with individual consumers of the brand and the results of this study showed that most consumers were driven by pride in themselves (in their level of fitness) or pride in their team. Adidas then tailored its marketing strategy to what the anthropologists concluded, which led the company to predict that by the end of 2015 its sales would be EUR €17 billion and that its operating profit margin would rise to 11% from the 8% recorded in 2013 (Anonymous, 2013).

## **II. Theories**

There are several theories that apply to the anthropologists' research in the Adidas case. Anthropologists who are examining the internal functions of a company from a management perspective also utilize these theories. Some of these theories include the placebo effect, the nocebo effect, the implicit person theory and various uses of psychosomatic factors.

### The Placebo Effect

In the placebo effect, a procedure or substance that appears to have resonating effects but has no actual power, which is unknown to the participant, is a great tool for management in terms of human resources and marketing (Irmak, 2008). The Adidas case can be used to show how the placebo effect can be used in marketing: Plassman and Weber (2015) discuss how marketers are able to change consumers' "reward-seeking drives" (p. 505). As a result of Adidas' changed marketing campaign, the company altered one of its track shoes into an "exceptionally light football boot" (Anonymous, 2013). After releasing this product, it was the shoe that scored the most goals in the 2010 World Cup (Anonymous, 2013). The game results of using this football boot, along with the information that was discerned by Adidas' anthropologists, shows that the altered marketing of the shoe towards the consumers' desired product characteristics allowed the consumer to perform better because consumers thought highly of the product; the altered football boot did not actually change the player's ability.

The inner management of a company can draw on the placebo effect in their human resources strategy. It is proven that the two most influential components of the placebo effect are motivation and expectations. Once an employee has a desired goal, the next steps that the employee unconsciously chooses to take in the workplace are in accordance with his goal and these steps are automatically triggered. In such cases of motivation, the employee's pathway is formed by the placebo effect (Irmak, 2008). The employee's desired outcome is the placebo, such as gaining a promotion, and by creating a concrete and achievable goal, the employee is set into action to accomplish it.

### The White Coat Effect

Furthermore, the placebo effect can be seen when discussing an employee's performance, and that it is possible to increase performance via the white coat effect. The white coat effect is derived from white coat ceremonies at medical school. These ceremonies grant the white doctor-coat to students who are just beginning their

education, with most ceremonies held within the first month of classes. The ceremonies often include praising the students and connecting this praise to becoming a doctor, such as how privileged the student is that they get to become a part of patients' lives (Karnieli-Miller, Frankel, & Inui, 2013). Overall, students who participate in the white coat ceremony are more aware of their duties as a doctor and have a better relationship with patients (Karnieli-Miller et al., 2013; Brase & Richmond, 2004). Here, the white coat acts as a placebo effect. The coat allows the students to perform their tasks better without any extra training or knowledge. The white coat effect can be translated into other job applications. Tools like the white coat effect should be exploited when organizations are training employees for new jobs in order to boost their performance in job tasks.

#### The Nocebo Effect

The nocebo effect, or expecting poor results which leads to a poor outcome, is a similar principle to the placebo effect. It is another tool that anthropologists look towards in order to explain why an organization is functioning the way it is. The nocebo effect differs from the placebo effect because instead of focusing on positive outcomes, it can guide someone towards a negative, less desired result (Colloca & Miller, 2011). While the term "nocebo effect" is still primarily used in medical scenarios, it is a crucial counterpart to the placebo effect. Because of the importance of the placebo effect, the nocebo effect must be mentioned even though it is still a new theory in the field of business anthropology. While the nocebo effect is not something companies strive to achieve in management or with their consumers, the theory is used to describe why operations may not be going as well as they should be. For an example, in the Adidas case, before the company had hired anthropologists, Adidas was struggling to keep up in sales with Nike and Puma. Adidas did not spend as much of its revenues on advertising as the other two companies spent and hence its consumers saw Adidas as the lesser brand (Anonymous, 2013).

#### The Implicit Person Theory

The implicit person theory is used more when discussing internal management of a company as opposed to a company's interactions with its consumers. This theory is defined as "the belief that specific attributes of people are generally either more static or more malleable" (Kam, Risavy, Perunovic, & Plant, 2014, p.267). In other words, this theory shows that someone's assumptions of another person's personality alter the observer's social reality. A malleable person is seen as someone who is dynamic and has

the potential to further develop. A static person has traits and actions that are closely tied together and are often self-stigmatized, meaning that the person believes his traits are unable to change. Static people may have troubles striving towards the right goals (Dweck, Chui, & Hong, 1995). These two versions of personality are crucial for a manager to understand. By comprehending which type of employee works for the company, the manager can individualize his methods of interacting with each employee. For instance, the manager could alter the way he motivates the employee, how he trains employees and how he gives the employees feedback. Also, certain companies may favor one personality over the other depending upon the culture in their organization. In this case, it is beneficial for the human resources team to understand this theory in order to hire the appropriate type of personality.

### **III. Human Resources and Diversity Management**

Anthropology also goes further into human resources when discussing diversity. Since a large part of anthropology is a comparative tool that is used to examine various cultures, it is an effective resource for examining diversity. Also, diversity management has been increasing since more businesses are becoming international and there are more anthropologists to support the increase in diversity. A study conducted in 2009 found that very little was done in companies for training, management development, and individual-based approval when trying to incorporate diversity into the workplace. Further, minority employees lack the opportunities that are offered to other employees in that company. For example, in many corporations, minorities are noticeably recruited for lower paid positions while simultaneously being offered fewer promotions (Shen, Chanda, D'Netto & Monga, 2009).

Furthermore, companies typically offer training to incorporate the employee into that organization's culture while lacking attention to the individual employees and their respective cultures. This leads to minorities not being open about their opinions in the workplace, and lacking empowerment. Also, most companies were previously striving to hire minorities only in order to market themselves as being diverse in order to gain sales. Such companies only cared about the profits they could gain and not the inner workings of their companies or how their employees were being treated. Due to this thought pattern, companies are still trying to increase the diversity of their cultures and add appropriate investments into their diversity programs (Shen et al., 2009). By highlighting current diversity problems, it is easier to see how anthropologists aim to improve diversity mismanagement.

Business anthropologists in the management field work towards creating an environment with less conflict, more motivation, a lower employee turnover rate, and high organizational performance (Shen et al., 2009). Companies should have these goals at the forefront of their mission statements. If a company needs to decrease conflict between employees, managers need to become aware that opposing groups or individuals with incompatible goals cause conflict. Managers would need to reformat the working environment so people who have different beliefs can work together towards a common goal. A lower employee turnover rate would then be a result of a more unified workplace because it would increase comfort levels among employees and they would be more willing to remain working there. Higher motivation can be achieved through rewarding employees. Culture is key in allocating rewards because different cultures value different rewards. Understanding employees' cultures can allow management to vary rewards based on employees' values. For example, some cultures place a heavy focus onto money and material items, such as the American culture, while other cultures favor time off or other social interactions, such as in Austria (Hess, 2013).

#### Ethnocentrism

Upper-level management not understanding various cultures is often due to ethnocentrism. Ethnocentrism is the idea that one's own cultural beliefs are superior to other people's cultural beliefs. In interviews, it was noted that a large percentage of the workforce (exact number unknown) in the United States believed that there was stereotype discrimination happening where they were working (Ensari, 2001). With these prominent statistics, it is clear that the concept of ethnocentrism has to become more known in a business setting. By acknowledging ethnocentrism still exists and by using cultural relativism, workers can start to eradicate ethnocentrism from professional settings.

#### Cultural Relativism

Cultural relativism is the opposite of ethnocentrism and it states that a person understanding cultural relativity has the ability to view things in the way that a person inside of another culture views things. Further, cultural relativism notes that there are more than a few ways to comprehend how others behave, which encourages a person to be more respectful and open when looking into differences in various cultural practices. Also, cultural relativism would allow upper-level management to look critically at the functions of another person's cultural practices even if the practices are not in line with

his own personal ethics and values. With this being said, however, one must always consider that cultural relativism does not mean that upper-level management should readily accept that another person's behaviors as acceptable just because they are part of a different cultural group (Bryant, 2003).

### The Personalization Model

Examining the personalization model is one of the first steps in eradicating the problem of ethnocentrism and moving towards cultural relativism. This model says, "group members should increase their awareness of the distinctiveness of individual members of other social categories" (Ensari, 2001, p. 86). There are three main ways that workplaces can employ the personalization model. The first way to use the personalization model is to make individuating information available to employees. The only foreseeable drawback to making individual information available is that managers have potential to breach employees' privacy. The second way to use the personalization model is to facilitate learning/training opportunities, which should promote minority's cultural beliefs. The outcome of the second method (facilitated learning) would allow people with ethnocentrism to increase their perceptions of variability in a cultural category. The third way to use the personalization model is to create repeated and personalized social interactions with a variety of members from the company.

In addition to the personalization model, there is also the recategorization model and the crossed-categorization model (Ensari, 2001). The categorization models are supplementary to the personalization model. The recategorization model focuses on creating a new identity for one common subordinate group. This would lead back to the desired outcome of less conflict and more unity. The crossed-categorization model says mixing various social categories reduces noticeable differences while increasing similarities (Ensari, 2001).

### Country Comparisons

While there are business anthropologists in many countries (China, Japan, Australia, and a few countries in Central America) today most of the literature surrounding business anthropology is based out of the United States or England (Jordan, 2010). Thus far, the focus of this paper has been on American business anthropology. However, it is crucial to understand that business anthropologists are going to behave differently and use slightly differing methods depending on the type of culture that is surrounding them. To show variations between business anthropologists working in

different countries, one can compare Europe and the United States. A European anthropologist, Alf Walle, states that business anthropologists turn to the Culture at a Distance Method. Walle says that this method covers five key points:

1. The analytic process often takes place at a distance
2. Qualitative research and open source information are used
3. Cultures/organizations can be viewed as systems
4. Systems often exhibit uniform and patterned responses
5. Some members of the group might exhibit idiosyncratic responses (2013, p.99).

An American anthropologist, Ann Jordan, looks towards the Participant Observation Method. This method focuses simply on gathering data that would enlighten daily or life customs of people while participating in that life (2103, p.42). This approach works through ethnography, “the descriptive study of contemporary cultures” and can be seen in practice in the Adidas case (Bryant, 2003, p.53). Jordan displays how the American system focuses on the development of the culture construct to organize and collect information so one can identify a set of behaviors which are individualist to certain groups, while Walle exemplifies how the English focus on a step system to collect their data.

These variations in communication styles show how a business anthropologist must be aware of his culture to understand that his findings may differ from an anthropologist from another location. The differences are important for globalization, or the distribution of products around the world (Bryant, 2003). A global company must understand that it cannot expect the same findings in every country. If the company assumes this, it is holding an ethnocentric point of view.

This ethnocentrism could stem from a few realms. The first scenario which ethnocentrism could stem from is that whoever ordered the anthropological study in a global company would just assume the findings applied to all of the company’s locations. The second scenario would be that the anthropologist for the global company did not consider his own personal culture. The anthropologist would need to take into account how his interpretations of this his own culture may have skewed the results. If this is noted, then biases can be eliminated. Finally, if whoever is reading the results is not in the same culture as where the study happened and the reader is trying to place their own context to the information then the reader, who is being ethnocentric, will misinterpret the results. Overall, it is critical to recognize the discrepancies from one country to another, each respectively having their own cultures.



## **IV. Effects**

### Employees

The results of anthropology in the workplace range from affecting employees, customers, or the company as a whole. Since the field of business anthropology is vastly growing, the effects are not limited. When exploring the effects of employees, the idea of worldview needs to be discussed. Worldview is defined as “a system of shared basic understandings of how the world works and people’s place in it” (Bryant, 2003, p.225). In this instance, the workplace is referred to as the world.

Worldview helps compose a workplace’s ideology and allows employees as a group (high level employees may have more of a say) to create a set of beliefs that would be used to describe how the organization performs. Different departments in a company may have different worldview; this especially applies to companies that have international employees working in different countries from where the headquarters is located. Most companies have different worldviews from one another no matter where the company is located or what industry they are in. Conflicting worldviews from people working in two different organizations who hold the same job title may describe the same component of the job very differently (Bryant, 2003).

Often, the worldview is implicit to employees, so many employees may have a difficult time describing their department’s or company’s worldview (Bryant, 2003). This effect on employees creates a potential challenge for upper-management employees. For example, if lower-level employees are unhappy with their department’s worldview, they will look towards higher-level employees to remedy the problem. However, since worldview is implicit, the lower-level employees may have a difficult time presenting their concerns with their department’s worldview.

### The Company

The workers may not readily accept changes with a company’s worldview or any component that is crucial to workers on a daily basis. When dealing with changes, the company as a whole must comprehend the stages of change through the business anthropologist. The stages include precontemplation, contemplation, preparation, action, maintenance, and termination. Precontemplation is the stage where the company has not yet recognized that it needs to make a change. The contemplation stage is when the company begins to pensively think about change. In this stage, the company also thinks about what the benefits of changing would be and becomes open to input from possible

advisors. Furthermore, the company may stall in this stage until the benefits clearly outweigh the possible obstacles (Bryant, 2003).

Lingering in the contemplation phase may be troublesome for the company if employees are aware of possible changes. Employees may become unsettled from lack of change for a prolonged period. The preparation stage would lessen the uneasiness of employees since this is the stage where the company would commit to change. Employees could note the preparation stage because the company would take preliminary actions in organizing the change. Following the preparation stage is the action stage. During the action stage specific changes are installed. To count as part of the action stage however, changes that are installed must have a certain level of effectiveness (Bryant, 2003). The company would have to appoint an employee or a group of employees to predetermine what the acceptable level of effectiveness would be.

The maintenance stage is defined as “the period starting about six months after the new behavior has been adopted” (Bryant, 2003, p. 341). At this point, the company and individual employees become assured in the company to uphold the changes. This stage is pivotal because this is when an inclination to revert to old habits before the newly implemented change arises. Also, some companies may get stuck in this stage due to the inclination to revert and it could last for years. Until all inclination to revert is eliminated, a company will stay in this stage (Bryant, 2003). Possible reasons a company may revert are money issues, being comfortable with the old ways of proceeding, or disagreements between employees and management.

The final stage is termination. Termination is when the company and its employees are totally confident with the company’s changes. Temptation to revert is gone. Companies may begin to seek out new areas to change. Overall, a company may enter or exit the stages of change at any stage or a company could be stuck in a cycle between a few stages. Though, it is best for the company to go through all stages in order. Also, the stages of change model exemplifies that change is a dynamic process and reactions differ depending on employees’ willingness to accept the new changes (Bryant, 2003).

### Customers

An effect that business anthropology has on a company’s customers is the heightened attention to attitude. Anthropologists will look towards customers’ attitudes to understand the public’s evaluations of the company, the company’s issues, and what the company is selling. According to Bryant, “attitudes are determined by the individual’s

beliefs about the consequences of behaving a specific way, weighted by the importance the person places on that outcome” (2003, p.347). The focal point on customers’ attitudes was shown in the Adidas case. Attitudes affecting marketing campaigns, how the company communicates with its consumers, and how the international customers may react to the company’s products or services.

Inertia is the concept defining reluctance to change. This is another anthropological effect that alters customers. This idea states that people include certain things in their lives simply because they have always done so. The inertia effect creates customer loyalty to a brand. Inertia allows a customer to ignore other possible alternatives because they have become comfortable with the continuity and familiarity of the brand. Being loyal to the brand is easier than searching for alternatives, even if the alternatives are better options. Further, customers can be affected by an “unfamiliarity” factor. If an alternative is an unfamiliar brand, consumers are more reluctant to buy the product (Pillsbury, 2012).

## **V. Opposition**

There are four main arguments as to why anthropology does not have a place in business applications. These four issues claim that anthropology lacks the ability to affect employees, customers, and a company’s products. One of the issues is that diversity programs can have a negative outcome on employees. Another argument is that ridding oneself of cultural lenses is impossible. Cultural lenses affect employees and customers. The third argument is that since one’s worldview is implicit, people do not have the ability to discuss it. Finally, the last concern is doubts within the stages of change model. These arguments exaggerate potential issues with anthropology in the workplace, and it is still evident that as a whole, business applications are greatly benefitted by understanding anthropological perspectives.

### Diversity Programs

In a study conducted in 2006, 700 companies were interviewed regarding the successfulness of their diversity programs. Critics stated that these programs were only used as public relation ploys. Also, an experimental study noted that throughout these companies, higher-level employees and management saw diversity programs as creating fairness when lower-level employees noted that they only created a false impression of fairness. Additionally, this study found that often companies expect minorities to come forward and express their desires for increased diversity programs. (Williams, Kilanski,

& Muller, 2014). However, these criticisms hold ethnocentrism at their cores. The criticisms are only looking into companies that have yet to adapt to an anthropological diversity program, such as the personalization model. If companies do not aim to eliminate ethnocentrism, diversity programs will continue to be ineffective, such as the results found in this study.

#### Cultural lenses

Cultural lenses are referred to when discussing cultural relativism. Some anthropologists claim that it is impossible to rid oneself of their own cultural lens. A lingering cultural lens would result in a person always being influenced by their ethnocentrism regardless of if they recognize their ethnocentric ways or not. Being unable to shed a cultural lens would cloud one's judgment that in turn could affect human resources decisions, business operations, or customer relations. If it were impossible to rid ethnocentrism from one's point of view, then business anthropologists would be completely ineffective. On the other hand, business anthropologists have been flourishing thus far because anthropologists are able to notice the discrepancies between the narrow, ethnocentric mind and a culturally relative point of view. By noticing the discrepancies, the anthropologists are able to view the work society in a realistic view to help a company better approach their operations (Bryant, 2003).

#### Implicit Views

The idea of the implicit worldview is another topic that brings doubt to the field of business anthropology. However, a way to combat the disadvantages of the implicit worldview is by exploring its many facets. For example, various functions of the worldview are to define, categorize and explain operations. If an employee is unable to explain one of these facets, that employee may be able to explain another (Bryant, 2003).

#### Doubt with Stages of Change Model

The doubt of the stages of change model is when companies enter or leave the model at various stages and expect to obtain the results of going through the whole model. If companies follow through with the model and understand how the time can fluctuate depending upon which stage one is in, then the doubts of the stages of change are eradicated (Bryant, 2003).

## **VI. Conclusion**

The newly reinstated trend of hiring anthropologists into business corporations is a beneficial practice. Business anthropologists affect a corporation's mindset when managers decide how to organize the daily operations. The field of business and the field of anthropology tie together in order to offer an increased understanding of a customer's behaviors and of employees in the workplace. Business anthropologists have the ability to review customers and employees by using various techniques such as the placebo effect (and the white coat effect), the nocebo effect, the implicit person theory and cultural relativity.

Overall, if a company is aware of anthropological perspectives, it will ultimately only improve other people's viewpoints of that company. An improved view of the company also comes from its employees' reflections of the company that are affected through human resources and diversity management programs, for instance the personalization model. While there are some doubts in this field, the continued rise in the job placement of business anthropologists shows that the field is legitimately benefiting many companies today.

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# Anti-German Sentiment in New York City During the World Wars

Kristen Whitaker (History)<sup>1</sup>

At the turn of the twentieth century, New York City had a flourishing German community but today a German presence is scarcely found in New York City and almost all evidence of this large, influential ethnic group that once thrived has been erased. German culture was demonized during both World War I and World War II when both government agencies and non-German citizens set out on a smear campaign that greatly damaged the reputation of Germans and German-Americans.<sup>2</sup> In New York City, anti-German sentiment during and between the World Wars led to the disappearance of the German language and culture and was generated through three main sources: the portrayal of Germans in the media and pop culture, local acts of espionage and pro-Nazi sympathies, and the arrests and internment of Germans and German-Americans in all five boroughs.

By 1910, the United States Census Bureau reported that 2.5 million German born immigrants and an additional 5.8 million first generation German-Americans lived in America, making them the largest ethnic group in the country.<sup>3</sup> Germans came from Protestant, Catholic, and Jewish religious faiths which made them unique compared to other ethnic groups. New York City's German community established churches, newspapers, hospitals, schools and clubs all over the city. German brewers made New York one of the largest beer producing cities in the country. While New York's German

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<sup>1</sup> Written under the direction of Dr. Alison Smith for HI297: *The Historian as Detective: Exploring the City*.

<sup>2</sup> In order to clarify the terms used in this paper, it is important to define 'German(s)' vs. 'German-American(s)'. The term 'German(s)' refers to those who were born in Germany and were immigrants living in the United States. The term 'German American(s)' refers to those who became naturalized or those who were first generation American citizens born to at least one parent of German immigrant status. Sources for the study of German culture in the United States during the World Wars often use these terms interchangeably so at times it is difficult to differentiate between the two terms. However, in this paper I have attempted to make a clear distinction between the two groups as much as possible.

<sup>3</sup> Don Heinrich Tolzmann, *The German-American Experience*, (Amherst, NY: Humanity Books, 2000), 281.



community cultivated their own cultural institutions, they also assimilated into American culture and moved into developing neighborhoods such as Williamsburg, Brooklyn, Yorkville, and Manhattan's Lower East Side which became known as *Kleindeutschland* or "Little Germany." During the early 1900s, German-Americans made up the largest ethnic group in New York City.

The outbreak of World War I in 1914 placed America's German community in a precarious position unlike anything they had experienced before. In the beginning of the Great War, the United States was a neutral power, and while some Germans and first generation German-Americans openly supported Germany through German-language newspapers, most favored American neutrality and are often credited for keeping America out of war for so long.<sup>4</sup> German culture in New York City was dominated by cultural societies and patriotic clubs, most of which were either social or athletic in nature. Unfortunately, a few displays of German support by these clubs eventually caused all German culture and people in New York City to fall under suspicion. On May 28, 1915 at the Thirteenth Regiment Armory in Brooklyn, controversy occurred over the presence of German flags during one German singing society's annual Saengerfest event. When a decorating company mistakenly hung too many German flags, outraged neighbors complained to the head of the armory and the singing society compromised and replaced most of the flags with American flags. Even though the German-American singing society had not intended to portray any stance other than neutrality, the next day *The New York Times* headline read "German Flags Stir Wrath: Error in Decorating Armory Puts Kaiser's Banner Over Old Glory."<sup>5</sup> While the news reports of German national and German-American societies during the pre-war era did convey minor negative undertones, they were not yet as devastating to German culture in New York City as they were in other parts of the country and often demonstrated their enthusiasm for neutrality.<sup>6</sup>

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<sup>4</sup> Eric Kirschbaum, "Whatever Happened to German America?" *The New York Times*, September 23, 2015. [http://www.nytimes.com/2015/09/23/opinion/whatever-happened-to-german-america.html?\\_r=0](http://www.nytimes.com/2015/09/23/opinion/whatever-happened-to-german-america.html?_r=0).

<sup>5</sup> "German Flags Stir Wrath; Error in Decorating Armory Puts Kaiser's Banner Over Old Glory," *The New York Times*, May 29, 1915.

<sup>6</sup> Michael Connors, *Dealing in Hate: The Development of Anti-German Propaganda* (London, England: Britons Publishing Company, 1966), 10.

Though America was technically still a neutral power in 1915, its involvement in the war blurred as America provided support to the British through the sale of war materials. In response, Germany began submarine warfare against American ships which worsened the situation at home for German-Americans. German spies in the United States infiltrated German national and German-American clubs and soon planned sabotage in New York Harbor. On July 29, 1916, in the peak act of sabotage on American soil during WWI which became known as the Black Tom Explosions, German agents set fire to a complex of warehouses and ships on Black Tom Island, a small island across from Ellis Island. The explosion lit the skies – the equivalent of an earthquake measuring up to 5.5 on the Richter scale, killed four people, destroyed tons of war materials, and caused \$100,000 damage to the Statue of Liberty.<sup>7</sup> To onlookers in Lower Manhattan and Brooklyn, this act of treachery was another reason to fear their German neighbors and wonder if a spy could be living amongst them.

Further exacerbating the fears of those who were skeptical of Germans and German-Americans, key figures of the United States government spoke out publicly against hyphenated communities. In a speech at Carnegie Hall, Former President Roosevelt stated:

“There is no room in this country for hyphenated Americanism. A hyphenated American is not an American at all ... The one absolutely certain way of bringing this nation to ruin, of preventing all possibility of its continuing to be a nation at all, would be to permit it to become a tangle of squabbling nationalities, an intricate knot of German-Americans, Irish-Americans, English-Americans, French-Americans, Scandinavian-Americans or Italian-Americans, each preserving its separate nationality, each at heart feeling more sympathy with Europeans of that nationality, than with the other citizens of the American Republic ... There is no such thing as a hyphenated American who is a good American. The only man who is a good American is the man who is an American and nothing else.”<sup>8</sup>

President Woodrow Wilson also regarded "hyphenated Americans" with suspicion, saying in a public address to the nation: "Any man who carries a hyphen about with him

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<sup>7</sup> Gilbert King, "Sabotage in New York Harbor," *Smithsonian*, <http://www.smithsonianmag.com/history/sabotage-in-new-york-harbor-123968672/>.

<sup>8</sup> "Roosevelt Bars the Hyphenated," *The New York Times*, October 13, 1915.

carries a dagger that he is ready to plunge into the vitals of this Republic whenever he gets ready.”<sup>9</sup> According to Carl Wittke, the public denouncement of “hyphenated Americans” led to one of the most difficult and humiliating experiences suffered by an ethnic group in American history. He notes that “misunderstanding, suspicion, slander, emotional conflict, bewildered readjustment, and tragedy marked the war years, as excited Americans became convinced that everything of German origin must be treasonable.”<sup>10</sup>

On the evening of April 2, 1917, President Woodrow Wilson, in delivering his war message to Congress, said that the United States was to embark on a crusade to “make the world safe for democracy.”<sup>11</sup> Unfortunately for Germans and German-Americans, the president said nothing about protecting democracy at home. Wilson’s Declaration of War precipitated a tragic outbreak of hysteria directed against anything and everything German. Germans and German-Americans across the country faced new prejudices, ethnic harassment, intimidation, and violence. According to Tolzmann, a common act of harassment was tarring and feathering and another favorite was dunking Germans and German-Americans in syrup.<sup>12</sup> German ministers were publicly flogged and even murdered. The first German-American killed was the Reverend Edmund Kayser, who was shot near Chicago in 1915.<sup>13</sup> By 1918 the violence was increasing with more cases of beatings, tarring and featherings, shootings, and lynching. The most well-known lynching took place on April 5, 1918, when Robert P. Prager, a coal miner, was seized at Collinsville, Illinois. He was dragged from his home and led barefoot through town wrapped in an American flag. Police actually tried to save him but then ended up escorting the mob so that the lynching could take place outside of the city limits and no one was ever convicted for his murder.<sup>14</sup>

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<sup>9</sup> “Explains Our Voting Power in the League,” *The New York Times*, September 27, 1919.

<sup>10</sup> Carl Wittke, *The German-Language Press in America* (Lexington, Kentucky: University Press of Kentucky, 1957), 235. Wittke has long been considered one of the foremost historians on the studies of Germans and German-Americans in United States History. Nearly all recent books written about German-Americans cite Wittke’s books and research.

<sup>11</sup> Woodrow Wilson, “Declaration of War Message to Congress,” April 2, 1917. Records of the United States Senate; Record Group 46; National Archives at College Park, MD. <http://www.archives.gov>. Accessed April 24, 2016.

<sup>12</sup> Tolzmann, *The German-American Experience*, 286.

<sup>13</sup> *Ibid.*, 287.

<sup>14</sup> “German is Lynched by an Illinois Mob; Had Made Speeches to Miners on Socialism

While Germans and German-Americans were subject to violence, harassment and even death in many communities across the country, no substantial evidence exists to suggest that they were subject to the same acts of violence in New York City. Perhaps the main reason for this unique environment is because the large concentrated population of people of German descent living in New York City between 1915-1918 would have made it difficult for acts of violence to occur against Germans and German-Americans because the group as a whole could have retaliated. Moreover, the German community in New York City became very conscious of the anti-German sentiment and hysteria that existed elsewhere and they often compromised and voluntarily chose to play their own part in reducing those attitudes by limiting their cultural activities, closing controversial German clubs and forming their own pro-American patriotic clubs.<sup>15</sup> Also by World War I, New York City had become a melting pot of immigrants and different cultures and that also could have created a community that was more sensitive towards cultural groups and people of foreign descent.

For the first time, the government commissioned a concerted propaganda campaign to “sell” a war to the American public. Incredible tales of German barbarism in Belgium and France in novels gave rise to a myth of unique German savagery that continues to color the thinking of many persons today.<sup>16</sup> As a result, ethnic slurs such as “Hun” and “Hunskunk” were used daily on the front pages of the press when referring to Germans.<sup>17</sup> A new form of media, film, came into use for the purpose of war propaganda and proved to be extremely effective. Atrocity films, such as *The Woman the Germans Shot*, that depicted Germans as the pillaging Huns, raping, burning and destroying villages filled the movie halls of New York City and deeply offended Germans and German-Americans. The “hate-the-Hun” movies caused problems by means of guilt by association.<sup>18</sup> Having German ancestry caused German-Americans to be viewed in a different light. Even though they were born in the United States, they were increasingly being accused of disloyalty, as possible spies, and as Huns. German-Americans in New

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and Uttered Disloyal Sentiments. Police Tried to Save Him; Mob Stormed City Hall to Get Him and Then Hanged Him After Wrapping Him in an American Flag.” *The New York Times*, April 5, 1918.

<sup>15</sup> “German-Americans Form Patriotic Union; To Organize 15,000,000 Men, Women, and Children to Help America to Win the War.,” *The New York Times*, June 10, 1918.

<sup>16</sup> Connors, *Dealing in Hate: The Development of Anti-German Propaganda*, 9.

<sup>17</sup> Leslie Midkiff DeBauche, *Reel Patriotism: The Movies and World War I* (Madison, Wisconsin: University of Wisconsin Press, 1997), 36.

<sup>18</sup> *Ibid*, 36.

York City resented films showing their kinfolk as sadistic, arrogant, rowdy, rude, often drunk, beasts bent on rape plunder, and murder, especially when many of the propaganda films presented the United States being honeycombed with spies working with German Americans.<sup>19</sup>

In response to the propaganda war against Germans and German culture, authorities across the country and in New York City enacted laws to harass and silence the German community. The American Protective League was formed in 1917 with the intention to identify and investigate German sympathizers but they turned into a group that simply harassed people of German descent and never uncovered a single act of espionage.<sup>20</sup> As one of the first major acts of the American Protective League, they assisted the Attorney General in collecting information about German Americans throughout the country in 1918. German aliens in New York City and the rest of the country were forced to report to New York City Police Stations in order to get fingerprinted, even if they had started the first steps in becoming American citizens.<sup>21</sup> The *New York Herald* even published a list of all of the names and addresses for German aliens living in the city.<sup>22</sup>

In June 1918, a Congressman from Michigan introduced a bill to rid the words “Germany” and “Berlin” from every town and street name.<sup>23</sup> While the law was never passed, the mere suggestion of the act prompted local authorities all over the country to follow suit and rename streets, buildings, and landmarks with names of German origin. New York City was not immune to the name changing trend. Brooklyn’s Hamburg Avenue was changed to Wilson Avenue.<sup>24</sup> At the US Customs House in Lower Manhattan, the word “Germany” that was on a shield of one of the building’s many figures was chiseled over. Health facilities also changed their names and the Germanary Dispensary suddenly became the Lenox Hill Hospital in June 1918 and the German

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<sup>19</sup> Connors, *Dealing in Hate: The Development of Anti-German Propaganda*, 10.

<sup>20</sup> Tolzmann, *The German-American Experience*, 281.

<sup>21</sup> “German Intrigue Is Still Kept Up; Attorney General Asks Protective League to Continue to Combat Propaganda Urges Public Vigilance,” *The New York Times*, November 22, 1918.

<sup>22</sup> *New York Herald’s Complete and Alphabetical List of Names and Addresses of the German Alien Enemies Registered in New York City in the State Military Census*. (New York, NY: New York Herald, 1917).

<sup>23</sup> “To Strike Germany From Map of U.S.,” *The New York Times*, June 2, 1918.

<sup>24</sup> Diane Durante, *Outdoor Monuments of Manhattan: A Historical Guide* (New York, NY: NYU Press, 2007), 155.

Hospital in Bushwick became Wyckoff Heights Hospital.<sup>25</sup> Even the iconic Germania Bank building at Bowery and Spring Street in “Little” Germany was forced to change its name to Commonwealth Bank due to anti-German sentiment.<sup>26</sup>

Soon thereafter, the anglicization of German derived words and the war on German culture spread like a plague and infected everyday life, education, and the arts in New York City. Many Germans and German-Americans lost their jobs if they worked in fields that were considered to have access to sensitive war information, such as the docks or munition yards. While New York State did not enact language restrictions as did other states, the New York City Board of Education banned books that mentioned Kaiser Wilhelm. City University of New York schools did not ban German language courses but they limited the number of credits received for the courses in order to deter students from studying the language.<sup>27</sup> The number of German language papers circulating in New York City fell by half between 1914 and 1919.<sup>28</sup> Anglicization even affected food names. A group of vegetable dealers called for the renaming of Sauerkraut to Liberty Cabbage due to a drastic drop in consumption since the declaration of war that resulted in a surplus of 400 tons in the New York district alone<sup>29</sup>. Hamburger and frankfurters became Salisbury steak and liberty sausage. Wiener schnitzel and pretzels were banned from restaurants.<sup>30</sup> The New York Metropolitan Opera even banned operas by German composers such as Wagner and Beethoven and ended the reign of famous German opera singer Melanie Kurt.<sup>31</sup> Overall, German culture was repressed during World War I in New York City.

Even after the signing of the Armistice to end the war in 1918, the anti-German sentiment created during the war still lingered. While the rest of the country enjoyed their return to normalcy, German-Americans still faced backlash from the war. The U.S. Senate held hearings in 1919 and created a subcommittee that presented a report on

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<sup>25</sup> Ibid., 156.

<sup>26</sup> Ibid, 158.

<sup>27</sup> Frederick C. Luebke, *Bonds of Loyalty: German-Americans and World War I*, Minorities in American History (Dekalb, IL: Northern Illinois University Press, [1974], 172.

<sup>28</sup> Ibid., 173.

<sup>29</sup> “Sauerkraut May Be Liberty Cabbage,” *The New York Times*, April 25, 1918.

<sup>30</sup> Meirion and Susie Harries, *The Last Days of Innocence: America at War, 1917-1918* (New York, NY: Random House, 1997), 257.

<sup>31</sup> Erik Kirschbaum and Herbert W Stupp, *Burning Beethoven: The Eradication of German Culture in the United States during World War I*, 2015, 127.

*Brewing and Liquor Interests and German and Bolshevik Propaganda* in which they presented brewers as unpatriotic.<sup>32</sup> Almost all brewers were felt to be of “German birth and sympathy” and were condemned by the Senate. It was a logical step from this nativist report of 1919 to what German New Yorkers considered another anti-German piece of legislature – the enactment of prohibition.<sup>33</sup> New York brewers resented prohibition because they felt it was a direct attack against their heritage and held it responsible for destroying family beer gardens which had brought people together in their community for so many years. By the time prohibition was in full swing nearly all of the breweries in Brooklyn were forced to close and another prominent part of German culture disappeared from New York City.

Prohibition not only hurt ethnic groups culturally and economically but the movement also exacerbated fears towards hyphenated Americans. According to prominent historian Michael Lerner:

The history of American temperance movements was riddled with examples of bigotry toward and paternalistic disdain for nonwhites, immigrants, Catholics, and Jews. While many prominent dries did try to reach out across racial, ethnic, and religious barriers for the sake of building a stronger temperance movement, their work could be undone by an off-the-cuff comment, such as that of Purley Baker of the Anti-Saloon League, who declared that Germans “eat like gluttons and drink like swine.”<sup>34</sup> With wartime patriotism advancing the Prohibition cause, the conflict in Europe boosted the dries’ chances for success in another important regard. The Anti-Saloon League had always regarded New York’s large population of first- and second-generation immigrants as a significant obstacle to Prohibition, as they were expected to protest strenuously against any pending dry legislation. The conflict in Europe, however, unleashed a new wave of anti-ethnic sentiment in the United States cloaked as patriotism, which undermined the ability of ethnic Americans to challenge the dry movement in any meaningful fashion. In the context of the war, German Americans came under scrutiny as possible sympathizers of the Kaiser, Irish Americans were criticized for opposing the U.S. alliance with Great Britain, and Southern Europeans and Eastern

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<sup>32</sup> Tolzmann, *The German-American Experience*, 299.

<sup>33</sup> *Ibid.*, 300.

<sup>34</sup> Michael A Lerner, *Dry Manhattan: Prohibition in New York City* (Cambridge, MA: Harvard University Press, 2008), 30.

European Jews drew suspicion for their perceived radicalism. As a result, many ethnic New Yorkers grew reluctant to speak out against the dry agenda as long as the war raged in Europe. With the Anti-Saloon League loudly proclaiming, “The challenge to loyal patriots of America today is to demand the absolute prohibition of the liquor traffic,” many ethnic New Yorkers simply swallowed their opposition to the dry campaign for fear of appearing disloyal.<sup>35</sup>

Even prominent “dry” Americans spoke out about these “wet” ethnic groups and escalated anti-ethnic and anti-Semitic sentiment. When industrial titan, prohibition advocate, and anti-Semitic propagandist Henry Ford declared that “the Jews are on the side of liquor and always have been,” he intimated that the history of Jewry’s economic ties to alcohol and their political opposition to prohibition classified them as eternally un-American, incapable of abiding by the morality of the dominant culture.<sup>36</sup> Though their connection to alcohol had previously been a subject of communal pride, Jews now faced a difficult decision: change their attitudes toward alcohol commerce and consumption so that they conformed to the dominant culture or maintain their historical connection to alcohol and risk further alienation.

Prohibition was not successful in ending alcohol consumption because authorities failed to enforce the laws and many Americans viewed the movement as un-American and a violation of liberty. Speakeasies and bootlegging popped up all over New York City in protest. Organized crime families seized the opportunity to benefit from the backlash. The most notable of the Mafia families were of Italian and Jewish descent. Even though prohibition was essentially disregarded by a large portion of the population, the crimes and violence of the Mafia created even more fear and distrust for Jewish Germans in New York City. Prohibition ended on December 5, 1933 with the ratification of the 21<sup>st</sup> Amendment; however, the damage was already done and the movement succeeded in pitting immigrants against natives.

In the midst of prohibition, Congress passed the Immigration Act of 1924 on May 26, 1924 which put quotas on immigration and required all immigrants to obtain visas. President Coolidge announced to the country that the annual quota of any nationality would be reduced to two percent of the number of foreign-born individuals of each nationality in Continental United States as determined by the United States census

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<sup>35</sup> Ibid., 31.

<sup>36</sup> Marni Davis, *Jews and Booze Becoming American in the Age of Prohibition* (New York: New York University Press, 2012), Introduction.



of 1890.<sup>37</sup> Critics of the act claim that the drafters of the bill intentionally used population data from 1890 instead of 1910 or 1920 in order to promote Americanism and discriminate against the newer, darker skinned groups of immigrants such as the Japanese, Italian, and Eastern European Jews. The new law cut the quota for northern and western European countries by 29 percent, but slashed that for southern and eastern Europe by 87 percent.<sup>38</sup> Since British and Germans were the first large groups of immigrants to settle in the United States, German immigration actually benefited from the act. While Germany's quota was the largest at 51,227 persons, Italy's quota, for example, was reduced from 42,057 to 3,845 persons.<sup>39</sup>

As a result, a brief renaissance of German culture occurred. During the early 1930s new immigrants fleeing Nazi Germany came to America and many of them were scholars, scientists, artists, and musicians. The Frankfurt School for Social Research brought their entire faculty and continued their research at New York City's colleges such as Columbia University and the New School.<sup>40</sup> The new immigrants raised the level of German culture in the United States and had a great economic impact. However, trouble was brewing overseas and the renaissance did not last long. As news about the rise of antisemitism and the Third Reich spread throughout America, Germans and German-Americans once again faced distrust and scrutiny from their peers and the zeitgeist of the time became greatly anti-German.

Just as they did during World War I, German organizations and German-American societies in New York attracted attention as people grew to fear that spies existed within their ranks. While most of the organizations and societies were harmless and once again simply social in nature, a few pro-Nazi groups muddied the waters and created a great deal of unrest in New York City. This was first noticed in the hasty reaction to the emergence of the German-American Bund, a national pro-Nazi organization that had a headquarters just outside of New York City. Although many German-Americans made their opposition to this group known, and although the group represented an insignificant amount of people, public reaction made it seem as if it were a multimillion-member conspiracy. The Bund attained a total membership of only 6,300,

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<sup>37</sup> "Coolidge Proclaims Immigrant Quotas; New Act Goes Into Effect Today Basing Admissions on Census of 1890.," *The New York Times*, July 1, 1924.

<sup>38</sup> *Ibid.*

<sup>39</sup> *Ibid.*

<sup>40</sup> "10 Named to Staff of Exiles' College; Faculty of Ousted German Leaders Nearly Completed for Session Opening Oct. 1.," *The New York Times*, September 2, 1933.

of which 3,900 were German born or German-American; however, it was reputed to have a much larger membership due to the exaggerated claims of its leader, Fritz Kuhn who often asserted it had more than 200,000 members.<sup>41</sup> However what the Bund lacked in numbers it made up for with parades, rallies, and rhetoric.

The Bund's largest public display occurred at a rally at New York's Madison Square Garden on February 20, 1939. Security was overly heavy for the event and anti-German protestors lined the streets and conducted marches that delayed the event. When it finally occurred, the Bund celebration proved to be uneventful as Bundists gave speeches, sieg-heiled, and sang nationalistic songs.<sup>42</sup> Outsiders joined in on the festivities in order to take advantage of the free food and beer or simply out of curiosity; thus, the attendance numbers were inflated.<sup>43</sup> The next day *The New York Times* ran a two-page spread covering the event with the headline on the front page reading "22,000 Nazis Hold Rally in Garden" including pictures of the uniformed Bund members and anti-Nazi demonstrators.<sup>44</sup> The increased visibility of the Bund in public made New Yorkers and the American government uneasy as the fear that the group had ties to the Third Reich grew. As a result of the uneasiness surrounding the appearance of the Bund, congressional hearings were held which led to the formation of the infamous House Un-American Activities Committee, which received notoriety for its witch-hunting during the McCarthy era.<sup>45</sup>

German-Americans decided it was time to take a firm stand against the Bund, as well as against the Third Reich, so that the distinction between German-Americans and Bundists was crystal clear. New York's premier German-American newspaper the *New Yorker Staats-Zeitung*, for example, strongly attacked the Bund, and an officer of the Steuben Society in New York states that some of the Bund members were unfortunately of German stock but were of absolutely no credit to German-Americans.<sup>46</sup> In November

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<sup>41</sup> LaVern Rippley, *The German-Americans* (Boston, MA: Twayne, 1976), 203–206.

<sup>42</sup> Arnold Krammer, *Undue Process: The Untold Story of America's German Alien Internees* (London; Boulder: Rowman & Littlefield, 1997), 5.

<sup>43</sup> Susan Canedy and Mazal Holocaust Collection, *America's Nazis: A Democratic Dilemma: A History of the German American Bund* (Menlo Park, CA: Markgraf Publications Group, 1990), 223.

<sup>44</sup> "22,000 Nazis Hold Rally in Garden; Police Check Foes - Scenes As German-American Bund Held Its 'Washington Birthday' Rally Last Night." *The New York Times*, February 21, 1939

<sup>45</sup> Don Heinrich Tolzmann, *German-Americans in the World Wars*, Volume 4. (München, Germany: K.G. Saur, 1998), 325.

1939 the German-American Youth Federation held its conference and an anti-Nazi rally in New York aiming to demonstrate that German-Americans were loyal Americans and anti-Nazi. The conference also tried to prevent another outbreak of the anti-German hysteria of the First World War.<sup>47</sup>

Just as the media played a role in creating tensions for German-Americans during World War I, films produced in Hollywood portrayed negative images of Germans and German-Americans that created anti-German sentiment prior to World War II. According to Tolzmann “such images fanned flames of prejudice against the German community without providing a contrasting viewpoint representative of the majority of German-Americans of the day.”<sup>48</sup> New Yorkers flocked to propaganda films such as *Confessions of a Nazi Spy* that featured an FBI agent investigating Nazi underground activities in America and discovering an organized network of German-American agents.<sup>49</sup> Another film starring the popular Bowery Boys, *Ghosts on the Loose*, showed the Boys discovering that their neighbors were Nazi spies who had a printing press in their garage for producing propaganda.<sup>50</sup> The many examples above suggest that major studios purposely produced films that created the impression that an internal Nazi threat existed in the United States that clearly contributed to a call for action against the German community, especially in New York City.

As the possibility of war weighed heavily on the United States, government agencies joined together in peacetime to form the Alien Enemies Program and the Secret Intelligence Service which the Federal Bureau of Investigation Director J. Edgar Hoover oversaw. The Alien Registration Act of 1940 required all aliens, ages fourteen and older to register with the United States government. At that time, an alien was defined as any individual who was not a citizen of the United States and was living inside U.S. borders.<sup>51</sup> New York City Germans were forced to go to their local Post Office to register and fill out cards that were sent to the Immigration and Nationalization Service (INS) who assigned each alien enemy a number which became known as an A-Number. This

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<sup>46</sup> Tolzmann, *The German-American Experience*, 323.

<sup>47</sup> Canedy and Mazal Holocaust Collection, *America's Nazis*, 222.

<sup>48</sup> Tolzmann, *The German-American Experience*, 330.

<sup>49</sup> Holian, Timothy, *The German-Americans and World War II: An Ethnic Experience* (New York, NY: Peter Lang International Academic Publishers, 1998), 123.

<sup>50</sup> *Ibid.*, 124.

<sup>51</sup> “The A-Files: Finding Your Immigrant Ancestors - a-Files.pdf,” Enemy Aliens Program, National Archives, College Park, MD. Electronic Document. Accessed April 27, 2016. <http://www.archives.gov/publications/prologue/2013/spring/a-files.pdf>.

allowed the FBI and the INS to compile lists of people thought to be dangerous to the United States. Often all it took for someone's name to be added to the list was a complaint from a skeptical neighbor, a visit to a German church, or involvement on a German-American society's athletic team.

J. Edgar Hoover expanded the FBI's surveillance program and a New York City field office and an internment camp was set up at Ellis Island in conjunction with the INS. On October 10, 1941, two months before America entered the war, a confidential directive, one of many between the Office of the U.S. Attorney General and INS directors around the country, was sent to the director of Ellis Island in New York Harbor. The INS official was instructed to prepare for the arrival of foreign internees and informed that "It has been estimated there will be six hundred arrests monthly in the State of New York and two hundred in the State of New Jersey."<sup>52</sup>

After Japan bombed Pearl Harbor, President Roosevelt issued Presidential Proclamations 2525, 2526, 2527 branding German, Italian, and Japanese nationals as enemy aliens and authorizing internment.<sup>53</sup> Even before the United States declared war, the FBI raided the homes of many Germans in New York City and arrested those who had made Hoover's watch list on the basis of suspicion of disloyalty – not crimes. Renowned German Historian Don Heinrich Tolzmann writes about the pre-war arrests in his book The German American Experience:

An FBI memo dated December 8, 1941, from J. Edgar Hoover, identified people targeted for internment, including 636 German aliens, 1,393 American citizens sympathetic to Germany and 1,694 persons of German descent whose citizenship was unknown. Beginning on December 7, 1941 arrests of German-Americans in forty-one states began to take place. Arrests ranged from as few as two in Alaska to as many as 2,200 in New York. The actual number of people arrested was 6,362.<sup>54</sup>

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<sup>52</sup> "Memo from Joseph Savoretti for Lemuel B. Schofield, Special Assistant to the District Attorney, to District Director of Immigration and Naturalization, Ellis Island, N.Y. Harbor.," October 10, 1941, "Special Delivery and Confidential," 2pp., File 56125/3, Box 2399, 85-58A734. INS Records, Washington, D.C.

<sup>53</sup> Regarding the Enemy Aliens Program archive: "World War II Enemy Alien Control Program Overview," Enemy Aliens Program, National Archives, College Park, MD. Electronic Document. Accessed April 21, 2016 <http://www.archives.gov/research/immigration/enemy-aliens-overview.html>.

<sup>54</sup> Tolzmann, *The German-American Experience*, 337.

On April 1, 1942, the *New York Times* ran a story that would greatly exacerbate the prejudice Germans and German-Americans faced in New York City. The headline read “FBI Tightens Curb on 256,000 Aliens” and the article described how the FBI conducted check-ups on all of the aliens on their watch list in an attempt to uncover German spies and Nazi sympathizers. One German-American in New York City who experienced these raids was Arthur Jacobs who recalls:

“In my case, the FBI ransacked our home three times. Each time they searched our home they came up empty handed – no contraband or propaganda. During their ransacking searches they would throw items all over the place out of drawers onto the floor; and invariably they would leave all the cabinet doors ajar. It would take my mother hours to get things back in order. After each search my mother would be in tears and frightened and devastated.”<sup>55</sup>

Arthur Jacobs’ father was soon arrested and sent to the internment camp at Ellis Island, where his family would join him because his mother was unable to support their family while his father was detained. He would later be transferred to another internment camp in Crystal City, Texas but his family found themselves back at Ellis Island after the war. Soon his family was deported to Germany where they were imprisoned at a place called Hohenasperg.<sup>56</sup> The Jacobs family is just one example of the unjust treatment German-Americans in New York City encountered at the hands of the FBI.<sup>57</sup>

By the end of the war, 10,905 Germans had been rounded up and shipped to internment camps throughout the country. Approximately 1,600 of those interned were from the New York City area.<sup>58</sup> The most famous and ironic of the temporary detention facilities was Ellis Island. During the course of the war, the Ellis Island camp detained approximately 7,000 internees while they awaited hearings, transfers to another internment camp, and even deportation back to Germany.<sup>59</sup> Six exchange voyages

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<sup>55</sup> Email from Arthur Jacobs, “Archives from Ellis Island Event,” March 29, 2016.

<sup>56</sup> *Ibid.*

<sup>57</sup> Through my research on German Internment during WWII, I was able to read 27 interview transcripts of individuals of both German and German-American descent who were interned at Ellis Island during World War II. Arthur Jacobs’ case is just one of many from the New York City area. Further information can be found on file in the archives at Ellis Island.

<sup>58</sup> “U.S. Has Interned 1,600 From This Area, FBI Says,” *The New York Times*, December 8, 1943.

<sup>59</sup> “The Statue of Liberty & Ellis Island,” <http://www.libertyellisfoundation.org/ellis->

departed Ellis Island carrying approximately 2,650 German immigrants and their American-born children back to Germany, many of whom were being traded for American prisoners of war. After the war, Germans were released from the internment camps, but many did not return to their native cities such as New York City and chose to start over in cities and towns near their detainment camps. New York City's German population changed drastically and the new wave of German refugees who flooded to the United States after the war did not settle in the metropolitan area. To put this in perspective, Tolzmann notes that in 1900 New York City had 324,224 citizens of German decent compared to only 185,467 in 1950.<sup>60</sup>

According to modern census reports, only 3.6% of New Yorkers identify with having German ancestry<sup>61</sup>, even though it is still one of the largest ethnic groups in the United States. Perhaps this can be attributed to the stigma that has stuck to German-American culture in New York even after all these years. As a result of the prejudices and Anti-German sentiments that ran rampant during the two World Wars, people are less likely to self-identify as being of German descent. After World War I, regulations that caused the change of name for German derived street and building names or the banning of German books in libraries were not revoked. Instead, the stereotypes and restrictions that grew during World War I created precedents that allowed the prejudices and violations against Germans and German-Americans to strengthen during World War II. Neighborhoods such as "Little Germany" and Yorkville never truly bounced back and while there are still a few areas that were once dominated by German culture, it requires a very hard look at the neighborhoods to identify the remains of German heritage in those areas today. Propaganda in the media and the anglicization of German words virtually wiped German culture off the New York City map while unethical government agencies forced Germans and German-Americans out of the city.

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<sup>60</sup> Tolzmann, *The German-American Experience*, 448.

<sup>61</sup> "American Community Survey 2007-2009," U.S. Census Report.

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## **The Effect of Storytelling in Isabel Allende's *Eva Luna***

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In *Eva Luna* by Isabel Allende, storytelling is a major part of the protagonist's survival and identity. Eva Luna uses her gift of storytelling throughout the challenging conflicts she faces and, by the end of the novel, it shapes her overall outcome in life. Storytelling was an important part of Eva Luna's journey and it was something that she always had in her life from early childhood. Throughout *Eva Luna*, readers can see the life changing impact that storytelling had on Eva's life, from the moment she was born all the way to her adulthood. She was influenced by her relationships and her environment, which shaped her stories in a unique way.

Isabel Allende was strongly influenced by feminism and narration, both clearly evident in *Eva Luna*. In the novel, the reader sees the effect of femininity and storytelling, which correlates to Isabel Allende's personal life experiences. Michael Sollars writes about Isabel Allende and says that *Eva Luna* reflects "her growing awareness of her own identity as a woman and a writer" (17). When writing *Eva Luna*, Allende incorporated many of her own traits into this main character. Joan Axelrod-Contrada comments that, "The title character of the novel, Eva Luna, uses her talents as a storyteller to change her life. An idealized version of the author herself, Allende called the character "my dreamself" (77).

Eva Luna first witnessed the power of storytelling from her mother, Consuelo. She constantly reflects on the influence that her mother's stories had on her when she was growing up. Even though Consuelo died when she was young, the life changing effect of her stories kept her alive through Eva's eyes. Eva Luna describes her mother's stories and says, "She manufactured the substance of her own dreams, and from those materials constructed a world for me. Words are free, she used to say, and she appropriated them; they were all her. She sowed in my mind the idea that reality is not only what we see on the surface; it has a magical dimension as well and, if we so desire, it is legitimate to enhance it and color it to make our journey through life less trying" (22). Eva Luna was so intrigued by the characters in her Consuelo's stories and the tone that each one

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possessed. Jacoba Koene comments that “In the privacy of her room, Consuelo offers her young daughter the one gift she has: the gift of storytelling. Her creative imagination allows her to escape from the silence to which she submits in her day to day life, and to invent a new way of encoding reality” (69). Her mother’s stories were the only part of her early childhood that she clearly remembers and, as the reader can see, she takes this concept of storytelling with her throughout the many different homes in her life. Storytelling, which began with her mother, enabled Eva Luna to see the world through a different perspective than most people. She did not see it literally, but through a creative, imaginative point of view: “One word from me and *abracadabra!* reality was transformed” (25).

When Eva’s mother died, she knew that she wanted to continue her mother’s storytelling legacy so she wouldn’t forget her. Her mother said before she died, “There is no death, daughter. People die only when we forget them. If you can remember me, I will be with you always” (43). Sporadically throughout the novel, Eva Luna, in difficult times, will speak to her mother. Storytelling helped to preserve her memories of Consuelo and the characters she used to create. Karen Castellucci Cox writes that, “Her actual mother, Consuelo, lends a measure of fantasy to both women’s lives. Consuelo organizes her world through storytelling and so demonstrates to her child that “words are free”, and one of the few pleasures that people of all stations might enjoy alike. Eva’s original talent is received from her mother; its development is nurtured by others” (85).

When Eva Luna left the house of Professor Jones, after her mom died, she began to work in a house of an elderly brother and sister. Here, she befriended the cook Elvira, whom she called *abuela*: “Only Elvira paid any attention to me, making me eat, teaching me how to do domestic chores, relieving me of the heaviest tasks. We spent hours talking and telling each other stories” (57). Elvira was someone whom Eva Luna trusted and felt comfortable with. They were able to bond and form a close relationship from the stories they would tell each other. Eva was able to use her imagination with Elvira when she would help in the kitchen: “I would run to the kitchen, and while I helped Elvira put things away I besieged her with stories of enchanted carrots and peppers that turned into princes and princesses when they fell into the pot and jumped out of it with sprigs of parsley tangled in their crowns and broth streaming from their royal garments” (58).

One of the paintings in this master’s house always caught Eva’s attention. It was a seascape that Eva Luna couldn’t stop staring at. She didn’t just think of it as a painting, but she thought of the different stories that she could create to go along with it. At this point she remembers her mother and says, “Among the countless stories my mother had

told me, I always preferred those in which the sea played some part; afterward I would dream of distant islands, vast underwater cities, oceanic highways for fish navigations. In the presence of that painting, I recaptured those earlier emotions, either when I stood close enough to hear it speak or when I watched it while I was doing my household chores; each time I could smell a faint odor of sails, lye and starch” (59). Eva Luna would offer to tell Elvira a story if she would let her sleep with her. She tells Elvira so many different types of stories and Elvira comments, “There must have been a lot of sap in your mother’s womb to give you such a mind for telling stories, little bird” (60). From this point in her life, Eva Luna is able to connect with Elvira through her stories. Elvira gives her the encouragement to tell her stories and serves as a motherly figure for Eva.

When Eva runs away from this master after having an argument with her *patrona*, because she was always looking at the seascape painting, she began to roam the streets and take in her surroundings. She noticed a *campesino* singing and sees the resemblance between singing and storytelling: “Under my breath I tried imitating him, and discovered how much easier it is to remember stories when you rhyme—the story dances to its own music” (62). During her time roaming the streets, she meets Huberto Naranjo. Eva Luna uses her storytelling, as a way to survive. She offers to tell Huberto Naranjo a story as a payment for being so nice to her and for taking care of her. Huberto Naranjo tells Eva to tell a story about bandits and Eva’s imagination instantly begins to wander: “I took inspiration from several episodes I’d heard on the radio, some ballads I knew, and a few ingredients of my own invention, and began spinning a story of a damsel in love with an outlaw, a real jackal who resolved even minor disagreements with bullets, strewing the landscape with widows and orphans” (65). Eva uses real world events and combines them with her own ideas and creates her own story. When Eva finishes telling her story, Huberto says “That’s a stupid story.... But, all right, I would like to be your friend” (66). During this scene in the novel, the reader can see how Eva’s gift of storytelling helped her form relationships with the many different people she met throughout her life.

Eva Luna did not have any proper education. She was able to learn from the radio and the people around her: “Often only a word or two would string together a rosary of images in my mind. Once I heard a delicious new word and flew to ask Elvira, *Abuela*, what is snow? From her explanation I gathered it was like a frozen meringue. At that moment I became the heroine of stories about the North Pole; I was the abominable snow woman, hairy and ferocious, battling the scientists who were on my trail hoping to catch me and experiment on me in their laboratory” (73). As Eva Luna learned new

things, she would begin to incorporate them into her stories. Karen Castellucci Cox writes that, “The cook, Elvira, offers a ready audience, entreating Eva for new stories each evening. Eva explains that gaining her adopted *abuela*’s favor and a safe place to sleep was how the budding storyteller learned to barter words for goods. Likewise, the eccentric old cook introduces Eva to the radio serials that offer the girl a template for thousands of stories” (85).

When Eva Luna had to leave Elvira, it was difficult for her because she loved telling stories to her. Elvira would visit Eva and Eva said that, “Elvira would ask me for a long story to last till next visit” (107). Eva Luna’s stories would help keep her *abuela* in her life. When Eva worked in the minister’s house, it was fancy and immaculate, and banquets were held there often. Eva would notice this rich lifestyle and look forward to putting it in her stories: “Ten white gloved waiters attended the guests, while I watched from behind the draperies of the grand salon, fascinated with the refinements that furnished a wealth of new material for embellishing my stories. Now I would be able to describe royal feasts, reveling in details I could never have invented” (111).

Eva Luna runs away from this house and is back on the streets again. She searches for Huberto Naranjo and when she finds him, he remembers her as “the one who told stories” (115). This shows that storytelling is part of Eva Luna’s identity and that she is beginning to become known for her stories. He takes Eva to live with La Señora, and all the women who work for La Señora beg Eva to tell them about current events on the radio and Eva “would invent a dramatic ending that never coincided with the real one” (127).

Eva Luna’s next master, Riad Halabí, was the one who truly began to develop Eva’s education. Lynne Diamond Nigh writes, “Her stories form part of literary oral tradition. She learns the art of storytelling from her mother, learns to use her stories as tools of barter, survival, escape and emotional comfort, but it is not until the mid-point of the novel, which takes place in Agua Santa with Riad Halabí, that she gains the skills of reading and writing” (36). Halabí knew Eva had to learn how to read and write, so he made her take lessons with the schoolteacher Inés. Eva Luna was instantly in love with learning and she saw it as an opportunity to further develop her storytelling. She reflects on her experience with the schoolteacher Inés and says, “Writing was the best thing that had happened to me in all my life; I was euphoric. I jotted down thoughts, the names of flowers, birdcalls; I made up words. Being able to write allowed me to remember without rhyme, and I could make my stories more complex, with multiple characters and adventures” (152). Eva absorbed everything she learned with such eagerness. The

thought of creating new characters and new places in her storytelling made her a more avid, talented narrator. Her life with Riad Halabí and her instruction with the schoolteacher Inés had a significant impact on her stories and her writing: “I was too busy to think about myself, but a yearning and restlessness began to appear in my stories that I had not known were in my heart. I began to spend parts of the night writing, and I enjoyed it so much that the hours sped by and I often got up in the morning with red eyes. But those were my best hours. I began to wonder whether anything truly existed, whether reality wasn't an unformed and gelatinous substance only half-captured by my senses” (187). Her experience with Riad Halabí made her begin to see the world differently. She realized that not everyone perceived things in the same way. Through her storytelling, Eva was able to create anything she wanted and she had the freedom to determine the outcome of her stories. Everything happening in her stories depended on her: “I had only to speak the right word to give it life. At times I felt that the universe fabricated from the power of the imagination had stronger and more lasting contours than the blurred realm of the flesh and blood creatures around me” (188). Eva’s storytelling was something she relied on as she lived in different places. She truly believed that creating a story, with her own ideas and her own interpretation of reality, was a much more rewarding way to live.

When Eva returns to La Calle República, where she lived with La Señora, she meets Melesio again, who is now called Mimí. When Mimí sees Eva she says, “Aren’t you the girl who used to tell the stories?... Eva Luna?” (206). Once again, similar to when Huberto Naranjo recognized her, Eva Luna’s storytelling has become part of her identity. Eva stays with Mimí who strongly encourages her to pursue her storytelling as a career. Eva is reluctant to pursue her gift of storytelling: “I doubted whether there was any practical application for my talent; until then it had served only to add a little color to life, and to allow me to escape to other worlds when reality became too difficult to bear” (212). At this point in the novel, the reader can see how Eva’s storytelling passes from her childhood to her adulthood. She used to tell stories for the pure fun of it or as a way to escape reality, and now she tries to use her talent and make a career out of it. When Mimí buys Eva a typewriter, Eva is so overwhelmed by the power that storytelling has on her life:

“I believed that that page had been waiting for me for more than twenty years, that I had lived only for that instant, and I hoped that from that moment my only task would be to capture the stories floating in the thin air, to make them mine. I wrote my name, and immediately the words began to flow, one thing linked to another and another. Characters stepped from the shadows where they had been

hidden for years into the light of that Wednesday, each with a face, a voice, passions and obsessions. I could see an order to the stories stored in my genetic memory since before my birth, and the many others I had been writing for years in my notebooks. I began to remember events that had happened long ago; I recalled the tales my mother told me when we were living among the Professor's idiots, cancer patients, and mummies" (251).

The instant that Eva Luna begins to physically type her stories, she begins to remember all the people she has met throughout her life and the characters she could put in her stories, as a result of these relationships she's made. If it weren't for Mimi pushing her to become a writer, Eva would never have had the motivation to further develop her talent of telling stories.

Eva Luna meets Rolf Carlé, and they share a special connection from their stories. Rolf Carlé tells Eva the dark stories about his sister's death and his mother. Sonia Kotiah writes that "By focusing on survival, Eva Luna's stories collectively formulate a narrative plan to transform oppressive situations into happy endings for everyone" (33). Eva Luna retells his story from a more positive perspective so they wouldn't sound so grim. Rolf Carlé is intrigued by Eva's stories and when they are helping Huberto Naranjo in the guerrilla movement he asks Eva to tell him a story: "Tell me one you've never told anyone. Make it up for me" (280). Eva begins her own television soap opera and Rolf Carlé encourages her to write about the guerrilla movement. Eva explains the name of her television drama and says, "in a fit of sentimentality I had called it *Bolero*, as homage to the songs that had nurtured my girlhood hours and served as a basis for so many of my stories" (296). Eva was able to form a career doing something she loved. She was completely immersed in the world of her stories and everyone who watched her soap opera could see Eva's genuine personality as gifted storyteller. S.E. Carvalho writes that Eva Luna is "a woman who inherited from her mother both a gift and a need to create stories as a refuge from a harsh reality" (55). The reader clearly sees how Eva's difficult lifestyle, with its constantly changing homes, culminates in her storytelling. Her experiences, both positive and negative, strongly affect her stories.

Throughout *Eva Luna*, there are many references to *A Thousand and One Nights* and many similarities between Eva Luna and Scheherazade. Eva Luna and Scheherazade were both storytellers, who used the power of their stories in order to survive. Isabel Allende read *A Thousand and One Nights* when she was young and Stephen Gregory writes that "It left her with a love for storytelling and a love for the sensuous world it portrayed" (82). In *Eva Luna*, the epigraph is taken from *A Thousand and One Nights* and

says, “Then he said to Scheherazade: “Sister, for the sake of Allah, tell us a story that will help pass the night”. This reflects the entire theme of *Eva Luna* and how Eva used her storytelling for survival, for friendship, and for love. In the novel, Riad Halabí gives Eva a copy of *A Thousand and One Nights* and she immediately becomes immersed in it: “I completely lost sight of reality. Eroticism and fantasy blew into my life with the force of a typhoon, erasing all limitations and turning the known order of things upside down. When I knew them by heart, I began to transfer characters from one story to another, to change the anecdotes, to add and remove details—a game of infinite possibilities” (153). Reading *A Thousand and One Nights* allowed Eva Luna to further expand her creativity as a writer and a storyteller. It also allowed her to form a unique relationship with Riad Halabí’s wife, Zulema. She would tell Zulema these stories and eventually Zulema learned Spanish. Both Eva Luna and Scheherazade lived by the power of their stories. Scheherazade each morning is on the verge of execution by the king, but the king continuously keeps her alive because he wants to hear her stories. Many times when Eva Luna was between masters or living on the streets, she used her talent as a storyteller in order to survive. Stephen Gregory says, “The main idea within *Eva Luna* is based on the woman narrator Scheherazade who exchanges her stories for what she needs. Scheherazade saves her life with her storytelling. She reinvents reality, she paints it in different colors and while she is at it, she saves her own life” (82).

Eva Luna’s gift of storytelling is a significant part of *Eva Luna*. Isabel Allende was able to successfully portray her love for storytelling through this female protagonist. Eva’s stories slowly evolved throughout her life and eventually began her television soap opera, *Bolero*. Her living situations and the people she meets have a strong influence on her stories. Eva was able to use her talent to create an escape from reality and to create the freedom she needed to produce her own world in her stories. Sonia Kotiah writes that, “Rescued, healed and ‘adopted’ by the equally *mestiza* *madrina* and the *abuela*, Eva Luna redefines her liminal *mestiza* identity within the more celebrated space of oral storytelling” (32). Her stories represented her life and, by the end of the novel, readers can see the effect that storytelling had on the development of Eva’s identity from her childhood to her adulthood.



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