

Symposium

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Letter from the Director

Let's start with a quiz! What is the most frequent number of issues in the run of any undergraduate journal? What's that? A hand up asking for clarification? Okay...when a group of undergraduates begin a journal, what is the most common number of issues that they publish before it folds? Got it? Good. Pencils down. Answer: 1.

That's just one of the reasons I'm so happy to be writing this introduction to Volume 2 of Symposium: The Ithaca College Honors Program Undergraduate Research Journal - we've already exceeded the life expectancy of this type of publication! Why do undergraduate journals so often fail so quickly? Well, for one thing, they're really hard to do. You need to have a dedicated staff, willing contributors, and enough structure to get the job done. Secondly, most schools just don't have enough focus on undergraduate research to generate sufficient interest in publication. Finally, and perhaps most importantly, most undergraduate journal editorial staffs suffer from a lack of continuity; dedicated editors graduate, people lose interest, everybody forgets everything over the summer...you get the picture. Happily the editors of Symposium have navigated around all of these thickets and the journal has come out in great shape and in a timely fashion. Congratulations to Chloe Wilson and her terrific editorial staff!

The other reason that I'm happy to be writing this introduction is that once again I get to be struck by the great variety of interests as well as the quality of the writing evidenced by our program's scholars. In this issue of Symposium we find articles on the use of music as an aid to exercise, the depiction of "Jake Leg" paralysis in American blues music, the ethics of food production, recommendations regarding teaching about poverty in New York high schools, the theoretical problem of authorship in Anna Deavere Smith's *Fires in the Mirror*, the scientific validity of Native American theories of nature, violence against women in the Classical era, female sexuality in early blues music, opposition to democracy in ancient Athens, and the effects of music on patients with Parkinson's disease. This variety is a mark of an engaged and vigorous program full of students vitalized by that most wonderful virtue, curiosity.

I'm sure that this time next year I'll be reading Volume 3 of Symposium with the same sense of excitement and pride.

Cheers,



Bob Sullivan
Director, Ithaca College Honors Program

Letter from the Editor

Dear Readers,

It's hard to believe that this is only the second volume of *Symposium*!

This journal would not be possible without the support of many people, ranging from the writers to the editors to the readers, but *Symposium* can mainly be credited to one person – Program Director Bob Sullivan.

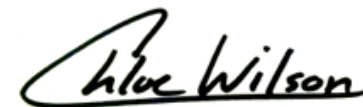
Bob, this volume of *Symposium* is dedicated to you. Thank you so much for everything you've done as the Honors Program Director – you've changed a lot of lives and, though your office is moving, us Honorites will still seek you out. The Ithaca College Honors Program would not be the same without you and, speaking from personal experience, I would not be a member of this program had you not extended the invitation.

Thank you, Bob, for everything.

That said, we are so excited to work with the new Program Director, Thomas Pfaff, who has shown nothing but support and excitement for us. Welcome to the fold, professor! We're so excited to have you.

Symposium has always been a forum for learning and discussion, and we continue this with our new volume. I encourage you to read these pages with an open mind. You'll never know what you might discover.

Best,



Chloe Wilson
Editor-in-Chief

Jake Leg: A Mystery Solved Through the Blues

Adrienne Cocci

Class of 2013 Health Science, B.S.

Jake Leg was a condition that rose to epidemic levels during prohibition. Thousands of people become paralyzed when bottles of Jake or “Jamaican Ginger Extract” were contaminated. People were drinking it for its high alcohol content, and since it was legal, it became a popular substitute. Although this epidemic seems like something that would be discussed in a history or epidemiology class, information about this condition is nearly nonexistent except for blues lyrics. The voices of blues artists both black and white of this time period sang about the horrors of Jake Leg. It is possible that we would know little to nothing about this epidemic if not for the survival of this music.

“Jake Leg, Jake Leg what in the world you trying to do? Seems like everybody in the city’s messed up on account of drinking you” are the words of Ishmon Bracey, an African American Delta Blues musician. Jake Leg caused thousands of people in the United States to become paralyzed in the early 1930s, but today most people have never even heard of it. Although this epidemic seems like something that would be in American History textbooks, the information was almost lost because of the lack of recorded evidence during the time. Most of what we now know about this disease came from the lyrics of blues artists both black and white from the 1930s. Current research suggests that without the lyrics from the blues music of this time, this epidemic may have been forgotten entirely.

Dr. John Morgan a professor at New York Medical College and a Blues enthusiast began to investigate the claims of a new type of paralysis sung about in the 1930’s. He likes to think of himself as a pharmaco-ethnomusicologist for his work on Jake Leg. He researched Jake for almost twenty-seven years and even tracked down victims to gather

primary data. Morgan believed that one of the main reasons that the epidemic fell off the radar was because of class. Most of the men who were affected by Jake were migrants and were seen as poor drunks. With that stereotype working against the victims, many never received justice (Baum).

The “Jake” part of Jake Leg is the common name for Jamaican ginger extract. Jamaican ginger extract had been available in the United States since 1863 as a patent medicine as a remedy for headaches and digestive problems (Morgan 804). However, Jake was mostly used for its alcohol content, which was about 70% (Parascandola 361), though other sources claim that Jake could be up to 85% alcohol (Baum 51). This became very important during Prohibition because the Volstead Act of 1919 did not stop the distribution of alcoholic beverages for medicinal purposes (Okrent 193). While the wealthy got their alcohol from Canada and the hillbillies had access to stills out in the country, the urban and small town poor were reduced to getting their alcohol through means rubbing alcohol, hair oil, Sterno, doctored antifreeze and, of course, Jake (Baum

51). A bottle of Jake cost about thirty-five cents and was available in pharmacies and groceries. Some stores would even have a room in the back where people could drink Jake so as not to draw attention to themselves (Baum 52). Usually, Jake’s side effects were no different than regular alcohol. Since it had been used for so long, there was no reason to think at first that this strange paralysis had anything to do with Jake.

Jake Leg was first discovered in Oklahoma City by a physician named Ephraim Goldfain. On February 27, 1930, an unknown patient walked into the hospital and was described as having, “feet dangle[ing] like a marionette’s, so that walking involved swinging them forward and slapping them onto the floor” (Baum 50). The patient explained to Goldfain that he wasn’t in any pain, but his legs were literally just useless below the knee. In the 1930’s, paralysis usually meant polio but Goldfain knew that it didn’t look like polio, so he was forced to look for another cause. He thought that it might be lead poisoning, but those blood tests also came back negative. That patient was not the only person who came in with those symptoms that day, five more patients by the end of the day had the same type of paralysis. One of his patients was a podiatrist who thought he had gotten the disease from one of his patients who were experiencing the same type of leg problem. He gave Goldfain a list that had a total of 65 people on it that had similar symptoms. The paralysis did have some range; some could walk on crutches, some couldn’t move their legs, and others couldn’t use their legs or hands (Baum 51). Goldfain knew that something was going on, but he did not know what.

There were no children and hardly any women who got this paralysis. Also, all of the men came from a seedy part of town and were described as,

“stewbums, boozegobs, hooch histers and drunks” (Baum 51). It was not far fetched to think that the paralysis had to do with some form of tainted alcohol. When investigators discovered that it was specifically Jake that had been tainted many rumors began to take hold. Many believed that Jake had been contaminated with lead, arsenic or petroleum alcohol had been used instead of grain alcohol (Baum 54).

Maurice Smith, a pharmacologist discovered the mystery behind the poisoned Jake. He headed the National Institute of Health’s investigation of Jake and was assisted by the chemist Elias Elvolve (Parascandola 362). Smith published a paper entitled “The Pharmacological Action of Certain Phenol Esters, with Special Reference to the Etiology of So-Called Ginger Paralysis” the same year the paralysis was discovered, which summed up the mystery of the paralysis. In his paper, Smith concludes that the substance that caused the disease was that,

Tri-ortho cresyl phosphate, and in so far as the present evidence goes, it alone can produce in experimental animals a specific type of motor paralysis of the extremities in every sense comparable with that which occurred recently in human victims who drank of an adulterated fluid extract of Jamaican ginger (Smith 2520).

Tri-ortho cresyl phosphate (TOCP), the chemical compound that led to Jake Leg is being studied even to this day. In technical terms, “Jamaican ginger extract adulterated with TOCP led to organophosphate (OP) compound-induced delayed neuropathy (OPIDN)” (Rainer 780). OPIDN means that there is an effect on the nervous system (sensory-motor signals degenerate) that does not occur immediately. For example, after somebody drank Jake they did not have immediate paralysis. As described in Rainer’s paper, OPIDN usually starts with sensory

impairment, ataxia (lack of coordination in muscle movements) and weakness, eventually leading to paralysis of the extremities (Rainer 780). This is consistent with what doctors described in the 1930s.

Though investigators had found the chemical causing the paralysis, they still had to find out how it got into some bottles of Jake. The tainted Jake was traced back to Harry Gross and Max Reisman, bootleggers and brothers-in-law from Boston. For instance, in 1921 they got there Prohibition Bureau Permit revoked when they shipped five gallons of pear extract to an Indian reservation which was prohibited. They were under investigation of being bootleggers since 1926 and continuously changed their business name. In 1928, they changed their business name to Hub Products whose main purpose was to be a full-time producer of Jake. They shipped Jake throughout the United States and had the containers labeled “liquid medicine in bulk” (Baum 56). Since it was liquid medicine, it was considered legal even though it contained high amounts of alcohol.

Gross and Reisman wanted to make a bigger profit by making Jake less expensive to produce as well as not taste so bitter (56). During Prohibition, the United States Pharmacopeia (USP) stated that the liquid extract was legally marketable mainly because of the taste. Jamaican ginger extract had high amounts of the oleoresin of ginger which gave it a very bitter taste (Parascandola 361). In the USP’s view, nobody would want to drink it for the alcohol content because it tasted so bad.

The first compound they ordered to replace castor oil was dibutyl phthalate which was a clear liquid with a high boiling point (which is what was needed to replace the castor oil). However, this was deadly so it was rejected. The next substance that

they looked at was ethylene glycol which was also a clear oily chemical which had been suggested to them by Martin Swanson who was unaware of their intentions. Ethylene glycol burned off too quickly.

Why does this matter? Gross was actually replicating a test that the government would use if they tested his Jake. To test Jake, the entire product would be weighed then the alcohol would be burned off and what remained would be weighed. The remaining amount was important because it determined how much alcohol was burned off. Since the ethylene glycol burned off with the alcohol, the government would not have been fooled. Ultimately, this was good for people who drank jake because ethylene glycol was also lethal (Baum 56). Finally, at a loss for why his suggestions weren’t working, Swanson suggested Lindol which is the trade name for tri-ortho-cresyl phosphate (TOCP). Swanson had been told that TOCP was not lethal and as a result his clients were very happy. Reisman and Gross bought a hundred and thirty-five gallons of TOCP. It is estimated that this much TOCP could have been put in six hundred and forty thousand bottles of jake (Baum 56).

Eventually, an employee of the company stepped forward and exposed the two brothers-in-law. The consequences, however, were not that severe. When they were finally brought to trial in February of 1931, they were charged with conspiracy to violate and with violations of both the Prohibition Act and the Food and Drug Act. Under a plea-bargain they were both fined \$1,000 and sentenced to two years in prison, which was changed to two years of probation. The FDA was unhappy about the sentencing so they worked to acquire new evidence. As a result of the FDA’s efforts, Gross was charged with violation of his probation in 1932 and was ordered

to serve his two year prison sentence. For a reason that is not fully understood, the judge would not hear the case against Reisman, so he did not have to serve his jail sentence (Parascandola 363). All in all, these men got off lightly considering how many men they permanently injured.

But exactly how many men were injured? The exact number is hard to estimate, but there were thousands. According to Parascandola, there were enough people that were effected by Jake that some of the victims founded the United Victims of Ginger Paralysis Association which claimed to have 35,000 members (363). Areas that were hit the hardest were New England and the South. New England was hit hard because it was close to where the Jake was made and the South because there was a larger market for it. One of the hardest hit areas was Johnson City, Tennessee where one Jake victim commented, “You can go to the streets of Johnson City... you can count three or four hundred people in the same condition that I am” (Baum 51). Jake Leg was not something that just a few of the town drunkards were getting; it was a full blown epidemic. According to a study done by Leblanc, most victims were men around the age of 48 that worked blue-collar jobs (Morgan 805). However, there were very few black men that were reported to have the disease.

The lack of African Americans reported suffering from Jake Leg was very low, not because they were not drinking Jake, but was due to the fact that they were not being treated for it. Some reports say that poor African Americans were more likely to drink moonshine, but the prevailing view is that they were not being admitted into the hospitals and were not being counted in the statistics (Morgan 805). One of the reasons that researchers know that the black community was hit so hard is because of

the music of African American blues singers of the 1930’s.

One such singer was Ishmon Bracey. Ishmon Bracey was from Mississippi and was a known associate of Tommy Johnson, another delta blues singer (Oakley 141). Johnson and Bracey are the first recorded artists who sang about Jake Leg. Their Jake songs were recorded in Grafton, Wisconsin by Paramount Records in March of 1930 right after the first case in Oklahoma City was discovered in February of 1930 (Baum 52). The two songs that were recorded were Jake Liquor Blues and Alcohol and Jake Blues. However, a copy of Tommy Johnson’s song has never been found and it is possible that it was just never released (Morgan 806). Bracey lived close to Jackson, Mississippi so it is possible that Jackson is the city that he is referring to in his song. According to Baum, there were at least one thousand cases of Jake Leg in Mississippi. The fact that black blues artists were singing about Jake Leg implies that they had a personal connection with it, therefore it was most likely very present in the African American community.

Bracey and Johnson were not the only African American blues singers that recorded Jake Leg songs. The Mississippi Sheiks and Willie Lofton both had songs called Jake Leg Blues. The Mississippi Sheiks song came out in June 1930 while Willie Lofton’s song was not recorded until 1934. The Mississippi Sheiks were actually one of the many names that the Chatmon brothers Sam and Bo went under (Oakley 52). They were Delta Blues musicians like Bracey and Johnson. Their song is fairly long and places the blame of Jake Leg on prohibition, “You thought the lively man would die when you made the country dry/ When you made it so that he could not get not another drop of rye.” The Mississippi

Sheiks believed that if prohibition had never been passed, then this unfortunate incident would never have occurred. People getting paralyzed seemed a lot worse than people drinking alcohol. There would have been no market for Jake beyond the use of medicine if liquor had been readily available.

While the African American artists were all Delta Blues musicians, there were white performers who had a different sound and still sang about Jake. The most important of the white musicians were The Ray Brothers, Asa Martin and the Allen Brothers. The Ray Brothers were from Mississippi and recorded their song “Got the Jake Leg Too” in 1930. They also had another song called “Jake Walk Wobble” which was purely a fiddle piece. Their song, “Got the Jake Leg Too” sounds country, mostly because of the fiddle accompaniment. What is interesting about their song is that they go through the names of a few different people with Jake Leg that have it including a woman named Dinah, showing that even though most people who got Jake Leg were men, women were also affected. Asa Martin from Kentucky recorded Jake Walk Papa in 1933 (Morgan 807). This song however, is was very close lyrically to The Allen Brothers hit song “Jake Walk Blues” released in 1930. The Allen brothers, who also had a country sound, were the most successful at selling their song about Jake Leg. “Jake Walk Blues” sold 25,000 copies in the few years immediately after the Jake epidemic (Morgan 806). All of these artists, black and white, saved the knowledge about Jake Leg epidemic through their music by referencing symptoms, locations of the epidemic, and individuals who had the disease. As is seen in blues music, many lines are shared among the songs which reinforces what we know about the epidemic.

One example is how often the symptoms of

Jake Leg are brought up in the songs. “Jake Leg” or Jake Walk” were terms that newspapers used to describe the awkward gait that people with the paralysis had. Other nicknames like “ajkeitus, jakeralysis, and gingerfoot” also persisted. All of the songs would mention this kind of walk. For example, a line that is shared between the Allen Brothers song, Jake Walk Blues and Asa Martin’s Jake Walk Papa is the opening line, “I can’t eat, I can’t talk, Been drinkin’ mean jake, Lord, now I can’t walk/ Ain’t got nothin’ now to lose, Cause I’m a jake walkin’ papa with the Jake Walk Blues” (Allen Brothers, Martin). The song shows how there is a direct correlation between drinking Jake and not being able to walk correctly. Another example of how the songs show the relationship between drinking Jake and not being able to walk correctly is a line from the Mississippi Sheiks song, “If you sell him Jake, you’d better give him a crutch too.” For most people, the paralysis was bad enough that they couldn’t get along without some sort of assistance and were forced from their jobs.

There was one other symptom that was mentioned by every black performer, impotence. Baum claims that Morgan said, “If [Jake] it hadn’t made men impotent, there might not have been any music at all” (53). Not being able to walk was one thing, but not being able to have sex was another. Terms describing impotence in blues music include “limber leg” and “limber trouble” (Baum 53). The two songs that are most explicit about this side effect were Ishmon Bracey’s “Jake Liquor Blues” and Willie Lofton’s Jake Leg Blues. Ishmon Bracey sings, “Aunt Jane, she come runnin’ and screamin’, tellin’ everybody in the neighborhood/ That man of mine got the limber trouble, and his lovin’ can’t do me no good...If you don’t quit drinkin’ that poison Jake you’re drinkin’

it’s gonna leave you with the limber leg.” The woman is upset because her man cannot perform for her anymore. In the second part, the doctor is telling the man that if he doesn’t stop drinking Jake, he will remain impotent. This was a concern for men, because impotence made them seem lesser men.

Morgan also talks about how the artists felt about the Jake Leg Epidemic. He believes that The Ray Brothers and the Allen Brothers were, “cynical and whimsical about the tragedy” (807). The reason behind this comment is that the people who got Jake Leg brought it upon themselves. If they had abided by the law, they would never have gotten sick. It was in a sense their own fault, because there were very few if any people that got sick because they were actually using Jake as a medicine. This is not to say that people didn’t try to claim that. The Ray Brothers sing about a preacher who claims to have drunk the ginger to help him get over the flu. Jake Leg was like a scarlet letter; there was no denying that the person in question had consumed Jake to get drunk and not for medicinal purposes. It was something that they were going to have to bear with for the rest of their lives.

We would most likely not know about these people if it were not for the blues artists of the 1930s because the epidemic was not politically important during the 1930’s because most of the victims were seen as poor drunks. The Blues artists were influenced by the despair that they witnessed around them as thousands of men woke up and realized that they could no longer walk. The epidemic was caused by a few bootleggers just trying to cut down their production costs. Even though Jake Leg is not as well known as other epidemics that the United States has faced, it is still an important historical event that has its roots in the Blues.

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The First Step: Poverty 101

Kelsey Fons

Class of 2016 Psychology, B.A.

A majority of the privileged population does not understand how poverty affects children, leading to the socioeconomic gap in schools, and the continuation of destitution in the future. Many people have made suggestions that regard the end of penury. All of these potential solutions cannot be effective without first educating individuals about the issue. To graduate, a class should be required that shows high school seniors how difficult life is for people in destitution. In addition, as a prerequisite for teachers to become certified, a course that conveys the hardships that students struggle with because of poverty should be taken.

Poverty is the dirt and dust Society conceals with its brand new area rug. In this case, dirt and dust are defined as, “the state of having little or no money, goods, or means of support; the condition of being poor”(“Poverty”). Similarly, in society’s gigantic walk-in closet, tiny skeletons are piling up. This act of pushing child penury into the dark, untouched corners of people’s minds is creating a gap in academic achievement between high and low-income students. The only plausible first step toward narrowing this divide is eliminating the country’s vast unfamiliarity with destitution. To minimize this ignorance of certain socioeconomic classes, the Poverty 101 program needs to be a requirement in which all high school seniors are obliged to participate, in order to graduate. In addition, it should be a prerequisite for all educators to partake in the variation of this program, Child Poverty 101, before becoming a certified teacher.

Many people in America believe that poverty is a figment of the imagination. If any person works hard enough, they can defy their low-income situation and change their socioeconomic status. Rags-to-riches stories that feed these presumptions are a part of America’s culture and have contin-

ually eased the minds of the upper classes. They establish an “us versus them” mindset, causing the privileged to feel like their help is not needed. As a student states in Liza Featherstone’s article, “Out of Reach: Is College Only for the Rich?”, “People feel the need to say, ‘this isn’t me; it doesn’t affect me’” (Featherstone). Richard Rothstein further analyzes these beliefs in his book, *Class and Schools: Using Social, Economic, and Educational Reform to Close the Black-White Achievement Gap*. He says that this “perspective is misleading and dangerous. It ignores how social class characteristics in a stratified society like ours may actually influence learning in school” (Rothstein 2). This lack of awareness of the hardships low-income people and their children have to overcome is what leads to the misunderstanding of where the educational gap originates.

One factor that has a huge impact on that gap is the perception and self-contempt that accompanies poverty and nothing is more difficult to understand for people from higher classes. To explore low-income experiences, one journalist, Barbara Ehrenreich, went undercover in Florida and attempted to live off of minimum wage. She reports in her article, an excerpt from her book, *Nickel-and-*

Dimed: On (Not) Getting by in America about some of her coworker’s situations. One woman lives in her truck:

But you can’t live in a truck in the summer, since you need to have the windows down, which means anything can get in, from mosquitoes on up... But guess what? She reports to me excitedly later that evening: Phillip has given her permission to park overnight in the hotel parking lot, as long as she keeps out of sight, and the parking lot should be totally safe, since it’s patrolled by a hotel security guard! With the Hearthside offering benefits like that, how could anyone think of leaving? (Ehrenreich)

This friend shows the enormous difference between what is important for the privileged and what is important for the impoverished; where higher-class people would want benefits such as paid vacations and health insurance, and lower-class individuals would want a safe place to live, or anything at all to eat. After Ehrenreich’s second job, she remembers, “I am enormously relieved when Carla announces a half-hour meal break, but my appetite fades when I see that the bag of hot-dog rolls she has been carrying around on our cart is not trash salvaged from a checkout but what she has brought for her lunch” (Ehrenreich). This image reveals the horrible measures members of the working-class go to in order to refrain from being hungry. Another elderly person living in poverty tells her story in, “Old and Hungry”:

I’ve had no income and I’ve paid no rent for many months. My landlord let me stay. He felt sorry for me because I had no money. The Friday before Christmas he gave me ten dollars. For days I had nothing but water. I knew I needed food; I tried to go out but I was too weak to walk to the store. I felt as if I was dying. I saw the mailman and told him I thought I was starving. He brought me food and then he made some phone calls and that’s when they began delivering these lunches. But I had already lost so much

weight that five meals a week are not enough to keep me going. I just pray to God I can survive. I keep praying I can have the will to save some of my food so I can divide it up and make it last. It’s hard to save because I am so hungry that I want to eat it right away. On Friday, I held over two peas from the lunch. I ate one pea on Saturday morning. Then I got into bed with the taste of food in my mouth and I waited as long as I could. Later on in the day I ate the other pea. Today I saved the container that the mashed potatoes were in and tonight, before bed, I’ll lick the sides of the container. When there are bones I keep them. I know this is going to be hard for you to believe and I am almost ashamed to tell you, but these days I boil the bones till they’re soft and then I eat them. Today there were no bones. (“Old and Hungry”)

Her story is particularly effective in portraying the horrifying conditions people in poverty must endure. Most importantly, anyone can find themselves in these terrifying situations. From “Rising Out of Homelessness” a man reports:

‘Spare any change,’ asked this 39 year-old man. ‘Sorry, I’m homeless too!’ I said. ‘But look how you’re dressed, I know you have money,’ he said. I walk on. Looks may be deceiving, for the clothes I have on cost me no more than \$5. My slender body isn’t sexy. It’s malnourished. I’ve suffered. I’ve suffered more than the so-called average 30 year-old person has. I’m only 16 and you probably wouldn’t think 3 years is a long time being homeless. Well if you were under 18 and cannot get a job because you have no guardian, it’s a long time! And all I hear from adults is go and do something with your life. (“Rising out of Homelessness”)

This teenager’s story depicts how sometimes it is not possible to change one’s socioeconomic status simply with willpower. Many people cannot say they accurately realize what life is like for these individuals or how deeply it affects them. Even though these stories describe some difficult moments for the impoverished, their hardships and the threat of

those obstacles apply to low-income people as well. More importantly, however, is how these situations influence children, and how it begins the academic gap in the country's educational system.

The individual repercussions depend on the specific situations of children coming from low-income households. With the right circumstances, some do have the ability to rise in class, though others do not. For instance, a young student is given homework. When she arrives home, however, her single mother is working and she finds herself left alone to care for her five younger siblings. Their house has no heat and their mother has not had time to go to the grocery store. The student has to somehow find a way to feed her family and keep them warm through the night. Survival, not homework, is going to be her first priority.

A factor even more out of the individual's control is genetics. In Rothstein's book he writes that, "this has been confirmed by 'adoption studies,' in which children brought up in different socioeconomic environments from their biological parents are more similar in their academic achievement to their biological parents than to their adoptive parents" (Rothstein 17). Right away people from low-income backgrounds, even if they moved to a higher class, have less of a chance for academic success than ones born into higher-income families, because of their genetics.

Adding to this initial setback, other factors regarding how the students are raised contribute to their scholarly performance. Studies show that parents who are from a higher class surround their children with more books, are more open to understanding why they do something wrong when punishing them, speak more words on average to them, and are more likely to ask critical thinking questions

when reading to them. All of these beneficial differences in how privileged students are raised stimulate their minds at an early age and have an impact on their future abilities in school.

This future can also be tainted by health problems that go undiagnosed because of unaffordable health insurance. Rothstein reports that fetal alcohol syndrome, "is 10 times more frequent for low-income than for middle class children, and 30% of poor women smoke, compared to 22% of non-poor women" (Rothstein 42-43). This environment affects the success of the student. Other health factors include malnutrition, vision problems, Attention Deficit Disorder, lead poisoning, hearing issues, and larger medical conditions that could require prescriptions for which low-income families may not be able to pay.

Financial difficulties also have an effect on where the children grow up, which further adds to the academic gap. In an interview, Dr. Yvette Jackson reports that she used to work in a dangerous part of Chicago. She found that for every homicide in that neighborhood, a student lost a week of learning. In that particular location there was at least one murder a month, which lead to about two months worth of education to be erased during the school year (Jackson). Parents will also move to a different town to protect their kids from this violence. Rothstein writes, "a 1994 government report found that 30% of the poorest children (those from families with annual incomes of less than \$10,000) had attended at least three different schools by third grade, while only 10% of middle-class children (from families with annual income of over \$25,000) did so" (Rothstein 46). Moving to a new neighborhood interrupts the student's studies, both by having to deal with the stress of making new friends and by breaking up

their courses. This instability causes them to achieve less than they would have if they stayed at the same institution. Depending on their location, as well, these individuals may not easily be able to get to after school activities or programs in the summer, further hindering how much their brain is stimulated and therefore their ability to be as successful as their privileged peers.

Lastly, some situations within these institutions themselves can hinder the student's academic performance. As Stephen J. McNamee, and Robert K. Miller, Jr. report in their book, *The Meritocracy Myth*, "teacher expectations build upon these initial advantages [or disadvantages]: Teachers expect more of children from higher-class backgrounds" (McNamee and Miller 104). These presumptions either build up the student's confidence, or deteriorate it, affecting their performance academically. Furthermore, Azua Echevarria, a working poor mother says the most difficult aspect of being low-income is, "perception. I would have to say that people think that financial difficulties look a certain way" (Echevarria). Educators have unfortunately been shown to subconsciously play into this stereotype. One example is recounted in Sue Books' book *Poverty and Schooling in the U.S.: Contexts and Consequences*. She tells the story of a girl named Heather whose shirt was too small and shoes too big. Heather would also steal food from the cafeteria every Friday because she could not get free lunch from school on the weekends and would be hungry. Therefore, her teacher thought there was a problem with her and sent her to get special help during the math lessons. The teacher was not helping, but instead making her even more behind in math (Books 110-111). The ignorance of educators is one of the many obstacles low-income students face. Even with all of these

setbacks, people are trying to come up with ways to eliminate this academic divide.

A group of solutions that have been proposed to narrow this gap involve programs in these educational institutions. One of these suggestions is a preschool for low-income students. There they would be able to learn what privileged children already do from their parents, but in an artificial setting. This simulation would allow them to enter kindergarten on the same level as their higher-class peers. Another similar recommendation is an after school program for children living in low-income households to receive extra help. Furthermore, it has been proposed that these institutions implement free clinics for students and their families who cannot afford health insurance and programs that provide them with food. Lastly, separate educational institutions for lower-class students have been suggested. For instance, "The Education Trust lists what it calls 'high-flying' schools: 1,320 schools, at least half of whose students were both poor and minority, and whose test scores in math or reading were in the top third of their states." These ratings, however, were only in one grade and on one topic, which is less than impressive (Rothstein 75). Segregating students based on class would be unbeneficial. Rothstein reports that, "a striking finding of the Coleman report was that who sits next to whom does matter. Ambitions are contagious; if children sit next to others from higher social classes, their ambitions grow" (Rothstein 130). All of these proposals have been applied to some degree across the nation. The gap, however, has yet to narrow. In addition, the main problem with all of these solutions is the resources it would take in order to make them a reality, one of the most important being transportation. Poor people are less likely to own cars, and therefore

cannot get to the programs without assistance. Bus systems also cost more money than many individuals can afford and do not always stop at convenient locations. Therefore, the program would need to provide transportation, and other costly recourses, to the students involved. They would also have to be implemented in every school across the nation because poverty “exists in every county in America” (“Feeding America”). Furthermore, each of these possible answers would not be a full resolution on their own. All together they may be, but individually they each address only a specific hardship that people living in poverty have to overcome.

Other solutions have been suggested concerning the atmosphere that surrounds children in schools. As stated before, tracking, which groups students by academic ability from an early age, is not beneficial because if the ones who do poorly are surrounded by ones that do well they are more likely to succeed than if they are segregated. This process, however, is an important part of the educational system, having the purpose of benefiting the students who do thrive academically and cannot easily be eliminated. People have also recommended classes for low-income parents that focus on how to raise their children in the best possible way, but it is likely that the parents will not have time to take the course, be able to get to it, or pay for it. Furthermore, people have suggested tests that assess non-cognitive abilities, such as interpersonal and communication skills, which are arguably just as, if not more important, than cognitive abilities, such as memory and hand-eye coordination. The problem with this answer is that non-cognitive skills are a lot harder to evaluate and standardize than cognitive ones. Lastly, changing the way teachers teach is also a proposed solution. Dr. Yvette Jackson,

who focuses on this topic, emphasizes in her book, *Pedagogy of Confidence: Inspiring High Intellectual Performance in Urban Schools*, that educators need to find out what the individual’s specific culture and interests are in order to encourage those and in the process build up the areas where the person lacks ability, while having them acquire critical thinking skills. This technique would then better prepare them for college and beyond, rather than focusing on their negative aspects and attempting to improve upon them (Jackson). Schools in low-income areas, however, have a harder time retaining their skilled teachers because they cannot afford to pay educators as much as privileged institutions can. More money would therefore need to be spent in order to train these individuals to teach this way and keep them in the educational systems that need them. To enforce this resolution, there was “a bill that demanded every school in the nation abolish social class differences in achievement within 12 years. It was enacted as the ‘No Child Left Behind’ law” (Rothstein 21). It created a Band-Aid over the problem instead of addressing its core issue: the ignorance of the upper classes.

Even though all of these suggestions have the potential to eventually help end poverty, at this point they are not resolutions. Only discontinuing ignorance is a plausible first step. The Atlanta Community Food Bank had this idea as well when they created Hunger 101. “The Hunger 101 Curriculum materials were developed in the early 90s with the help of Emory University’s School of Public Health and recently updated with the help of Georgia State University’s School of Social Work” (“Hunger 101”). The program creates a simulation of the various hardships that low-income people must overcome. In this article, however, the name has been changed

to Poverty 101 and some of the discussion points have been altered in order to make the topic more broad and applicable to poverty in general.

In the program, each participant is given an envelope with various items. One component is an information card. For example, a person gets a card with the name Maria Alveraz. Under their new name they read the description: ‘You are a 45-year-old widow. You are now a single mother of two. You are also an immigrant from Columbia and do not speak English well. You currently earn \$1,300 a month from a waitressing job, with \$80 dollars taken out for taxes. You pay \$185 a month for daycare. Rent is \$610 a month, with \$70 a month for electricity and heat. You also pay \$200 a month for gas, and \$35 a month for a cell phone. You have no health insurance’. Other hardships could include health problems and unemployment. Using this information, Maria fills out a budget form, finding that she only has \$4 to collect from the bank for that day’s food for the family. Also in her envelope is a card that tells her what help she is eligible for, such as welfare from the Department of Social Services. Slips of paper are included as well, which show her what is already in her refrigerator. She then continues on to the Department of Social Services to fill out the 31-page application for help, in a language she does not understand. Lastly, she goes to the food pantry and grocery store to try and make the \$4 enough for the three of them that day. Through this exercise, the participants learn what it is like to live day-by-day with low-income and they experience how difficult and stressful it really is.

A discussion then follows the activity. The leader of the program will explore each station, asking where the food pantry is in their area, and what the Department of Social Services does. The guide

will also ask questions such as the following: What is poverty? What does it feel like? How would being impoverished affect your everyday life? How many of you were able to get enough nutritious food for your family? How did the activity make you feel? Do people really experience poverty like you did? What elements are missing? The leader will give real life examples of destitution as well, similar to the ones shared above. Every high school student should be required to participate in this simulation in order to graduate. If every person becomes aware of what life is like living in penury, then people will be more inclined to break their overemphasized idea of independence and help others, taking the first step towards ending poverty.

The version that teachers would be required to participate in would be called Child Poverty 101. This simulation would address obstacles that hinder children academically because of their low-income situations, such as undiagnosed Attention Deficit Disorder, educator’s bias because of the student appearing to be poor, vision problems, homicides in their neighborhood, the inability to do homework, and dyslexia. The simulation would take place in a classroom setting, with the leader of the program as the teacher. It would be taught over an hour-long period, with half of the time dedicated to learning basic math, and the second, basic history. Each person in the class would get an envelope that has various items in it depending on their particular situations. The student would receive a hat if they had undiagnosed Attention Deficit Disorder, and therefore would periodically be yelled at by the instructor for being disruptive and sent out of the room for five minutes. Another item that could be in the envelope would be a collar to represent the student looking as if they were poor, because of which, they would

always raise their hand to answer questions, but the teacher would never call on them. They could also acquire glasses that make it hard for them to see, replicating vision problems. Lastly, they could receive earplugs, which simulate experiencing a homicide in their neighborhood, where they would put in their earplugs for ten minutes of each subject. The participants would all start out with five stars, while the people who were unable to do homework at home start with two. The pupils could each earn up to three stars in each section for answering questions, depending on the number of people involved in the activity. A test would be given following each subject, where the students could earn up to ten stars. The dyslexic child, however, would receive a test that is illegible. At the end of the activity the students would count up their stars out of twenty-six.

A discussion then follows where the director asks the following questions: What did it feel like to be in this situation? How did these hardships affect you academically? What other factors influence the children’s performance in school? Do you feel like you have a better idea of what life is like for students coming from low-income households? Does this activity change your perception of meritocracy? The leader will also discuss all problems that these children could experience based on their situations. Every educator in the United States should be required to participate in this program before becoming a state certified teacher. It would help them understand what life is like for their students that come from low-income households and how it affects them academically so they can cater to their pupils’ needs and therefore begin to shorten the educational gap in schools.

In order to carry out this program effectively, the leaders need to be certified to run them. They

need to be able to answer any questions about poverty that may arise, as well as direct the simulations accurately. They will be able to become accredited online, where there are videos of what the simulations are supposed to look like, all the facts they will need to answer any questions, and the printable materials required for the activities. In order to become fully certified, however, they would need to contact the creator of the Poverty 101 website and go through a thirty minute certification process, which consists of answering questions as well as a description of how to carry out the exercises. Only one adult within the school system or in the town needs to become accredited as well, and only needs a couple of other helpers to administer it successfully. They would also need a place to run the simulations; any large space for Poverty 101 and a classroom for Child Poverty 101. Most importantly, no money would be required of the people participating or leading the activity. All that is needed is time and space, such as a community building, or school. Therefore, the Poverty 101 and Child Poverty 101 programs should be implemented in order to uncover this secret Society is hiding, and take the first step toward ending poverty.

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The Use of Music During Exercise: Is it the Next Legal Performance Enhancer?

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Music is everywhere around us, especially in the realm of exercise. If you look around a gym, the vast majority of people have headphones in. But why is this? Is it for the pure enjoyment of music? Does it serve as a distraction from exercise? Or does it amplify performance? This paper examines the effects of music on various components of exercise and offers suggestions on how to maximize performance simply by selecting the right music.

Almost anybody who works out listens to music, but why is this? Is it because it helps one work more efficiently? Is it because it makes workouts more fun? Or is it because people genuinely enjoy music? All of these are valid reasons as to why music is so prevalent in the athletic world, and the science behind it backs up this idea. Anyone who has ever been an athlete can also admit to using music in some way before, after, or during performance to change his or her state of mind. Whether it was used as a way to “psych up” before an important game, to calm nerves before a big moment, or simply while training at the gym, the reality of the situation is that music is everywhere. As will be demonstrated throughout this paper, it is clear that music has the distinct ability to improve particular aspects of performance. Additionally, songs that exhibit certain characteristics may help to further enhance performance efficiency.

Through vast research in recent years, five distinct areas have been identified to impact performance in the exercise and athletic world, including moderation of levels of arousal, synchronization, enhancement of motor skills, attainment of flow, and dissociation. As previously mentioned, the

first that impacts performance is the moderation of levels of arousal (Karageorghis and Priest, “. . .An Update”). In other words, the right music has the ability to either stimulate or sedate a person, altering mindset and thus performance (Bishop). Next, synchronization implies that the rhythmical component of music and the innate rhythm of the body synergize, resulting in improved athletic capacity (Karageorghis and Priest, “. . .Part I”). Furthermore, enhancement of motor skills is the idea that music can activate areas of the brain similar to those used during the performance of specific skills, thus warming up neural pathways and improving the task at hand. Similarly, the attainment of flow, the next influence, is based on the idea that music helps athletes to “get in the zone,” better focus their attention, and facilitate performance. Finally, the last factor, dissociation, refers to music’s ability to interfere with the physiological and attentional aspects of exercise; by serving as a distraction, it helps divert feelings of fatigue (Karageorghis and Priest, “. . .An Update”). Much research has been done to support these concepts, therefore strengthening the relationship between music and performance.

The first claimed benefit of music is the idea

that it helps to regulate arousal. Arousal can be defined as “the amount of mental and physical resources invested in a response” (Bishop). One’s level of arousal can dictate the level of skill execution because it alters one’s mindset. If an athlete is overly excited for a game, for example, he may suffer from impaired performance because he is too worked up. On the contrary, an athlete who is not motivated enough will not perform as well because he lacks the proper intention; because he does not care, his performance will more than likely suffer. Fortunately, these levels can be altered rather easily by the use of music. Olympic mid-distance runner Dame Kelly Holmes routinely listened to Alicia Keys ballads before an event to calm down her nerves. She figured out what worked for her, and listened to the songs religiously before each race. Generally, faster tempo songs elicit higher levels of arousal, whereas lower tempo songs can help calm nerves and in turn lower levels of arousal (Bishop). A common measure of arousal is that of heart rate: increases in heart rate are associated with higher levels of stimulation, while a lower heart rate is indicative of relaxation (Karageorghis and Priest, “. . .Part II”).

Numerous studies have been conducted that prove that arousal is indeed affected by music. An experiment by Karageorghis and Drew, for example, compared the effect of stimulative music versus sedative music on grip strength. They found that the excitable music yielded higher measures of strength, whereas relaxing music caused subjects to display scores not only lower than the excitable music, but also lower than the white noise control condition. This demonstrated that the nature of a song can directly affect one’s force output (“Effects of Pretest Stimulative”). Similarly, a study by Atkinson et al. concluded that music with a stimulatory effect

was able to increase performance. Subjects of this test cycled 10 kilometers, either while listening to music or while listening to nothing at all. He found that the music elicited higher heart rates and increased speed and power output. This indicated that the heightened arousal, as prompted by the music, helped subjects perform more efficiently (Harmon and Kravitz). Hall and Erickson looked at the effect of a popular motivational song on a 60-meter sprint. Participants listening to the music beforehand showed higher heart rates, increased respiration, and most importantly, faster times of completion, all of which are clear signs of amplified arousal. Studies have also been shown that stimulating music may have implications during sprint exercises on a bike. Yamamoto completed an experiment in which subjects listened to music, either excitable or relaxing, for 20 minutes before completing the sprint. Those listening to stimulatory music had increased heart rates prior to the test, as well as improved performance capacity during the test. This suggests that athletes can listen to stimulative music as a way to prepare the body before engaging in high-intensity exercise. Finally, a study by Szmedra and Bacharach looked at the effect of relaxing music, as opposed to stimulative music, while running at a moderate pace. Participants listening to this kind of music yielded lower heart rates and blood pressure. This suggests that music helps to relax the muscles and produce less tension, resulting in increased efficiency of the body despite working just as hard as those who were not listening to music (Karageorghis and Priest, “. . .Part I”).

Music also has the ability to increase performance by means of synchronization. Repetitive exercises such as rowing, cycling, and running are all performed better when the body settles into a

rhythm; this can be facilitated by the use of music with a prominent beat and specific tempo (Karageorghis and Priest, “. . .An Update”). Exactly why the body matches itself with the rhythm of music is not clearly known; there are, however, many hypotheses. The first is known as timeform. Developed by Ron Campbell, the theory claims that just one rhythm command to the brain, generated by the sound of music, can initiate a continuous repeating pattern that lasts without having to consciously think about it (Campbell 127). Another theory is that music serves as a neural pacemaker within the brain. Similarly, the last hypothesis (and the most widely accepted) is the idea that music activates certain areas of the brain that help to initiate movement. Neural structures associated with these areas fire when induced by rhythm (Karageorghis and Priest, “. . .Part II”), resulting in psychophysiological changes in the body (Karageorghis and Priest, “. . .Part I”). The premise behind this hypothesis is that music helps to regulate movement and to make it more automatic, especially throughout endurance-based activities. When locomotion patterns are more engrained in the mind, individuals no longer have to think as much about trying maintaining a pace (Karageorghis and Priest, “. . .An Update”), resulting in increased neuromuscular efficiency. The muscles are more relaxed throughout the duration of the activity because the brain is able to anticipate the next movement. Thus, the body is able to use less energy for the same movement task (Karageorghis and Priest, “. . . Part I”).

Direct evidence of the power of synchronization was found in a study by Bacon, Myers, and Karageorghis: subjects who biked with music that synced to the cadence of the cycling used 7% less oxygen to complete the test than those who listened

to music out of time with the pace of the bike (Karageorghis and Priest, “. . .An Update”). An experiment by Waterhouse, Hudson, and Edwards took a different approach. In this study, the same song was played during a 25 minute cycle test at three different speeds: the normal tempo, a 10% accelerated tempo, and a 10% decelerated tempo. As the tempo of the music increased, participants pedaled further, faster, and even claimed that the activity was more enjoyable. Interestingly, despite not being told to pedal in time with the beat, all of the subjects naturally pedaled at the same cadence of the music at hand, evidence that the body unconsciously syncs with the beat. Finally, another study demonstrated the potential implications of music in setting a pace without its presence. Music was played either in the first 5 kilometers or the second 5 kilometers of a 10k cycle test; those participants who listened to the music in the first half of the race were able to anticipate and carry over the pace they originally set to the second half of the race. This suggests that music can have a transient effect on pacing. It is important to note the difference between tempos within a song versus pure rhythmical sounds. A study that examined this variance looked at times until the onset of fatigue while holding a weight in front of the body and found that those listening to music displayed increased times, as opposed to those listening to a pure drumbeat. This implies that even though the rhythmical component of music is very important, it does not have the same effect by itself. It is the whole package of the music, in combination with its unique rhythm, which activates the parts of the brain involved in movement and performance (Karageorghis and Priest, “. . .Part I”).

The implications for this factor are vast; they can even be translated to a clinical setting to

advance progress of patients with motor skill disorders. Schauer and Maritz, for example, found that stroke patients suffering from impairments with motor skills, such as abnormal walking patterns, were able to improve their stride more while listening to music. They showed greater improvements in step length, pace and overall functioning. This success was attributed to the idea that music helped stimulate the motor, cognitive, and perceptive pathways involved during walking (Harmon and Kravitz). This shows the potential for application in the realm of rehabilitation sciences, suggesting that music may be a useful tool used to expedite the healing of the body.

Music’s proposed ability to enhance motor skills goes hand in hand with synchronization, in that it is based on the notion that its rhythms can help generate movement patterns (Karageorghis and Priest, “. . .An Update”). The beat helps to stimulate motor effectors in the motor cortex, thereby resulting in improved locomotion (Harmon and Kravitz). Incoming afferent signals coordinate with outgoing signals to sync rhythm and movement (Karageorghis and Priest, “. . .Part I”). Music can also heighten movement and skill performance due to its ability to elicit pleasure; when someone is enjoying a task, they are more likely to learn it better and perform it more effectively. Additionally, songs with strong motivational lyrics, such as Eminem’s “Lose It,” help to increase arousal and thus improve upon motor patterns (Karageorghis and Priest, “. . .An Update”). Studies on reaction time demonstrate this concept. Improved times after listening to stimulating music suggests that the pleasure derived from the music helped to increase activation of the brain and improve performance. Similarly, an electromyography showing bicep activity reveals that there

are temporary effects on muscles after listening to enjoyable music, as well as stimulation of the cortico-spinal reflex, which controls motor neurons in the spinal cord. This implies that sports involving explosive actions, such as swimming, can be enhanced by listening to music immediately before an event because of the lasting increased stimulation of the muscles from music (Bishop).

Helping to attain flow is another way in which music can improve performance. During this music-induced state, movements become completely automated; the body becomes so involved in the task at hand that it is able to function without consciously thinking about it (Karageorghis and Priest, “. . .An Update”). Greg Louganis for example, an Olympic diver, reported using specific songs with beats that helped him visualize his dives. This association not only increased his mood and regulated his arousal, but also created a better “emotional flow” (Mesagno, Marchant, and Morris). Similarly, in a study among netball players, athletes not only showed improved accuracy, but also reported increased flow upon listening to music of their choice. By prompting the right emotions for the task at hand, the music helped the athletes “get in the zone” (Karageorghis and Priest, “. . .An Update”).

Music’s final ability is called dissociation. This term is based on the idea that the brain can switch its attention from one task to another, allowing different aspects of the task to be emphasized (Ives). During low to moderate exercise in particular, music provides just enough of a stimulus to shift attention. Incoming signals that would have originally indicated fatigue are instead overridden by the music, which then allows one to experience pleasure. It is important to note that this ability of music does not apply to higher intensity workouts. This

is because music is no longer enough of a stimulus to overtake the overwhelming sensations of fatigue that occur during this type of exercise. Despite the fact that music cannot improve performance at such high levels, it has been reported to still have the ability to make the activity more pleasurable, regardless of the intensity (Karageorghis and Priest, “An Update”).

The telltale sign of dissociation during exercise is exemplified in the form of Borg’s Rating of Perceived Exertion (RPE). This scale, ranging from 6-20, serves as a way for participants to indicate how hard they feel they are working. It is meant to correspond to exercise intensity, with each level correlating to an estimated heart rate (intensity and heart rate are linearly related). A score of 6, for example, equates to a heart rate of about 60 beats per minute (bpm) and is considered an extremely light workload. A score of 18, on the other hand, would be the equivalent of 180 bpm and would indicate a very intense stage of a workout. This being said, many studies have found lower RPE’s among individuals despite performing more work. For instance, an experiment conducted by Potteiger, Schroeder, and Goff evaluated the effects of self-selected, classical, and jazz music while cycling at a low intensity. All of the subjects who listened to any kind of music reported lower RPE’s, proving that music was a good distraction during exercise (848-854). Another study by Elliot et al. found that both motivational and oudeterous (music that is neither motivational nor relaxing) music caused participants to cycle further with no increase in RPE. This implied a distracting effect of music for the cyclists because they were not aware that they were working harder, despite going a longer distance. Furthermore, this demonstrates that music can motivate individuals without them even

knowing it (Karageorghis and Priest, “. . .Part I”).

“Choking” during high pressure situations is another prime example of the dissociation effect at work. Oftentimes, when athletes face a stressful challenge, such as penalty shots, they crack under the stress. This can be attributed to two main theories: the Distraction Model and the Self-Focus Model. The former states that when one’s arousal levels are increased as they are during times of high pressure, attention moves from relevant cues to irrelevant ones. The athlete no longer pays attention to the right things and therefore performance suffers. The latter theory attributes choking to increased anxiety and self-awareness, causing one to consciously go through the motions in their head. This overthinking and increased effort often put forth to compensate for the pressure ultimately results in decreased execution of the skill. This can also be linked to the Skill Acquisition Theory, which states that during high levels of performance, motor skills should be almost automatic because at this point they are known beyond working memory. For this reason, when one places too much attention on specific details during high-pressure tasks, it will only result in detrimental performance.

Music is a solution to this problem, since it can divert one’s attention. By concentrating on the lyrics instead of the motor skill, the brain is able to self-organize and perform the action as it would normally. This was demonstrated in an experiment lead by Mesagno, Marchant, and Morris. After classifying athletes, they chose to look at several girls of a relatively high skill level who were flagged specifically as “likely to choke” when shooting a free throw. Participants had a total of 60 free throws to perform in front of an audience. During the first half, they shot as they normally would, but during

the second half, music was added. Three personal accounts stood out to researchers: Participant “A,” for example, noted putting forth more effort when she was shooting under the pressure, which she then attributed to her choking. Then, with the addition of music, she claimed that it served as a “good” distraction, helping her to block out the audience. Participant “B” reported that the music allowed her to isolate herself and the basket from the audience; she was able to concentrate on the music rather than the people that were watching. Finally, Participant “C” stated that music helped her to get into a routine while taking the free throws. She eventually did not even have to think about her technique despite the pressure; it became automatic. In the end, the athletes’ free throw percentages increased an average of 19.4% with the addition of music. Researchers attributed this to music’s ability to embody the idea of dissociation: by distracting the athletes (by causing them to focus on the lyrics), the music prevented them from focusing too much on themselves and their actions. Instead, it allowed the movements to be automated despite the added stress, and performance issues were resolved (131-147).

Clearly, music has an impact on performance. How much of an effect it can have, however, is dependent on the song choice. Specifically, there are four elements to consider when choosing the appropriate song for a workout: rhythmic response, melodies and harmonies, socio-cultural factors, and association factors. Rhythmic response goes along with the idea of synchronization: a song’s tempo should match the desired intensity, or heart rate, of the exercise being performed (Karageorghis, “. . .Theory and Practice”). It has been recommended, for example, that a tempo of about 120 bpm is appropriate while warming up, since this is the

suggested target heart rate for this task. Likewise, during moderate intensity exercise, the beat should remain around 125-140 bpm. Although this is not necessarily in line with the typical heart rate found during higher intensities, studies have found that anything over 140 bpm is no longer preferred (Karageorghis and Priest, “. . .Part I”). Finally, during cool down, tempos should go down to 60-70 bpm, which is equivalent to resting heart rate (Karageorghis and Priest, “. . .Part II”). Figure 1 demonstrates the relationship between heart rate and the preferred speed of music. It can be seen, as stated, that tempo does not quite increase linearly with heart rate, peaking at about 140 bpm (Karageorghis and Priest, “. . .Part I”).

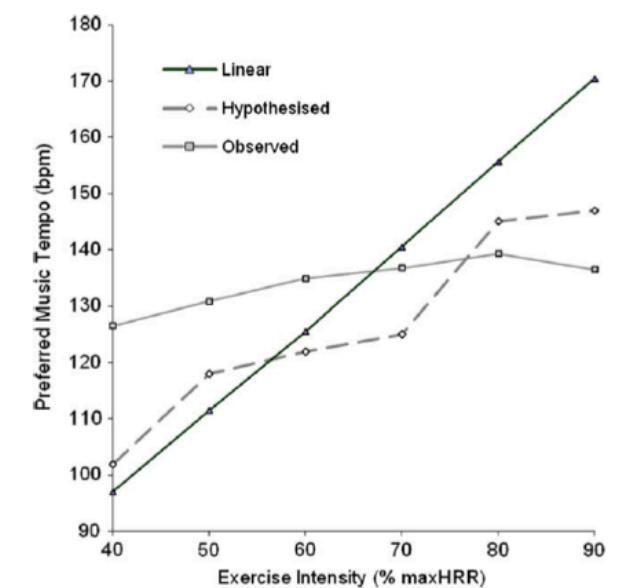


Figure 1: Relationship between heart rate and the preferred speed of music

Similarly, a song should contain a melody or harmony that is pleasing and causes a change in mood or arousal (Karageorghis and Priest, “. . .An Update”). Increased arousal, as was noted earlier, typically results in better performance during

activities. Interestingly, women tend to rate melody as more important in their song selection, whereas men rate music that has some connection with sports as more motivating (Crust). Socio-cultural and association factors, which are closely related, suggest that one should choose a song that elicits strong memories of success, whether it is from personal experience, remembrance from a movie, or through the imagery that it provokes. The theme songs from Rocky and Chariots of Fire, for example, are used to denote amazing feats in these sports-related movies; upon hearing them, one may be brought back to the movie and believe that they too can perform these great accomplishments. Additionally, the lyrics of a song are also crucial to selection. They should contain words or phrases that can be associated with exercise, such as “Work that body!” and “Gonna make you sweat.” These types of songs serve as prominent motivation factors that can ultimately drive performance (Karageorghis, “. . .Theory and Practice”). A sample playlist for a workout is pictured in Figure 2. Each component of the workout has its own unique song, with an appropriate tempo to correspond to physiological functioning and intensity (Karageorghis and Priest, “. . .An Update”).

A device by Nike inspired an interesting application of this theory. This invention, termed MoBeat, was designed to make exercise more enjoyable and to get people up and moving. Its entire basis was in the idea that aerobic exercise involves repetitive, rhythmic, and prolonged movements; by providing feedback during these workouts, the creators hoped to encourage exercisers to prolong their workout. Because certain Nike sneakers contain a chip that can be linked to an MP3 player, this application was able to adapt the music being played

Workout Component	Title	Artist(s)	Tempo, in bpm
Mental preparation	“Umbrella”	Rihanna Ft. Jay Zee	89
Warm-up activity	“Gettin’ Jiggy With It”	Will Smith	108
Stretching	“Lifted”	The Light-house Family	98
Strength component	“Funky Cold Medina”	Tone Loc	118
Endurance component	“Rockafeller Skank (Funk Soul Brother)”	Fatboy Slim	153
Warm-down activity	“Whatta Man”	Salt-n-Pepa	88

Figure 2: Sample playlist for a workout

to the beat of one’s running. It dictated when one needed to run faster to keep up with the pace, and even changed the music to more “intense” songs when the tempo of running increased. Surprisingly, this device did not gain much popularity. This was attributed to the fact that the music it played was not well known and therefore was not well liked by users, who claimed it was hard to be motivated by unfamiliar songs (van der Vlist, Bartneck, and Mäueler). A similar concept that exemplifies Nike’s idea has been applied to marathons around the world. Called “Run to the Beat,” these half-marathons systematically play songs throughout the race, each of which are carefully selected and contain the proper motivational, arousing, and pleasurable components. This unique feature creates a fun atmosphere that is more enjoyable for all race participants (Karageorghis and Priest, “. . .An Update”).

At this point, it seems as if music is an infallible way to enhance performance. Unfortunately, as often occurs with most scientific data, this is not the case. Just as there have been many studies that

prove its benefits, there are also many that contradict these exact findings. An experiment headed by Dyrlund and Wininger, for example, found no effect on RPE, arousal, or pleasure levels while listening to self-preferred versus non-preferred music during various intensities of treadmill activity. Another study by Doiron, Lehnhard, Butterfield, and Whitesides tested the effect of music on muscle endurance by measuring how many repetitions subjects could perform in a given period of time. Loud, upbeat music, which supposedly has a stimulatory effect, yielded no results in this experiment (Karageorghis and Priest, “. . .Part I”). A study by Copeland and Franks had subjects run on a treadmill until the point of exhaustion. The amount of time that participants could run before the onset of fatigue did not differ among either music group, nor did heart rates, showing that music cannot be used as a means to increase maximal performance (Harmon and Kravitz). Finally, another study observed the effects of music on reaction time by comparing helmet use during skiing. There was no difference when the athlete listened to music compared to when they skied in silence (Kopp et al.).

General inconclusiveness of these studies has been attributed to many different factors. For one, it is hard to standardize all aspects of these experiments. Even though researchers attempt to make experiments as realistic as possible, as scientists they are forced to control certain variables in order to obtain data and information. For this reason, it is unlikely that music will ever have a consistent effect on sports performance, since sports are anything but controlled. It is also hard to quantify mood, a seemingly qualitative factor (Karageorghis and Priest, “. . .Part I”). Finally, one’s personality type may affect how one reacts to a musical stimulus. Someone

who is extraverted, for example, is more likely to demonstrate improved performance than an introvert would (Karageorghis and Priest, “. . .Part II”). While it is clear that more research has to be done in this subject area, it is at the same time apparent that music indeed has some impact on performance.

Despite these results, an overarching theme can be noted throughout the majority of these studies: music has a definitive effect on low to moderate intensity aerobic activities. Aerobic exercises are workouts that can be continued for longer periods of time and thus include activities like running, swimming, and cycling. Even if it may not help to alter one’s physiological capabilities, music does help by increasing arousal and the workload that can be completed, as well as by decreasing the sensations of fatigue associated with these types of exercise. Music is an effective ergogenic aid that can be easily implemented by anyone who exercises. It is evident that music plays a vital role in the realm of exercise (Brooks and Brooks).

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Music and Movement: Music’s Ability to Allow Parkinson’s Patients Freedom of Movement

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Music is a mysteriously powerful force acting on humans. Unlike most stimuli, music affects almost every major region of the brain. Music can trigger emotions or memories, help us learn, or cause us to move and dance. The powers of music have spurred the relatively new branch called music therapy. One astounding phenomena is the effects that music can have on patients with Parkinson’s disease, a movement disorder that disrupts or even halts movement altogether. This paper reviews some theories as to how music affects the brain to allow people with Parkinson’s disease to gain control over their movement again.

The capacity to move is a capability that is largely taken for granted. Undoubtedly, we marvel at superior displays of grace and coordination, such as acts performed by gymnasts or dancers. However, we fail to recognize our mundane movements, such as walking, sitting, waving, or throwing something, as the small neurological miracles that they are. It is only once we see a disease like Parkinson’s, which severely debilitates motor control, that we can appreciate the gift of movement. In its most severe stages, Parkinson’s can deprive patients of virtually all ability to initiate movement, leaving them frozen for hours at a time. Thankfully, there are certain stimuli that can animate these motionless patients, if only briefly. There is increasing evidence that the most potent catalyst for movement in patients with Parkinson’s disease is a mysterious force that moves us all: music.

Parkinson’s disease is a degenerative, neurological condition that primarily affects a person’s motor control. The characteristic symptoms can be represented with the acronym TRAP: T for tremor, R for rigidity, A for akinesia (loss of fluid voluntary

movement), and P for postural instability (Weiner, Shulman, and Lang 4). This acronym is chillingly fitting for a disease that slowly but progressively robs a person of the ability to move and traps them in an uncontrollable body. Patients with Parkinson’s disease display very mild symptoms at first and the disease generally progresses very slowly. It often takes years to a decade or more for the patient to suffer a serious disability (3). There is no known cure for Parkinson’s disease, but some medications have shown to be effective in relieving symptoms and possibly slowing the progression of the disease (13). There has also been increased interest in exploring various surgical options to mitigate the effects of symptoms (197). However, simple music is known to produce astoundingly drastic and immediate relief of symptoms for those with Parkinson’s disease.

The symptoms of Parkinson’s disease are caused by a degeneration of neurons in a region of the brain known as the substantia nigra, which is shown in Figure 1. The substantia nigra is part of the basal ganglia circuit, which controls motor

activity. Normally, when someone wants to make a movement, motion-planning areas in the premotor cortex and supplementary motor areas send signals to the primary motor cortex (Brown and Parsons 80). From there, signals are looped between the basal ganglia, thalamus, and cerebral cortex for modification before they are sent to the muscles (Weiner, Shulman, and Lang 133). As the movement is executed, the muscles send signals back to the cerebellum and basal ganglia to update instructions for fine-tuned movement (Brown and Parsons 80). A simplified schematic of this process is shown in Figure 2.

Once this process is illustrated, it is easy to see how miraculous movement is. The delicate communication between these different areas is dependent on messenger chemicals known as neurotransmitters. Dopamine is especially important in this circuit. The neurons in the substantia nigra are largely responsible for producing dopamine. As these neurons die, the levels of dopamine decrease and the circuit is disrupted (Weiner, Shulman, and Lang 135). The central mechanism that controls muscle tone is altered, which may result in rigidity. Tremors occur when the muscles rapidly tighten and untighten. The decreased communication between the brain and the muscles due to the loss of dopamine can also cause slow or jerky movement (Weiner, Shulman, and Lang 9).

Many treatments for Parkinson's disease focus on replacing the lowered dopamine, which is reasonable because that is the primary cause of disruption of the circuit. However, as concentrations of dopamine decline, so do the concentrations of other neurotransmitters, such as serotonin and norepinephrine (Weiner, Shulman, and Lang 7). These changes occur throughout the brain and the

replacement of dopamine alone cannot restore the proper neurochemical balance (8).

Considering the intricate chemical processes behind the symptoms of Parkinson's, it is especially astounding that a force as simple and pure as music can somehow override these disrupted systems and allow people the freedom of movement again. Oliver Sacks was one of the pioneers in treating people with Parkinson's disease and offers some of the earliest miraculous stories of people with parkinsonism. Patients with parkinsonism exhibit the same symptoms as those with Parkinson's disease, but the disruption to their neural processes are due to another cause, such as encephalitis. Sacks describes one of his patients, Frances D.: "One minute I would see her compressed, clenched, and blocked, or else jerking, ticcing, and jabbering – like a sort of human time bomb. The next minute, if we played music for her, all of these explosive-obstructive phenomena would disappear, replaced by a blissful ease and flow of movement as Mrs. D., suddenly freed of her automatisms, would smilingly 'conduct' the music, or rise and dance to it" (252). Once the music stopped, so too did Mrs. D's freedom of movement.

Sacks claims that the best kind of music for relieving the symptoms of Parkinson's disease is legato (long and smooth notes) with a well-defined, but not overly-dominating, rhythm (252). It seems that structured but flowing music is ideal for producing controlled, smooth movement. It is also generally more effective if the music is familiar and liked by the patient because it restores the listener to a particular groove (253). This may be exceptionally important for people with Parkinson's, such as Sacks' patient Edith T. Edith, a former music teacher, felt "graceless" and "unmusicked" by parkinsonism. But even imagining music allowed her to dance and

move freely. She said, "It was like suddenly remembering myself, my own living tune." However, once her internal music stopped, she would once again fall into parkinsonism (Sacks 253).

One of the most incredible stories Sacks tells is about one patient named Ed M. The movements on the right side of his body were too fast, but the movements on the left side of his body were too slow. Any treatment that improved one side made the other side worse. But when he played the organ, the music brought the two sides of his body into unison and synchrony (Sacks 254).

These compelling anecdotes were soon followed with research studies showing the benefits of music in the relief of symptoms of Parkinson's disease. A study done by Gunther Bernatzky et al investigated the effects of music on motor coordination in Parkinson's patients. They were able to demonstrate that specific stimulating music improved the precision of arm and finger movements, at least in the short-term. Performance was measured with the "Vienna Test System" and patients showed improvement in the subtests "aiming" and "line tracking" after listening to music. Specifically, aiming error time was significantly reduced, as shown in Figure 3 (Bernatzky et al).

In another randomized, controlled, single-blinded study, Pacchetti et al compared the effects of active music therapy vs. traditional physical therapy on patients with Parkinson's disease. Results indicated that over a period of three months of weekly music therapy sessions, patients showed improvement in a measure of bradykinesia, or slowness of movement (see Figure 4). This effect was not seen in a follow-up two months after the study was completed (Pacchetti et al 388). Music therapy was also shown to induce a positive effect on the perfor-

mance of daily activities, such as cutting food and dressing (389). The group receiving music therapy also demonstrated improved emotional well-being and improvement in quality of life (390). The group receiving physical therapy did not show these changes, but did show reduced rigidity (391). The authors suggest that these differences may be because music therapy, which involves playing instruments and improvising in group settings, is more emotionally motivating and has a higher degree of personal interaction than physical therapy. Mood and social relationships are important aspects of emotional well-being and quality of life (391).

So why does music induce these seemingly amazing feats? One of the prevailing theories is that music is able to instigate motor activity through other circuitry in the brain. Daniel Levitin, a prominent cognitive psychologist and neuroscientist, says, "The deeper we look inside the brain, the more we find redundant pathway, latent circuits, and connections among systems that we weren't aware of before" (185). Moroz et al discuss the exploitation of alternative circuits in their review of recent research studies. Studies have shown that one of the problems in the motor circuitry in Parkinson's disease is that there is decreased feedback from sensory organs in the body that normally helps give the brain spatial information in order to refine commands. A series of studies have had some success in providing this feedback information through alternative visual and auditory cues. Visual cues included floor stripes, timing lights, and mirrors, while auditory cues included music and metronomes. Cues generally improved initiation of movement, gait velocity, stride length, and cadence. It is hypothesized that auditory cues externally replace the damaged basal ganglia's internal "time-keeping" function, and that

visual cues help control movement by using alternative neural networks mediated through the cerebellum, thereby working around the damaged basal ganglia circuitry (Moroz et al S43).

The cerebellum, which has been shown to respond to auditory cues, may indeed be the key to the inexplicable tie between music and movement. This connection is readily apparent. Humans naturally start to tap their feet or bob their heads when listening to music. In many cultures, dancing is an inseparable part of music and often involves percussive sounds that add to the music, as depicted by the dancers in Figure 5 (Brown and Parsons 82).

Brown and Parsons conducted a series of brain-imaging studies on dancers to see what parts of the brain were involved in music processing and the production of synchronized movement. They used a PET scanner to measure activity in subjects' brains while they underwent tests involving music and movement, as seen in Figure 6. Their results high-lighted parts of the cerebellum as associated with music and movement. The researchers had dancers perform tango steps with music, and then again without music. They compared brain scans from each test in the hopes of finding differences between the two. Most of the activated regions were common to both scans, but there was a principal difference in the region of the cerebellum that receives input from the spinal cord. Both conditions activated this area, but having the tango steps synchronized to music produced significantly more blood flow to the region, indicating that it was operating at a higher level of activation. The authors state that this finding lends some credence to the hypothesis that this part of the cerebellum "serves as a kind of conductor monitoring information across various brain regions to assist in orchestrating actions" (Brown

and Parsons 80-81). In other words, this region of the cerebellum is involved in synchronization.

The same experiment also revealed that a lower part of the auditory pathway, a subcortical structure called the medial geniculate nucleus (MGN), was activated when synchronizing movements with music but not when performing the movements without music. This area was also not stimulated when listening to music without doing the tango steps. Therefore, it is not activated when solely listening or solely moving, only when doing the two in combination. This indicates that this lower section of the auditory pathway is devoted primarily to synchronization. This pathway serves as a direct projection of auditory signals to auditory and timing circuits in the cerebellum, bypassing higher-level auditory processing centers. This may offer some explanation as to why unconscious foot-tapping occurs so regularly when listening to music. Foot-tapping is not planned or thought about; it just happens automatically (Brown and Parsons 81).

It has long been known that the cerebellum (shown in Figure 7) is involved in coordination and timing, and is able to synchronize movement with auditory signals. It seems only natural then, that music can help produce smoother, more controlled movements. However, music does more than act as a "time-keeper" to activate the cerebellum. The study described above in which music was seen to improve arm and finger movement precision used music whose rhythms did not follow a regular metrical pattern. This was done deliberately to exclude adaptation to a consistent external acoustic stimulus, such as a metronome (Gunther et al). Clearly, beneficial effects can take place that are not the result of a restored "time-keeper." This should be unsurprising, because music is far more than just

rhythm and meter. Indeed, these researchers suggest that music, which activates emotion and memory centers in the brain, may help patients remember stored movement patterns in their long term memory (Gunther et al).

Music's powerful ability to elicit emotion may be an essential component that allows it to produce improved motor control even when it lacks regular rhythm. It has long been known that the cerebellum is involved in timing and coordination. However, it has only recently been proposed, and even more recently supported, that the cerebellum is also involved in emotion (Levitin 175). This surprised many people who thought emotion was focused in brain regions such as the amygdala, and that the cerebellum was for timing and movement and nothing else. Recent studies have shown that the cerebellum is activated more when listening to music that is favored by the listener, which indicates an emotional aspect. One of the earliest proponents for the connection between the cerebellum and emotion was Harvard professor Jeremy Schmahmann, who found numerous connections between the cerebellum and emotional centers of the brain (Levitin 175). It is common knowledge that music produces emotional responses, such as happiness, excitement, chills, or even tears. It is possible that when music stimulates the emotional areas in the brain, it also kick starts the cerebellum and affects motor activity.

While traditionalist neuroscientists initially resisted the connection between the cerebellum and emotion, it does not take long to understand the evolutionary advantages of having a strong connection between the two. Perhaps the strongest emotions humans experience are love (which is related to reproduction) and fear (which serves

survival purposes). When faced with a threat, such as a predator, fear triggers the oft-quoted "fight or flight" response. Often times, these emotions lead to important motor movements: see a lion, run. Levitin notes that "we can run faster and far more efficiently if we do so with a regular gait – we're less likely to stumble or lose our balance" (183). This is why the cerebellum is so important for these survival activities and why it pays for the cerebellum to be connected to emotional centers. Action needs to be carried out quickly, without the analysis of higher-level brain processing (Levitin 183). It is hypothesized that the same neural circuits that translated emotional signals to motor responses for survival throughout evolutionary history can now be activated with music to bypass the standard motor circuitry and produce movement.

While there is still much research needed to determine how exactly music affects the brains of those with Parkinson's disease to allow movement, the current body of research suggests that music is able to activate alternative neural pathways. It is well known that music lights up many different regions of the brain and scientists that some of these regions are able to work around the damaged basal ganglia motor circuit to produce movement. Exactly how this works is unclear, but it may be counted as another of the mysterious and amazing powers of music.

Music is certainly no cure to Parkinson's disease. It cannot halt the degeneration of dopamine-producing cells in the substantia nigra. However, it is clear that music therapy can offer some relief of symptoms related to motor control. It is shown to improve a patient's quality of life by increasing control of their own body, as well as by improving social relationships with others participating in the music

therapy. Music must be considered an invaluable component of treatment for those with Parkinson's disease, in addition to more traditional methods of pharmacology and physical therapy. It may be that these methods treat the body whereas music affects the body while treating the soul.

The ability of music to influence us is not new. Listening to music moves us emotionally, sometimes even to tears. It also spurs our bodies to entrain with the beat, causing foot-tapping or swaying, or instilling us with the strong desire to dance. The more astounding power of music is that it can even move people who cannot move themselves. This offers remarkable relief to people with Parkinson's who would otherwise remained trapped in uncontrollable bodies.

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Harnessing the Agricultural Past for a Future of Fresh Food

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This paper examines how corporatized industrial farming practices of today have become responsible for the production of mainstream produce. It identifies the arguments that dismiss the traditional, natural agricultural practices in exchange for the immediate gratification found in industrial (conventional) farming. And while the abundance of food is cause for celebration, this paper brings to the forefront conventional farming's harmful consequences to the environment and human health, and introduces the promising remedy found in organic farming's methods, which ironically are grounded in man's original concept of agriculture.

"A certified organic label tells a little story about how a particular food was produced, giving the consumer a way to send a message back to the farmer that she values tomatoes produced without harmful pesticides or prefers to feed her children milk from cows that haven't been injected with growth hormones."

—Michael Pollan, "The Omnivore's Dilemma"

Who would have believed that a multi-billion dollar industry could be grown (no pun intended) out of humans' earliest basic survival principles? That is the essence of organic farming. The organic farming industry returns to our origins, in which food was produced naturally, with a seed being sewn, and over time, a sprout blossoming into harvestable vegetation. Using this natural process, originally everyone to some extent was a farmer, growing enough crops to feed themselves and utilizing any remaining crops as bartering tools for commercial goods that could not be self-produced. So how did something so ecologically inevitable and personally procurable as the growth of edible plants become a novel method of innovative farming? To understand this phenomenon of organic farming,

the origins as well as the present standing of industrial production of mainstream produce, known as conventional farming, must first be analyzed. Such analysis reveals the disturbing circumstances of food production under the conventional farming system; a system that twists and warps the elements of true farming into a carcinogen-coated, factory-emulated and environmentally detrimental "harvesting" process.

Yet despite the counterintuitive concept of ingesting food generated by such an operation, the industrialized nature of conventional farming has been and remains at the forefront of mainstream crop production, dominating the shelves of grocery store corporations. The ability to feed the masses is one of the arguments that helps sustain this commercial form of agriculture. Nevertheless, industrial farming's antithesis, organic farming, is more than a trendy inclination destined to fizzle out. Far from it. Organic farming serves not only to feed but to satisfy the nutritional needs of humans in an environmentally sound fashion. Its holistic approach, pesticide free (and therefore health-hazard free)

production and sustainable methods are only a few of many reasons why organic farming ought to be the preferred method of agriculture rather than comprising only 2.5% of food sales in the United States (Miller 6). Having said that, an addendum must be made. The growth of organic farming is one to be encouraged, yes, but also monitored in order to prevent it from becoming that which organic principles so strongly oppose: an industry of corporations suppressing the livelihoods of small local farmers.

Ironically, this is a relatively recent situation. Technically, humans have practiced organic farming for the majority of their existence, there just wasn't a label attached, as there was no counter-method of cultivation. In fact, as described in Debra Miller's book *Organic Foods*, up until the mid-1800s, 75% of the US population directly engaged in agricultural production (29). The industrial farming methods began developing in the late 19th and early 20th centuries as the Industrial Revolution took to the challenge of making agriculture more efficient while transforming society as a whole from agriculture-based to industrial-based. The arrival of World War II served as a catalyst for further expansion. A mass-production of crops was called upon to feed both troops overseas and civilians on the home front. Enabled by government promotion, chemicals and technologies created to boost agriculture were maintained and increasingly applied after the war's end, replacing the traditionally required manual labor. By the 1950s, the rural labor force had diminished to 15%. Continuing promotion of conventional farming has resulted in today's rural labor force of less than 1% and the present dominance of agricultural corporations like Tyson, ConAgra, and Cargill (CIA World Factbook).

The goal of these companies, and other practitioners of conventional farming, is to "squeeze as much production out of the land as possible in the most efficient way, in order to maximize profits" (Miller 12). In other words, conventional farming seeks immediate gratification. To attain these instantaneous results, nutrient-rich chemical fertilizers are applied to the soil, as well as herbicides and pesticides, which are heavily employed to prevent weeds, disease and insect damage. Conventional farming also uses the industrial practice of monoculture. Monoculture refers to the planting of one or two crops in the same location year after year, a process that encourages pest multiplication and, in killing the natural ecosystem's diversity, depletes the soil of nutrients without subsequent replacement. Though failing to encourage biodiversity in the soil or surrounding environment, the practice of monoculture correlates with the belief of conventional farming that views nature as an obstacle to be overcome by controlling or altering it in the name of increased human food production.

Conventional farming practices and principles are contradictory to the organic farming approach. Organic farming views farmers as caretakers, rather than masters, of the environment, and seeks to achieve a sustainable relationship. Biodynamic agriculture and the Fukuoka method are two philosophies that have helped establish this approach to farming. Biodynamic agriculture holds that farms should be managed as self-contained ecosystems by attending to and respecting their biological elements, and adapting to the environment's natural rhythms, like planting seeds during certain lunar phases. The Fukuoka method simply asserts that farmers should adapt themselves to nature, rather than claiming total authority, as demonstrat-

ed by Masanobu Fukuoka's abstention from tilling, plowing or utilizing any other forms of machinery to farm (Miller 17).

In accordance with these philosophies, organic farming engages different techniques than those utilized in conventional farming. The most well known difference being that organic farmers do not employ the services of pesticides. Instead, they look to more natural methods that achieve similar results without the detriment to consumer or environmental health. Natural fertilizers like manure, compost or purchasable products are used to enrich the soil. Introducing beneficial organisms like earthworms, algae or fungi also causes additional soil nutrients and the breakdown of organic material. Moreover, organic farming implements crop diversity, which is an effort to emulate the biodiversity of the environment by planting a variety of crops rather than specializing in one or two. This is less stressful for the soil, supports a wider range of beneficial microorganisms and promotes farm fertility. Also, quite unlike monoculture, crop rotation is implemented to prevent soil depletion. A simple conclusion can be drawn in analyzing the methods of organic farming versus those of conventional farming: "organic farmers feed the soil, while conventional farmers feed the plant" (Miller 12).

Recently, organic farming transformed from a set of idealistic principles to a legally endorsed practice. The organic farming industry's techniques gained validation in 2002 when the USDA implemented the Organic Foods Production Act of 1990 (OFPA), which officially established regulatory standards for organic food, and included a definition that stated, "...The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, ani-

mals and people" (Miller 22). The standards include: seasoning manure to destroy pathogens, refraining from using synthetic or chemical fertilizers and pesticides, banning sewage sludge, prohibiting genetically modified organisms (GMOS) and obligating farmers to provide an "organic system plan" that defines their methods of production. There is also a \$10,000 fine for those who mislabels their products as organic. While the USDA does acknowledge the practice of organic farming as legitimate, it holds that, "No distinctions should be made between organically and non-organically produced products in terms of quality, appearance, or safety" (26). Thus the USDA does not take a position of preferred farming methods.

However there are some who would argue that even having such certification and regulation for organic farming is a waste, and that the government should not recognize a practice that is counterproductive in feeding the masses. Former Secretary of Agriculture, Earl Butz, voiced this opinion when he put forth the notion that, "when you hear the word organic, think starvation" (Miller 37). With the world population predicted to reach 9 billion by 2050, critics of organic farming argue that its methods are not capable of supporting an increasing population, claiming that it is too expensive, has fewer yields and requires too much land and energy to be a feasible option (77). The issue of land space is one that critics like Dennis T. Avery, director of the Center for Global Food Issues at the Hudson Institute, point to as being a major concern for the universal adaption of organic practices, saying that "the world would immediately have to clear at least 10 million square miles of wild lands for green manure crops like clover and rye" (76). Then again, this is coming from the same man who, citing studies conducted

by the Center for Disease Control (CDC), stated that “people who eat organic and ‘natural’ food are eight times as likely as the rest of the population to be attacked by...E. coli bacteria,” when in fact there were no such CDC studies (63). Unfortunately, this fallacy presented by Avery is often referenced in the argument against organic farming. While the concerns expressed over land clearance are worth some consideration, they are misplaced. The real question with regard to food security (the ability to feed a population) is not the amount of land but the productivity of the land.

Proponents of industrial farming believe that pursuing organic farming is senseless because conventional methods will produce higher yields and therefore have a stronger likelihood of combating global hunger. Research conducted at McGill University indicated that conventional farming does yield more than organic farming, especially when growing vegetables, which require a lot of nitrogen, but in the case of organic fruit yields there is only a 3% disparity between organic and conventional farming (Gilbert np). Additionally, Bill Liebhardt, a sustainable agriculture specialist at the University of California at Davis, conducted studies that found major crops like corn, soybeans, wheat and tomatoes organically produce yields 94 to 100 percent those of conventional farming. Leibhardt also pointed out that “yield figures do not reflect the other benefits derived by organic producers [like] increased profit per acre and improved soil quality, organic matter, biological activity, water infiltration and water-holding capacity” (Miller 80). Leibhardt’s statement identifies the flaw of focusing solely on statistical yields.

The yield discussion often slants in favor of industrialized methods, because it focuses on the immediacy of crop return. However, it is shortsight-

ed and bases its argument for the future on data only applicable to the present. Industrialized agriculture creates soil fertility dependent upon artificial chemicals, and even more concerning, has a history of rendering soil entirely inhospitable for growth in places known as “dead zones” (areas overloaded in nitrogen). As a result, almost 40 percent of the world’s agricultural land is now severely damaged, which will lead to substantial reduction in food production and a likelihood of global food shortages- not exactly the promised answer to world starvation agri-corporations guarantee with industrialized farming methods (Miller 65). And despite the instantaneous and impressive yield statistics of conventional farming, its methods will not provide the higher yields during drought or consistent production stability found with organic farming (80).

Due to organic farming’s labor-intensiveness, critics sight the price tag as something that, regardless of any benefits, hinders its viability. In fact, claims have been made that organic farming is only an option for the wealthy. However, here is merely a situation of basic economics: “As demand for organic food and products [increases], technological innovations and economies of scale should reduce costs of production, processing, distribution and marketing for organic produce” (FAQ... np). Simply put: demand increases, supply increases, and voilà, price decreases. Moreover, it is predicted that if one-third of American consumers regularly bought organic goods, prices would reduce 10 to 30 percent (Miller 77).

Yet the most ironic argument in favor of industrialized agriculture, is one that smugly points out that organic farming, for all its natural principles, will never truly be 100% pesticide free because of the wide dispersal of pesticides in the air, land

and water (Miller 62). This fact is hardly one organic proponents contest for it only serves to demonstrate the far-reaching detriment conventional farming practices are having on the earth and human health.

Truly the greatest condemnation of conventional farming is its excessive reliance on pesticides, and therein lies organic farming’s greatest triumph: it refrains from chemical application. In addition to soil pollution, water degradation has become such that “toxic chemicals now contaminate groundwater in every country, endangering the world’s precious supplies of freshwater” (Miller 66). This is in part, as Cornell University professor David Pimentel explains, because only “0.1 percent of applied pesticides reach the target pests, leaving the bulk of the pesticides (99.9%) to impact the environment” (66).

But why should consumers care? After all, the environment is not an issue many feel necessitates immediate attention. On the contrary, human health is always a relevant issue and presently 101 pesticides used in the U.S. are “probable or possible human carcinogens.” The EPA legally approved these “potentially carcinogenic” substances before subsequent research linked them to cancer and other diseases. And these chemicals have yet to be reevaluated. Food is “becoming increasingly deadly and devoid of nutrition”(49). In particular, strawberries, bell peppers, spinach, cherries and peaches are the top five most pesticide-laden crops. Strawberries especially attract attention for absorbing the cancer-causing pesticide methyl iodide. So buyers beware.

In addition to the dangers assumed in digestion of industrial farming products, exposure to the “tools of the trade” have been shown to cause Parkinson’s disease, miscarriages, birth defects and various cancers, with toxicity being 10 times greater

for infants and children than adults. This explains why there are higher rates of leukemia, non-Hodgkin’s lymphoma, multiple myeloma, soft tissue sarcomas and cancers of the skin, lip, stomach, brain and prostate amongst Mexican-American and other minority groups that account for most farming communities (54). With such fatal risks involved, logically one would assume a thorough reassessment of conventional agricultural practices would be undertaken. But what a miscalculation that would be. Chemical treatment is only increasing, because pest adaption renders original pesticides less effective and therefore clearly necessitates higher dosages.

When, in the name of profits, the only way to render a farm functional is to deteriorate and intoxicate all that was originally beneficial about the land, it is time to invest in alternative agricultural solutions. Enter organic farming. All that is fundamentally questionable about conventional farming is countered by the principles of organic farming. Its methods are not only less harmful to, but help improve upon, the environment. Organic agriculture techniques like composting and mulching create richer soil that is resilient during high temperatures and decreased rainfall, and is capable of withstanding and absorbing intensified rainfall. Such durability suggests that organic farming is better suited for the predicted global warming changes (Miller 72).

Considering the future prospects of the environment is a major reason to implement organic farming practices globally. They use less energy and generate less waste, therefore offering a cleaner efficiency. This is validated by studies like the “Farming Systems Trial” conducted by the Rodale Institute, which found that organic farms use 50 percent less energy than conventional ones (Miller 71). Furthermore, the “Farming Systems Trial” suggests that

organic farming stands to curb carbon emissions, explaining that it “reduces greenhouse gas emissions by capturing carbon in the soil, where it stimulates plant growth” as well as claiming that if “100,000 medium-sized farms in the U.S. converted to organic production, they would reduce carbon levels about as much as taking 1,174,400 cars off the road” (73).

While the prospect of reducing global greenhouse emissions may seem personally irrelevant to farmers and consumers, the wellbeing of not only one’s self but one’s family, friends and community is an issue of paramount importance. A neighborhood should not have to hide in their houses for fear of being exposed to chemicals blowing off of nearby farms. Farm workers should not have to increase their risk of cancer, lymphomas, soft-tissue sarcomas and a whole host of other illnesses simply to be employed. Consumers should not have to look at produce and simultaneously look at a long list of health risks, many fatal. Industrial farming advocates present the false dilemma between choosing to incur these hazards or mass starvation. When in reality that hardly is the case. Organic farming, especially when implemented on the local level, “optimizes yields under all conditions” and does so without the use of pesticides, herbicides or insecticides, which many allege produces better tasting and more nutritious crops (Miller 72). In any event, organic crops do provide cancer-fighting antioxidants rather than inducing said illnesses.

If implemented locally throughout the world, organic farming’s combined safeguarding of human health, energy efficiency and promise of environmental preservation/improvement all guarantee a beneficial agricultural state. Maintaining localized manufacturing minimizes costs and energy

requirements, and allows produce harvesting within 24 hours of purchase, providing consumers with the freshest food possible. In light of organic farming’s growing market presence and consumer appeal, farmers and consumers must be mindful of preserving these practices that construct the core of organic farming’s principles and techniques. It is essential to prioritize what is priceless, like human health and a planet’s rich environment, over the temptation of wealth acquired from glinting dollar signs. As organic farming has progressed from an alternative, hippie-associated lifestyle to a marketable method with economic potential, an attraction to corporatize organic farming for optimized profits is also cultivated. Thus, while it is critical that our society reduce the detriment of conventional farming by embracing the remedy offered in organic farming, it is likewise crucial that such implementation is undertaken without compromising principles. A nation of industrialized organic farming corporations would truly be the furthest from what organic values stand for and are striving to achieve.

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Athenian Government: Divine Law Overrides State Authority as Seen in *Crito* and *Antigone*

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Class of 2016 Exploratory

This piece dives into the government of Athens and its conflicts with divine law. Writings from Plato and Socrates suggest that the Athenian people did hold the state's power in high regards, but only until someone of significance acted against state law. Examples from Crito, by Plato, and Antigone, by Sophocles, demonstrate that the Athenians did not fully support their democratic system despite the outward appearance that they did. In many ways this effect is also represented in modern American society.

The Athenians are one of the first recorded democracies that society still has writings from. Plato, Sophocles, and others documented dialogues between significant people of the era. Many conclusions about government and the power of divine law can be drawn based on these words we still have from thousands of years ago. It seems in Plato's *Crito* and Sophocles' *Antigone* that the general attitudes of the Athenian people towards the state were those of obedience, and that the majority held the state's power in high regard. What may go unnoticed, however, are the other, less overt views the Athenians held about the state. In the texts by Plato and Sophocles, the state's authority was only valid until someone of significance went against a law. When this occurred, the people quietly disagreed with the authority of the state, and instead looked to the bigger, overriding power of divine law. This, then, shows that the Athenians did not fully support their democratic system although they lived under the guise that they indeed did. The Athenian approach is relatable to the behavior of people in America today who are unhappy with their current democratic system.

In Plato's *Crito*, the main characters are Socrates and Crito. Socrates is in prison, but is a well-known philosopher to the people of Athens. It is not specified what exactly Socrates has done wrong, but is made clear that he has broken one of the democratic state's laws. Crito, Socrates' life long and wealthy friend, visits Socrates in jail frequently by bribing the guards, and attempts to persuade Socrates to escape and flee from the state. Throughout the course of the text, Socrates convinces Crito that fleeing would be wrong. From the dialogue presented by Socrates, the view of the majority of the people is given: one that respects the state's authority. Crito, on the other hand, presents the often unmentioned side: that the people of the state change their attitude towards authority and law when a high-ranking member of society is imprisoned or has done wrong. This is clearly presented near the beginning of the dialogue. Socrates, arguing against Crito's idea to break him free from his imprisonment, says "The most sensible people—the ones we ought to hold in higher regard—will think the matter's been handled just as it should've been" (Plato 67). By saying this, Socrates means that while Crito thinks most

people will want him to break free, those people do not matter because they do not value authority. Those whose opinions do matter will be satisfied that Socrates was punished for breaking a law. Crito responds to this by assuring Socrates that the people he considers insignificant are only trying to help him for the betterment of all people, and that they are willing to pay for his escape. "Furthermore, if, in your concern for me, you think I shouldn't spend my own money, these foreigners here are ready to spend theirs. One of them—Simmias...has brought enough money for this very thing" (Plato 68). The people that Crito is referring to are wealthy in comparison to Socrates, but are very willing to spend their money on bribes to free him because they have decided to overlook the power of state authority and instead find truth in the divine law, or the law of the gods. This is what is not often observed about the Athenians attitudes when looking back on their conversations about government. Crito references this divine power a bit earlier in the passage when he says, "most people are able to do not just the smallest evils but virtually the greatest if someone's been slandered when they're around" (Plato 67). In other words, people are willing to overlook the power of the government and break rules, in this case freeing Socrates, when the law has slandered someone of value to society. They look upon the divine law as the most significant, and aim to do what is correct in the eyes of the gods rather than what is correct in those of the lawmakers. Thus, the Athenians did not really respect state authority as much as is portrayed in many of the surviving works of the era.

This concept is also very clearly observable in the play *Antigone*, written by Sophocles. *Antigone* is the tale of Creon, the King of Thebes, and Antigone, the fiancée of Creon's son, Haemon. Antigone's

eldest brother, Polyneices, dies in battle coming to attack Thebes while her other brother, Eteocles, dies in battle protecting the city. Creon declares that Eteocles is to be given a proper burial but that Polyneices must remain where he died and have no burial whatsoever. This is a direct law made against divine law, and Antigone, equally loving both of her brothers, decides to break the law declared by Creon, and to bury Polyneices anyway. This gets Antigone into a great deal of trouble, and she is sentenced to death. Haemon, in grief over the sentencing of his lover, begs for his father to change his mind. Creon stubbornly refuses and in the end loses his wife, his son, and his future daughter-in-law—all the consequence of going against divine law. Ironically, what is emphasized throughout the play is that the authority of the state stands. Yet again this is broken when someone of significance is in harm's way. In this particular instance, Creon only retracts his decree when his family and home are threatened. Tiresias, a prophet, comes to see Creon to declare what he has seen. "A corpse for a corpse the price, and flesh for flesh/one of your own begotten" (Sophocles 377). From this, it is implied that Creon's son will be harmed, as he is Creon's 'beget'. Tiresias goes on to tell Creon, "Yet a little while and you shall wake/to wailing and gnashing of teeth in the house of Creon" (Sophocles 378). It is only after this threat that Creon dramatically changes his mind and resorts back to divine law in order to save his home and protect his family and himself.

It is clear that Creon's people, especially Antigone, felt from the beginning that divine law was supreme to the declaration that Creon made. When Antigone is caught in the act of burying her brother, Creon questions if "she chose flagrantly to disobey [his] law?" (Sophocles 358). Antigone replies, "Nat-

urally! Since Zeus never promulgated/such a law” (Sophocles 358). Antigone then goes on that she: never thought [Creon’s] mortal edicts had such force they nullified the laws of heaven, which unwritten, not proclaimed, can boast a currency that everlastingly is valid (Sophocles 358)

Clearly, Antigone strongly felt that, although Creon was the lawmaker of Thebes, his rule did not override the law of the gods and thus held no value to her in her circumstance. The rest of the people of Thebes disagree with Antigone. This is seen when the chorus says farewell to Antigone as she is going to be locked in the chamber to die. Chorus:

Perhaps you aimed too high
You dashed your foot on Fate
Where justice sits enthroned. (Sophocles 370)

This continues as they conclude to Antigone, “Self-propelled to death/You go with open eyes” (Sophocles 371). They do not pity her for they acknowledge that she defied Creon and his power to make the laws, and as a result she must die knowing that it was her choice to do so. This implies to the audience that the people of Thebes respect the authority of the king and state, when in reality there are more cues that hint that the people actually have sided with Antigone. When Haemon, Creon’s son, goes to speak with him over the matter, he suggests that he knows what the people really think. Haemon:

As your son, you see, I find myself
Marking every word and act and comment of the crowd,
to gauge the temper of the simple citizen
who dares not risk your scowl to speak his mind.
But I from the shadows hear them:
hear a city’s sympathy for this girl... (Sophocles 365)

While Haemon’s side may appear biased, as he is engaged to Antigone, the chorus later sides with him to confirm the reality: that the crowd sides with Antigone. The chorus calls upon Bacchus, the son of Zeus, to come to save the town of Thebes. Regardless of the fact that they are simply interested in saving their town from Creon and his disastrous leadership abilities, the chorus asks a god for help, proving their valuation of divine law. They cry out, “Son of Zeus, O Prince, appear!” (Sophocles 380). By going straight to the gods, and making no attempt to plea to other men for help, the chorus puts their faith entirely in the power of divine rule.

While both *Crito* and *Antigone* appear to demonstrate that the Athenians value state authority greatly, both works actually prove the opposite. By taking a closer look at the implied meaning of the texts, it is made clear that the people of Athens cherish divine law more than laws made by the democracy or the king. From this observation, it is possible to look into more modern democracies and find out the implications of the way laws are created. America’s democratic system may be more closely related to that of the Greeks than commonly thought, as people tend to value authority only when they are on its side, disregarding its significance when they, or someone they value, are in trouble. People today, then, view laws based on their own personal experiences, much like how the Athenians really viewed the authority of state law. This can cause great controversy within modern society, and should be recognized as an issue that people as a whole have with governmental policy.

A present example of this in the United States is the controversy surrounding gun laws. Following the Newtown, Connecticut shooting, many Americans began to bring the issue of gun violence

back to the forefront. Many of the parents of the victims of the shooting in Connecticut are now advocates for stricter gun laws. This, of course, is due to the negative effects that guns have had in their lives. The Mayors Against Illegal Guns coalition released a television advertisement in which the families of four of the victims call for stricter gun laws in order to prevent other families from going through the same tragedy (Foley 1). It is evident that people tend to base their opinions of laws off of their experiences with them, both today and back in Athens. On the opposite side of the debate, many opposed to gun control laws today use guns to hunt or feel that they are necessary for their own protection. It could be argued that they are on the side of the law that encourages guns because up until this point, guns have only benefitted them. There are currently fifteen state sheriff’s associations that have “vowed to uphold and defend the Constitution against Obama’s unconstitutional gun control measures” (“Growing List of Sheriffs” 1). It seems that regardless of the final outcome, the laws and the government’s decisions will not suit everyone. Thus, it can be concluded that the Athenian’s democracy is actually very similar to America’s current democracy, especially in regards to the opinions of society on governmental policies. Whether in Athens or modern America, people will generally agree with whichever side of the law best supports their lives and those of their family members.

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Your Word Has Been Chosen, The Words Have Been Spoken: Authorship and *Fires in the Mirror*

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Anna Deavere Smith is credited as the playwright behind *Fires in the Mirror*. *Fires in the Mirror* examines the riots in Crown Heights following the accidental death of Gavin Cato, a young black boy, and the murder of Yankel Rosenbaum, a Hasidic Jewish man. Smith recorded interviews she did with members of the Crown Heights community and performed them verbatim. This essay explores the implications of calling Smith the “author” of that story.

In the summer of 1991 Crown Heights, Brooklyn was a pressure cooker. Its dominant communities—African- and Caribbean-American black people and Orthodox Jews—existed in a state of de facto segregation and profound misunderstanding. Each group could be characterized as suffering from the effects of both self-inflicted insularity and a desire to perceive themselves as “special” or “chosen” people. On August 19, 1991, a car in the Lubavitcher Jewish Rebbe’s (leader’s) motorcade stuck and killed Gavin Cato, seven-year-old son of Guyanese immigrants, and thus the powder keg was lit. Late on the night of the 19th, Yankel Rosenbaum, a 29-year-old Jewish man from Australia was stabbed in the street. The resulting riots lasted until August 21st, and stories of violence in the area were in the news for months. On all sides, miscommunication was rampant. Both groups blamed the other for these tragedies, and all groups were infuriated at what they perceived to be a blasé attitude on the part of the authorities.

Anna Deavere Smith (b. 1950), performance artist, actor, director, playwright and professor, began conducting interviews in the Lubavitcher and black

communities in Crown Heights almost immediately after the riots broke out. She promised her subjects the opportunity to see themselves performed, if only they gave her an hour of their time for a recorded conversation. She collected and edited more than 100 interviews, 29 of which she performed in a one-woman show she called *Fires in the Mirror*. In its written form, the interviews are arranged in verse. *Fires in the Mirror* premiered May 1, 1992. Smith, a light-skinned black woman, performed as a man, woman, child, black and Jewish person with a high degree of verisimilitude. Her performance style emphasizes breakdowns in language and the small actions, nervous tics, and unconscious habits of the people she chose to present in her play.

Marcel Duchamp (1887-1968) was an experimental artist closely associated with the Dadaist movement. He is famous for his studies of motion, including *Nude Descending a Staircase No. 2*, which questioned depictions of the fourth dimension in art. He first made waves with his “ready-made” piece, *Fountain*, a urinal he signed “R. Mutt” and entered into a competition as an original work in 1917, at age 20.

He was rejected from the competition but established himself as a truly radical thinker and conceptual artist.

Chuck Close (b. 1940) is renowned for his large-scale portraits so realistically rendered they appear to be photographs (i.e. photorealism). His technique, painting circles in an array of colors to trick the eye at a distance, is not unlike Monet’s strategy of optical illusion. He uses portraits as a means of coping with his Prosopagnosia (inability to recognize or differentiate faces. Also known as “face blindness”).

The following essay deals with complications around categorizing Anna Deavere Smith in relation to *Fires in the Mirror* as well as aims to highlight the necessity of specific language and clarity of intention. Is it acceptable to say Smith is a “playwright” if she lifted the words she performed from pre-existing dialogues? She does not consider herself a journalist because she never went to journalism school, but what place do the artist’s intentions and desires have in interpreting his or her work? There is more to writing than merely selecting and arranging words, facts have value beyond “true” or “false” and the idea of an “objective” story or “neutral” portrayal of events often has more to do with honoring power structures than respecting the multiple points of view embedded in it.

As a means of putting into context the debate around Anna Deavere Smith crediting herself as the “writer” of *Fires in the Mirror* (1993), none of which she “wrote” in the traditional sense and all of which she edited, consider an art historian’s perspective: In 1917, the Society of Independent Artists rejected “Fountain,” Duchamp’s ready-made sculpture.

Because the piece did not violate the Society’s rules for exhibition, the sculptor saw the following as the reasons for that decision: “...some contended it was immoral, vulgar. Others, it was plagiarism, a plain piece of plumbing” (Foster, et al). The essential issue is the status of the piece as art (or not) because it was “chosen” and put into a particular context rather than created from scratch.

Duchamp’s work deals with objects; Anna Deavere Smith’s work deals with people. To call Smith a playwright merely because she selected the monologues in *Fires in the Mirror* is to ignore the role her voice has in the play. She has not made any claims of absolute authorship. She presented the scenes of the interviews on stage with a tedious eye for detail. Even more importantly, though she determined which stories would become the play, she uses her interviews to critique the ideas of being “chosen” or special, as well as notions of authority and objectivity.

That the monologues were selected is not to be trivialized, of course. In the introduction to the 1993 edition of the play, Smith draws attention to criticism she received for donning a particular costume. “Some...members of the audience reacted to the sweater by saying it was *perfect*, others felt it was stereotyping Jewish people as affluent. In reality, according to the costume designer, the outfit [that the interviewee] *really* wore was much more flashy and expensive than the sweater.” (xxxvii) Smith goes on to explain that her choices to keep dollar bills in her pocket while portraying the Rabbi Shea Hecht and including monologues involving issues some black people have with their hair were true to the person interviewed. They were seen as controversial, however, when they were embodied in the theater. In these examples, Smith attempted to remain faithful

to the sentiments expressed in the interviews. But what gave that costume designer the authority to decide Malamud's sweater would be just as effective with a less expensive garment? By including portions of interviews dealing with black people who have complicated or reverential relationships to their hair, Smith was essentially choosing to address that issue. Even if the interviews were presented in full, we would nonetheless be encountering a selective perspective filtered through Smith's memory and personal experience and, more importantly, only see the words out of their original contexts. The term "playwright" refers to shipwrights, who were "ship builders." By *building* a play, rather than transcribing her interviews exactly, Smith retains ownership of the title. Who's to say editing isn't as much writing as recording the monologues in the author's head? Smith used her place in the narrative to hone in on a few messages. As the author, she had the power to give as dynamic a picture of the community as her medium allowed and to excise interviews that compromised the clarity of her themes.

There may be a flaw in using the terms "performance" and "portrayal" interchangeably to describe Smith's acting techniques. A "portrayal" implies condensation, interpretation, and explication, whereas "performance" acknowledges processes of amplification and layering. Rather than feeding into character history through portrayal, the performer enacts the parts of a person she has the ability to embrace. Smith writes, "Mimicry is *not* character. Character lives in the obvious gap between the real person and my *attempt* to seem like them. I try to close the gap between us, but I applaud the gap between us. I am willing to display my own *unlikeness*" (xxxvii-xxxviii). Smith likes to emphasize imperfections in speech, such as stutters,

pauses and stumbles. She also takes time to describe an interviewee's actions in the script as well as utilize stage time to highlight those gestures. The notorious example is Minister Conrad Mohammed flicking a sugar packet. In performance, the sugar packet took on the qualities of a musical instrument—percussion accompaniment—as Smith drummed it against her prop table. Her action parallels the content of the monologue: Mohammed beats on the table as he relays violent images related to the magnitude of suffering in black history. In the written text, Smith inserts detailed descriptions of setting and appearance before each monologue. Furthermore, the text preceding her presentation of the Reverend Canon Doctor Heron Sam notes, "Throughout the talk he is trying to get the corner of a calendar to stay down, but it continues to stick up. Finally he uses a paperweight to keep it down" (74). The details seem trivial, but instead of describing her characters obliquely, she provides the most specific information she has. That information might help a reader or actor better understand the essential problem the Reverend is having—a problem many of the people Smith interviewed had. The residents of Crown Heights see tension rising between their two dominant communities, or as the Reverend calls the current situation in Crown Heights, a "Mexican standoff." They cannot envision a nonviolent solution to the problem (77). His understanding of it is manifested in his preoccupation with bent calendar pages. "The people showed their anger...and as a result/I think in retaliation/murdered one of the Hasidics/But that was just the match that lit the powder keg/It's gonna happen again and again" (77). He fixes the bent pages with force, underlining the brutal inevitability of their circumstances: without proper and direct communication, the building tension would soon

find an aggressive way out.

It is important to recognize that all of the monologues in the text are one side of a conversation. We don't always know what prompted the speaker to express a particular opinion. Through *Fires in the Mirror*, Smith argues communication is essential, even if it offends. Smith's monologue "Isaac," quoted from her meeting with Letty Pogrebin, underscores that message. Pogrebin observed: "...nobody listens! Nobody reacts!/To get a headline/to get on the evening news/you have to attack a Jew/Otherwise you're ignored/And it's a shame/We all play into it" (51). Roslyn Malamud, in a monologue titled "The Coup" echoes the sentiment: "It was an accident!/But it was allowed to fester and to steam and all that" (126). Both Pogrebin and Malamud understood that the tensions in Crown Heights that summer were less about black versus Jewish than they were symptomatic of an essential issue: "self" and "other." When a group is relegated to the realm of "other"—as both black and Jewish communities often are—the group can sometimes become protective of that identity. As a means of preserving history and ensuring that past suffering is not forgotten, a group may be inclined to isolate itself and protect the "specialness" of its culture with attitudes of exclusivity. No one else can be said to have suffered as much as the group at hand, because the group needs to ensure that their loved ones are properly memorialized. That thinking pattern in turn fosters animosity among the oppressed and prevents recognition of the true sources of their subjugation.

The titles of the monologues hint at Smith's opinions in addition to indicating which parts of the interviews she deemed essential. Smith excised large portions of her research from the final draft

of the play, but it is important to remember what constituted the initial communication. To expand an earlier argument, conversation only exists *between* or *among* people. It has a way of either cutting off extremes of emotion and opinion, or heightening those aspects of our psyches. Early in the play, an Anonymous Lubavitcher Woman corrects herself for assuming a black boy couldn't be Jewish, as "he was black and he wasn't wearing a yarmulke" and the Anonymous Girl of Haitian descent asks Smith, "You Black?" (8, 16). These moments, like everything the people represented in the play said during their interviews, could only happen in the presence of a woman of ambiguous ancestry. Those people only realized they might seem ignorant because Smith, a light-skinned black woman, was in the room with them. Discussion at its best becomes a dialectic. If the play suggests resolutions within the written material, those solutions are recognizing similarities among marginalized groups, letting go of notions of "specialness" and being "chosen," and thus minimizing anxieties having to do with the loss of identity. Just as we emphasize or de-emphasize facets of our personalities as we encounter other people, we must either accept dissolutions of identity in pursuit of the melting pot or encourage sensitivity around perceived difference. In fact, "melting pot" shouldn't even be the ultimate goal. The ideal situation would be to understand and preserve histories, identities and cultures without depending on the alienation of another. These conversations began as a means of intervening in a pool of venomous opinion. It was with that goal in mind that Smith molded the discourses paraphrased in *Fires in the Mirror*.

Before each interview, Smith said to her subjects, "If you give me an hour of your time, I'll invite

you to see yourself performed” (xxiii). The people Smith portrayed during her *Fires in the Mirror* performance understood that their words would be quoted, edited and embodied by Smith herself. The documentary scholar Bill Nichols calls the subjects of a documentary “social actors.” Social actors “remain cultural players rather than theatrical performers. Their value to the filmmaker consists not in what a contractual relationship can promise but in what their own lives embody. Their value resides not in the ways in which they disguise or transform their everyday behavior and personality but in the ways in which their everyday behavior and personality serves the needs of the filmmaker” (5). Smith had needs as a playwright and performer that were solely her own, but she also aimed to address race tensions and thereby improve the situation in Crown Heights. Nichols goes on to draw attention to the documentary process and its affect on reality: “The director’s right to perform...threatens to introduce an element of fiction into the documentary process (the root of fiction is to make or fabricate). ... Modifications in behavior can become a form of misrepresentation, or distortion, in one sense, but they also document the ways in which the act of filmmaking alters the reality it sets out to represent” (6). The relationship between creator and subject is not so unbalanced in *Fires in the Mirror*, but Smith does use the dynamics and tension of fiction versus nonfiction, self-presentation and preservation versus underlying message and the function of language as a masking agent. Documentation has the ability, by necessity, to distort reality, but Smith openly admits to prioritizing conversation, communication and resolution over realistic representation. Nichols goes on to point out that it is easy to assume that “subjects” in a film, for example, can sometimes

be mistaken for objects “for our examination and edification. ... Often they seem to come before us as examples or illustrations...” (15) Nichols does not judge the practice as either positive or negative, but he *is* illuminating the power and authority a subject allots his or her interviewer. The people Smith interviewed certainly become “evidence of a condition or event,” (as Nichols phrases it) but never are reduced or diminished any more than the interviewees diminished themselves. The Minister Conrad Mohammed reduces the Jewish people to their notion of being chosen, and further reduces “the whole theological exegesis/with respect/of being the chosen” based upon “...seven verses/in the Scripture...” (58). Smith maintains a degree of transparency in her work. She notes where and when the interviews occurred, recognizing that the opinions presented reflect the thoughts of the person at a static moment in space and do not define him as he currently exists. She wrote that her goal “was to create an atmosphere in which the interviewee would experience his own authorship. Speaking teaches us what our natural ‘literature’ is. In fact, everyone, in a given amount of time, will say something that is like poetry” (xxx). She provided the time and medium, while her subjects created the poetry as they examined closely held beliefs. She acted on notions of the interviewee as beholder of a voice distinct from her own rather than the interviewee as provider of words to be absorbed in a theme for performance. Smith wrote, “A character in a play does not have a visible identity until the actor creates a body for that character. ... Identity, in fact, lives in the unique way that a person departs from the English language in a perfect state to create something that is individual” (xxx). She does not disappear into the characters, nor does she become them when she acts. Instead,

she underscores moments when she and her subject are unable to converge and retains distance even as she presents herself through them.

There is another figure in art history whose work might be an appropriate lens for thinking about *Fires in the Mirror*. Chuck Close, a contemporary painter, has a creative process that shares more in common with Smith’s style of translation than Duchamp’s method of appropriation. Like Smith, Close paints in a photorealistic style. He combs over, then reconstructs an image until it represents both the person depicted and his own point of view. During an interview for a documentary about his career Close said, “In an act of extreme generosity, my sitters have leant me their image, putting aside their vanity without knowing how I’m going to use it or how often I’ll recycle it” (*A Portrait in Progress*). Smith’s interviewees gave her that same privilege and access. Her decision to include her own voice in her work is not only in keeping with the ethics of her project but also a statement of her refusal to accept the artifice of politeness as an excuse for silence. *Fires in the Mirror* is one side of a dialogue—a piece of art that has the gall to stare back at its spectators. That the play was considered so controversial upon its premiere is a reflection on the success of Smith’s argument: she provides the framework, and it is the job of all who encounter it to fill in the rest.

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Fear of the Maddened Woman: A Study of Male Fear of Women in 5th Century Attic Drama

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The following research paper is written with the purpose of exploring the correlation between real and fictional violence perpetrated by women in 5th Century Athens. The essay explores the similarities and differences between violence carried out by women as told by surviving primary sources regarding life in Athens, and from surviving dramas written by Classical playwrights including Socrates, Aeschylus, and Euripides. My thesis explores primarily the differences between these kinds of evidence, and how these differences reflect attitudes, customs, and fears involving women.

In primary records of Athenian life, women are infrequently, if ever, reported to be violent. However, in 5th Century classical Attic Drama, women are portrayed as hysterical, sneaky, or violent; oftentimes all of the above. This discrepancy between domestic life and stage suggests that Athenian men were afraid of a dormant violence in women, or that they suspected them of such violence. However, these violent women, no matter how far removed from their real-life female counterparts, are still held within the family sphere of the woman. From *Antigone* to *Medea*, there remains the motive of protecting or interacting with the family in some way, which drives the women to this violence. There is little evidence to corroborate this level of suspicion and/or accusation in the primary sources surviving regarding Classical Athenian domestic life. Further evidence could bring to light actual instances of domestic violence perpetrated by women, but in the meantime it would appear that portrayals of women as violent in Attic Drama are exaggerations of men's fears about them.

Before the implications of dramatic por-

trayals of women are considered, an establishment of what was considered normal in Athenian life, especially regarding women, is called for. All women, whether they were citizen wives or slaves, had a role in the *oikos* or individual household. The role of the wife was to produce legitimate children, and further legitimize the household name by performing her expected duties such as cooking, cleaning, and weaving. They were sequestered in their own separate upstairs part of the household, and were not allowed at *symposia*, or parties (Demand). Only unrespectable women such as slaves or prostitutes were allowed there. Women were confined both on stage and in real life to the home almost exclusively. There are few, if any cases of violence in the *oikos*, or anywhere else, committed by women.

In reality, Athenian women were generally kept out of sight, and were held to a different standard than men sexually and politically. As Eva Keuls points out in her book *The Reign of the Phallus: Sexual Politics in Ancient Athens*, "In the public sphere of men, buildings were massive and surrounded by phallic pillars, whereas private dwellings, large-

ly the domain of women, were boxlike, enclosed and modest" (Keuls 5). She goes on to say that laws and restrictions trace back to Solon the great law-giver, who "instituted many controls over sexual and family life" (Keuls 5). She argues that there is enough evidence to implicate Solon as "a codifier of the double standard of sexual morality" (Keuls 5). The double standard she speaks about refers to the power that men had over women sexually. It was not uncommon for men to take concubines, see prostitutes, take on young male lovers, and, in some cases, exercise rape as a weapon.

Why then, are women portrayed as ferocious, cunning, irrational maniacs in Attic Drama? Keuls gives us an idea when she writes, "Athenians apparently feared that any concession to women would lead to a collapse of the social order that men had built" though there is little or no evidence that women would have behaved nefariously had they been granted more rights (Keuls 4). This fear is illustrated in feminine rejections of marriage in Greek drama, such as in *The Suppliants* and *Tereus*, and relates to the male fear of losing control over the *oikos*, thus losing their own legitimacy (Keuls 152). With such strong control over women, Keuls argues that men had established a "Phallocracy" marked by "The dominance of men over women in the public sphere... the concept denotes a successful claim by a male elite to general power, buttressed by a display of the phallus.... as a kind of weapon" (Keuls 2). In reality, it seems, women were kept from engaging in social discourse almost entirely.

In childbirth especially it seems that women's lives were in danger, not only by the delivery of children, but also by the elected abortion of them. Nancy Demand argues in her book *Birth, Death, and Motherhood in Classical Greece* that elected abortion

was often chosen by the woman as a result of household tension. It can be deduced from this that domestic tension drove women to self-inflict violence, as abortion was a violent and often deadly event in Classical Greece. Tensions that could potentially have driven these women to such extremes include despair over a husband's infidelity, loss of reputation, or abuse. This brings to light one example of recorded, if rare, violence committed by women; however, it is self-inflicted, giving men little to fear as it would seem.

Lastly, the backgrounds in myth that men were familiar with at the time 5th Century tragedies were written must be established. Women in myth were often regarded as violent, and goddesses that discarded gender roles were seen as masculine, violent, or both. For example, there are literally hundreds of surviving paintings of Amazons on vases or otherwise, which suggests a popular fear and fascination with violent women. Paintings on these vases depict the women stabbing mostly at men's abdomens and genitals, whereas men stab women on the breast or near the nipple, "as if to dramatize his assault on her femininity" (Keuls 4). The fascination of Classical Greek painters with the violent women in the case of the Amazon myth is overwhelming, suggesting both their amusement and fear with the concept. Though these women do not themselves appear in the 5th Century Attic dramas that have been studied, these myths were widely known throughout Greek culture and provide relevant background information.

In the case of Goddesses, there are endless examples to discuss. Goddesses such as Athena and Artemis who take on masculine, chaste roles are both known to be violent. However, they are most often portrayed as helpful and governing forces over

women. Athena presides over women's weaving as well as war and strategy. She punishes and helps women as well as men. Artemis is similar. However, sexually mature figures such as Hera and Aphrodite are portrayed more often as jealous and mischievous. After all, it was Aphrodite's promise to Paris that sparked the Trojan War. Hera is most often seen as vicious, jealous, and angry. This hints at the preference of the virgin woman to the sexually mature one, perhaps because the latter is self-realized and therefore more powerful.

And now to address the fictional woman in various Classical Dramas, the being Clytemnestra in Aeschylus' *Agamemnon*. While Clytemnestra behaves outside of the normal gender role of a woman, she is entirely motivated by family; specifically avenging the death of her daughter Iphigenia. She behaves more tamely than the later mentioned Medea or Agave, but still takes on a masculine role in that she commits murder and seizes government control. However, the male chorus chides her and speaks often of Helen of Troy, who they claim was also responsible for the deaths of men. They also foreshadow Orestes' return and revenge. Clytemnestra expresses outrage at the double standard with which the chorus regards her act as opposed to Agamemnon's murder of Iphigenia. One of her speeches expresses this exasperation. She is angry with the chorus for cursing her when Agamemnon was not chided at all for killing his daughter as if she was an animal (Aeschylus, *Agamemnon* 162). Being a strong female character, she refuses to back down and tells them, "Threaten away! I'll meet you blow for blow" (Aeschylus, *Agamemnon* 163).

Clytemnestra breaks the typical female mold not only in her violent acts, but also in the way she carries herself in speech and manner. The chorus

leader says of her, "Spoken like a man, my lady royal, full of self-command" (Aeschylus, *Agamemnon* 116). She is considered to be more manlike than womanlike, but still suffers female prejudices. When she announces that the Greeks have won the Trojan War, the chorus will not believe her and calls her "gullible" (Aeschylus, *Agamemnon* 120). She expresses her outrage later at being stereotyped as hysterical and emotionally unstable when she snaps, "You made me seem deranged. For all that I sacrificed – a woman's way, you'll say" (Aeschylus, *Agamemnon* 125). Finally, when she stabs Agamemnon with a dagger she is described as a "lioness" and strikes him while he cries in agony (Aeschylus, *Agamemnon* 154, 161). This display of masculinity and the use of a more phallic weapon as opposed to poison or a tricky means of extermination casts Clytemnestra in a masculine light. However, she must use her feminine treachery to cause Agamemnon to forget his suspicion (Zeitlin 75). She is therefore kept somewhat in her role as a woman, but as a tricky, ill-willed one that is dangerous to men. The chorus of men is appalled by her actions, and she argues back "My heart is steel, well you know" (Aeschylus, *Agamemnon* 162).

Clytemnestra's disregard for gender roles and proper womanly conduct reflects male fear of a vengeful woman, specifically a mother who was robbed of a child. Clytemnestra violates the restraints of the *oikos* from the start of the play, thus casting her as a dangerous woman early on. She is motivated by her family, namely the loss of Iphigenia, to take revenge on her husband. Even when she steps outside of her femininity in order to commit murder, she does it for the sake of her child, which effectively keeps her within the confines of motherhood and consequently womanhood. This demon-

strates an interesting fear of the enraged or wronged mother by male counterparts, and a perceived male weakness to a distraught, angered woman. This is likely because men, who kept their women entirely out of social life, did not understand them and therefore feared that of which they were capable.

This misunderstanding and suspicion of the true nature of women is corroborated by Eva Keuls, who writes "On the stage, these men impersonated... powerful, fearsome women, driven by superhuman passions... Murder, incest, rape, cannibalism, all the horrors of the mythological past were trotted out to view... the men went home and looked under the furniture for their wives' supposed lovers" and goes on to cite Clytemnestra, Medea, Agave, and Antigone as examples (Keuls 332). The fact that men impersonated these women instead of having women play these roles links to the male misunderstanding of women. In following dramas by Euripides, Orestes fears retribution from Clytemnestra's grave, which suggests that Athenian men's fear of women is irrational but remarkably potent.

In Sophocles' *Antigone*, the title character is also motivated by duty to her family, namely her slain brother, Polynices who was refused proper burial. She defies authority through both her words and her actions. She is warned against this by her sister and others, but is set in her decisions because of their dutiful and divine nature. She feels a responsibility not only to her brother, but to the gods to bury him properly. Although she fulfills this duty, Sophocles sees fit to punish her still for her intrusion into the male sphere of the *polis* in search of justice. While women were forbidden from judicial proceedings, Antigone breaks this rule, as well as directly defying Creon's law. She is punished with death, and balance is restored to the gender roles in

Antigone, and the men who cause harm are appropriately punished as well for their hubris.

Antigone is the ultimate nuisance to authority on several accounts, seeking holy justice for her brother and martyring herself for her cause. She is also persistently loud-mouthed and relentless in her protests and proclamations. Ismene, her sister, calls on Antigone to obey Creon's law, and says that women are not supposed to argue with men. Ismene serves as a weaker foil to the strong-willed Antigone. Antigone's self-inflicted fate is one of duty to her brother, but goes so awry because of her refusal to obey the laws governing her gender. The chorus Leader exclaims "No man is mad enough to welcome death" in reference to the death penalty placed on Creon's law forbidding the burial of Polynices (Sophocles, *Antigone* 350). The use of the word "man" highlights the hysterical and irrational qualities the male chorus is attributing to Antigone's decision to openly defy the law because she is a woman. No "man" would do this, but because she is a woman and inherently irrational, she decides to break the law. The chorus also expresses their confusion and misunderstanding of her actions here. Creon, too, seems somewhat confused by her boldness because he ignores plain reason and divine law in order to make a point that "No woman while I live shall govern me" (Sophocles, *Antigone* 360). He takes back his decision to leave Antigone to die in a cave after it is too late, which further calls attention to the rash decision making and tragedy brought about by his fear of the assertive woman, Antigone. He refuses to heed even Haemon because he fears that Haemon is being manipulated by Antigone. The chorus concludes by placing blame on both Antigone (Sophocles, *Antigone* 370-371) and Creon (Sophocles, *Antigone* 384) because the former disobeyed state

law as well as gender roles, and the latter disobeyed divine law.

Because Antigone was unmarried, her loyalties fell next with her brother, and therefore she was required to either honor him with the proper burial or be punished for her failure. She commits suicide as a result of her failure, caused ultimately by men to silence her once and for all. Although she was just in cause, Antigone stepped out of bounds as a woman, as women were not allowed to speak against men or in court, and therefore she must be inevitably silenced. Here, Haemon takes on the feminine role here and kills himself after he finds Antigone is dead, which suggests a fear of men being controlled by a woman. This is because he kills himself when he finds that she is dead, which is usually the role of a woman when she finds that a strong male figure such as a husband or brother has died.

Because Antigone is required to be loyal and to grieve her brother, there are certain rules that she was confined to that she still follows. In Nicole Loraux's *Tragic Ways of Killing a Woman*, she describes one of those rules, where, "The death of a man inevitably calls for the suicide of a woman, his wife" because the death of a man should be in war, and his wife must then adhere to a "heroic code of honor" and take her own life (Loraux 7). Also, where men die by the sword, women must die the "formless death" by hanging with a rope, which Loraux argues is less honorable and "associated with marriage... with an excessive valuation of the status of the bride – while a suicide that shed blood was associated with maternity, through which a wife, in her "heroic" pains of childbirth, found complete fulfillment" (Loraux 9, 15). Antigone dies this formless death because she has failed in her duties as a wife-figure to her brother in that she could not sway

Creon and failed to properly bury him. However, this failure also allows her to be free from the guilt that accompanies it because, as Loraux states, "For women there is liberty in tragedy – liberty in death" (Loraux 17). Women thus conquer death with suicide, maintaining some autonomy and power even in their dying actions. This control was evidently intimidating to men, as Antigone's death punishes Creon even beyond her grave; his son and wife both destroy themselves as well.

Lastly, in the category of the less extreme tragic women, comes Euripides' *Hecuba*. She too, is motivated by extreme loss of family: her son Hector is killed by Achilles, and her other son Polydorus was murdered by his trusted guardian Polymestor for treasure. Her daughter Polyxema is to be sacrificed on the tomb of Achilles, and her other daughter Cassandra is to be Agamemnon's concubine and whore. In her lamentation she makes clear how important her family is to her: "My woe, my woe!/ Who can help me? What child,/ what city? Old Priam is gone,/ my sons are gone./ Where can I turn?" (Euripides, *Hecuba* 5). Odysseus also relays her helplessness to Hecuba by refusing her cries for mercy when he says, "Do not make us tear [Polyxema] away from you by force... Rather you must recognize how powerless you are and how your misfortunes overwhelm you. In my view it is sensible... to show good judgment" (Euripides, *Hecuba* 7). The men in this story are initially powerful, but underestimate the power of the women, which reflects Athenian men's irrational fear of the dormant emotional and physical power of women. She breaks down and insists on being put to death with her daughter, but soon her mood shifts.

While at no point in the play is she any less desperate for revenge, Hecuba organizes herself

and forms an alliance with Agamemnon, which she forges through his pity for her. Her manipulation of him, she says, is necessary: "I could not take revenge for my children without this man's help" (Euripides, *Hecuba* 21). When Agamemnon expresses doubt of her plan, she assures him that, "Women in numbers are formidable, and when allied with trickery, hard to fight against" (Euripides, *Hecuba* 25). This is an obvious expression of men's fear of treacherous, vengeful women. They suspect them of trickery, but do not see them as a threat unless they gather. It is seen here again the Athenian man's fear of losing control when women are allowed into the public sphere: when Hecuba forms an alliance with Agamemnon, a man, all goes ill for the men in the tragedy, including Agamemnon.

Hecuba effectively tricks Polymestor into being alone with his two sons by asking to talk about her business privately and again when she lies about where the treasure is and lures him into the female prisoners' tent. He follows her because of his greed, and also because he does not fear women, which leads to her ultimate revenge. Within the tent she blinds Polymestor and kills his two sons with the aid of the other women inside. He exclaims, "Women have destroyed me,/ captive women!" (Euripides, *Hecuba* 31). Earlier, however, when Polymestor lies to Hecuba about Polydorus' death, Hecuba confirms his treachery, which suggests that when men use trickery, they are punished for it. This could be for one of two reasons, the first being that men do not know how to use treachery because it is a woman's game. The second is that Polymestor is unsuccessful in his lie because treachery is seen as base and dirty because it is a woman's game. Men, when they lower themselves to a woman's level, are punished.

The chorus of Trojan Women chastises

Polymestor after his blinding, singing, "A man who has done shameful things must pay a terrible reckoning. [A god who presses hard upon you has given you this]" (Euripides, *Hecuba* 31). This mention of "A god" suggests that women are still not entirely in control of their own decisions, that it was the business of fate that drove them to their actions. Fate, or the will of the gods, extends itself further when Polymestor curses his assailants and foreshadows the doom of both Agamemnon and Hecuba as punishment for the latter's treachery and violent acts, and for the former's alliance with a woman and betrayal. Even Agamemnon, who was moved by pity, must be punished for using treachery to enact justice.

The women of *The Bacchae* are the most outstanding example of mass terror created by women in the surviving tragedies. This statement rings true over other plays such as *Hecuba* because the larger group of maenads is driven by the spell of Dionysus to their madness. However, the overall motivation is still family, as Dionysus is seeking revenge on the house of Cadmus because of an insult done to his mother. In return for this insult, he makes Agave guilty of the murder of her own son Pentheus. This play exemplifies the male fear not only of a maddened woman, but also of their own shortcomings against these women. Weapons do nothing to stop them, and trickery cannot be used against the maenads because ordinarily that method belongs to them and therefore will not thwart them. The gender reversal that is seen in *The Bacchae* says a great deal about how fragile men perceived their control over women to be, especially in the later dramas of Euripides.

The imagery used in *The Bacchae* is especially moving, as it often serves as a metaphor for the male fears detailed previously. There are partic-

ularly powerful images that draw attention to the women tearing apart or uprooting male objects or other strong standing things. This suggests a fear of women gaining power and tearing apart the male “phallocracy.” When a messenger relays what he has seen the maenads doing to local livestock in particular, we see this tearing apart of a male symbol. The messenger exclaims, “Wanton bulls—forgotten the menace of their leveled horns – were tripped and dragged to the ground by the hands of countless young women” (Euripides, *The Bacchae* 336). He goes on to say “Women defeating men! There was a god with them.” (Euripides, *The Bacchae* 336). This demonstrates that even when they are unquestionably strong and overpowering, women are still not their own masters. In this case, they have the power of Dionysus at their aid, as the aim of this revelry is to bring revenge to Thebes.

Another wrenching and uprooting caused by the maenads is the destruction of Pentheus. He is convinced by “The Stranger” to dress in a woman’s clothes and hide in order to observe the maenads from afar. Pentheus agrees that this is a good strategy, saying, “One does not overcome women by force. I shall conceal myself” (Euripides, *The Bacchae* 341). Again the failed employment of treachery and deception is seen by men when Pentheus is detected as a witness describes how the maenads, led by Pentheus’ mother Agave “Applied countless hands to the fir and wrenched it from the ground... down... falls Pentheus... His mother attacked him – the priestess commencing the sacrifice” (Euripides, *The Bacchae* 345). He falls victim to his mother’s hands and is rent apart by her fellow maenads in a literal dismembering of male authority.

When Agave is finally brought to her senses with her son’s head in her hands, Cadmus tells her, “Mur-

der it is that you have wrought with your wretched hands. A noble victim it is that you have laid low for the gods” (Euripides, *The Bacchae* 349). This is yet another example of women who, although out of control of terrestrial men, are still used as pawns by male gods. Agave recognizes this and laments, “Dionysus has undone us. Too late I see it is” (Euripides, *The Bacchae* 350). Agave is still motivated by her family, otherwise Dionysus’ revenge plan would not have worked if she did not kill her own son and feel shame for it. The distraught woman and her husband Cadmus flee in disgrace and in recognition of Dionysus’ victory.

The Bacchae is reflective of two earlier Greek myths, the first being of the Lemnian women. They were cursed by Aphrodite with an “evil odor that turned their husbands against them” (Keuls 338). They then turned on their husbands and killed all of the men on their island and created a man-free society. The second is the story of the Danaids that were forced against their wills to marry their cousins. They killed all of them in their bridal beds as a result (Keuls 338). These two stories of females violently overwhelming so many men (as a result of divine intervention or not) are similar to the maenads and Agave in *The Bacchae* and are reflective of a male fear about the collapse of their male-centered society.

Finally, Euripides’ *Medea* gives a unique example of the havoc-wreaking woman who got away. Medea, the image of a dejected and woe-begone woman in the beginning of the play, quickly masters herself and becomes a monster, killing her own children to spite her husband, Jason. She does this because he has left her to marry a woman of a higher station and assumes she should understand. Men were sexually free, politically literate, and active

in the *polis*. It would seem that Medea breaks the mold cast by her tragic peers because she deliberately kills her children as well as her husband’s new wife and Creon, king of Corinth. The murders are premeditated, unlike those in *The Bacchae*, which demonstrates the control and resolve Medea has over her own actions. She is, however, somewhat hysterical because of her frustration with the men in this tragedy. This is Euripides’ way of keeping her still within the confines of a woman’s realm; she is jealous, irrational, motivated by family and hysterical because of it. Medea’s hope is that by destroying her family she may protect it from the corruption Jason has brought upon it. Her logic, though mightily flawed, is still that of a woman with her family in mind.

Medea breaks not only out of traditional gender roles, but also out of the traditional role of the untraditional woman in Attic Drama because, simply, she gets away scot-free. She begins as a tormented, miserable, betrayed woman who laments her unlucky lot. In her grand speech she says, “Of all creatures that feel and think, we women are the unhappiest species... We must pay a great dowry to a husband who will be the tyrant of our bodies... and there is another fearful hazard: whether we shall get a good man or bad” (Euripides, *Medea* 42). She stresses the lack of control that real life Athenian woman had over their own lives. She says that a woman that is lucky enough to guess how to please her husband and to have that husband remain faithful is rare, and if the woman is unlucky, that she is better off dead. This is perhaps a realization by the male playwright and audience that women may not actually be so content with their domestic lives. Upon this realization, Medea makes her turn into a violent, vengeful, angry, and dominant figure.

She forges political connections in the surrounding community with Aegeus, which is a direct contradiction of societal standards of women being excluded from the *polis*. Upon securing her potential escape, Medea reveals her intent when she says to Creon, “Woman in most respects is a timid creature... but wronged in love, there is no heart more murderous than hers” (Euripides, *Medea* 43). Creon actually admits his fear when he says, “I am afraid of you... You are stung by the loss of your husband’s love... before anything happens to me, I shall take precautions” (Euripides, *Medea* 44). This obvious admission of fear of Medea is spurred by the acknowledgement that Medea is enraged by the destruction of her family, and that Creon fully suspects violent action from her. Perhaps it is this admission of his fear and acknowledgement of her destructive power that dooms Creon. Interestingly enough, though Medea almost entirely rejects all other female gender restrictions, she accepts and almost embraces the treacherous quality of women when she says, “Moreover by our mere nature we women are helpless for good, but adept at contriving all manner of wickedness” (Euripides, *Medea* 47). She likely embraces this negative quality because of her pride in her nefarious talent in brewing poisons. Medea seems to embrace all of the negative qualities attributed to women such as hysteria and treachery, as long as they give her a more powerful position.

Medea goes on to abandon all the expected traditional protective qualities of motherhood by killing her own children to get revenge on the weakly portrayed Jason. Jason earlier laments the need for women in childbirth, wishing for a way to beget children without the need for a woman. This foreshadows the abandonment of motherhood and gender roles later in the tragedy, but also serves

as a warning that women are perhaps more powerful than they seem and wield more power over the *oikos* than men would like to admit. All of this is done only with revenge in mind, as Medea says herself, “I don’t mind, now I have got properly under your skin” (Euripides, *Medea* 70). She blames the children’s murders on Jason’s infidelity, placing the blame on him for the ruin of his household. Jason is of course distraught and tells Medea that his actions did not warrant such a vicious retaliation. However, as Medea says earlier in her resolution to kill her sons, “Passion overrules my resolutions, passion that causes most of the misery in the world” (Euripides, *Medea* 63). She recognizes her hysterical state, but ignores it and accepts it which confirms the male fear that hysterical women cannot be stopped, even by themselves.

The theme of abortion could be considered in this tragedy, because as Nancy Demand writes, “The general suspicion of women’s tendency to seek abortions that is expressed by the author of *Diseases of Women I*” reflects the widespread general tension between women and men as it affected married couples” (Demand 62). Abortion was often elected by the woman as a result of household unrest, which is the case in *Medea*. In addition, Medea is similar to Hera in that she is violent and portrayed as evil. More importantly, however, she is a sexually mature figure. Sarah Pomeroy argues in her book *Goddesses, Whores, Wives, and Slaves: Women in Classical Antiquity* that these sexually mature figures cause male anxiety about the “fully realized female” throughout. The only way for these women to achieve their end, she argues, is to “deny her own femininity and sexuality”, further reassuring the male fear of female intrusion into their carefully constructed world (Pomeroy 4).

In Medea’s case, she gets away with her crime, riding away on a chariot drawn by serpents with her two dead sons. Earlier the chorus warned, “On the man that spills the blood of kinsmen the curse of heaven descend” (Euripides, *Medea* 68). They also warn that Ino, who tried to kill her children, was driven mad and cast herself into the sea killing herself and her children. Where is this warning at the end of the tragedy? Are women not punished the same as men? These questions are legitimate and raise concern about the consistency of the argument at hand. What it fails to consider, however, is how Medea feels about her own children. Although she kills them, she struggles greatly with the decision and takes them with her in her escape. These are two clear signs of guilt and grief. She is also miserable in the first place and never truly resolves this familial woe, as her family remains shattered despite her twisted attempts to save it. In short, Medea is wretched from beginning to end, and although she escapes terrestrial punishment, she will continue to suffer psychologically as a result of her actions and betrayal.

By looking to a comparison of real life to 5th Century Attic Drama, appropriate conclusions can be drawn about their relationship to gender in Classical Athens. Helene Foley argues in her book *Reflections of Women in Antiquity* that, “The relation of drama to life and to cultural ideals tends to be obscured by its self-conscious and deliberate obsession with cultural contradictions and crises” (Foley 156). This conjures images of Medea specifically, as she takes a dominant role in *Medea* and gets away unpunished. With that in mind, Foley also states that, “Women commit adultery and sacrifice children and the material resources of the household to their own desires to rebel and attain power for themselves

and men sacrifice their households for fame... The boundary between household and state becomes spatially and ideologically blurred” (Foley 156-157). The reversal described here can be found in nearly all of the tragedies discussed throughout this essay, and illustrate an investigation of gender roles by the playwrights. More importantly, however, is the attention drawn to the male fear of this reversal and the loss of control over their realm, the *polis*, as well as the foundation they require, the *oikos*. Eva Keuls also recognizes this exploration and admission of fear or other suspicion when she writes, “Men’s feelings about their mothers, wives, and daughters... gushed forth on the tragic stage of Athens” (Keuls 332).

In conclusion, violence in women is often reactionary, suggesting a lack of autonomy, whereas violence against women is often a means to a greater end, which reflects the dominance of men in Athenian society. Women frequently employ violence when men threaten the stability or values of the *oikos*, or as a means to another party’s greater end. They are often relieved by men or a divine entity of responsibility for their actions. Men are often violent towards women to produce a greater end and because they see their violent actions as justified by this end. Women are also violent as a means of protecting, preserving, or avenging their families in one way or another. Their hysteria and hidden power is what makes them most dangerous, as well as the lack of understanding between genders. Ultimately, they are only imaginations or ghostly apparitions written by men, played by men, seen by men, and controlled by men. There are less than one hundred surviving Greek tragedies out of an estimated one thousand, so there is a limited window into the world of gender relations in Classical Athens. There

are also limited primary sources regarding actual Greek life concerning the interactions between women and men, and the advent of new discoveries would surely bring new and interesting issues to light in this investigation. More sources are called for to entirely understand this issue, and more discussion of it would certainly benefit scholarly understanding of 5th Century Attic Drama as it relates to gender relations in Athens at the same time.

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The Relationship Between Classical Blues and Black Female Sexuality

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This essay is an exploration of blues music—primarily considered the domain of African-American, rural men—as it pertains to black females, and particularly their sexuality. The music of women like Bessie Smith, Ma Rainey, and many “blues queens” of the early 1900s questioned the roles of women that permeated both black and white media. Female blues offered instead a woman who was unashamed of her sexuality and just as self-assured as men. The blues woman’s most important contribution was in expressing the thoughts, emotions, and desires of black women that had long remained unspoken, and provided reassurance of their worth.

In the 1920s and early 1930s, the blues industry was dominated by women. Singers like Bessie Smith, Ma Rainey, and Ida Cox created a form of blues that was polished, elegant, and vaudevillian in theme, and that was popular with white and especially black audiences. Female blues music was similar to male blues, but there were some significant differences. While men and women both sang the blues with the major themes of sex and love in male-female relationships, a great many of the women’s blues songs of the 1920s challenged the traditional roles of men and women, rather than perpetuating them. Using female homosexuality, role reversal, revenge fantasy, and braggadocio about their sexual prowess, classic blues singers painted an empowering new image of the black woman. This woman is brave and unashamed of her sexual exploits, but as flawed as her male counterparts at times. Whether she decided to follow the traditional image of women or fight against it, this “blues woman” was confident and unapologetic, inspiring other performers and listeners to follow her example.

Before one can fully grasp the implications female blues had on the time period, it is import-

ant to explore the conditions of the early 1900s. Post-Emancipation, African-Americans were able to abandon the land they had worked on for years and travel anywhere, taking work as they found it and leaving whenever conditions were displeasing or they just wanted to go. This freedom resulted in the “ramblin’ man” stereotype: a lone, free black man, who would traverse the countryside and was never content to stay in one place. However, women were more often than not exempt from this newfound luxury, and when the men migrated, the women were left behind (Carby, “It Jus’ Be’s Dat Way Sometime” 476). As Hazel V. Carby, an influential author in the field of black feminism, explained, “There was . . . an explicit recognition that if the journey were to be made by women it held particular dangers for them” (“It Jus’ Be’s Dat Way Sometime” 476). As a result, the only way a female African-American could travel was by joining vaudeville shows and following their route around the country, giving them the freedom necessary to challenge sexual norms, as many female blues artists—nearly all former vaudeville singers—did (Carby, “In Body and Spirit” 180).

Furthermore, this frequency of abandon-

ment led to more lenience with the African-American community about sexual relations outside of marriage or in general (Bratcher 72). For those living on tenant farms after Emancipation, “[y]oung men and women were not expected to marry early . . . [and] if a young woman became pregnant, . . . [s]he did not lose status in the community; neither were her chances for marriage in the future compromised” (Titon 16). This was because parents did not want to lose their children to marriage, when they could all live and work together. A child would only add extra hands (Titon 16). While this explains the open sexuality portrayed by blues music (sexual freedom was, for many, an accepted part of life), it fails to explain the outcry of African-Americans against blues music and the promiscuity that it promoted.

Most of the backlash against what was considered sexual immorality was directed towards vaudevillian stars, and arguably with good reason. Daphne Duval Harrison, another powerful voice in black feminist literature, describes the situation as follows:

Young black women were often so dazzled by the opportunity for freedom, fortunes, and fame offered by the stage that they were willing to accept questionable living and working conditions to achieve them. Neither the rugged conditions on the road nor their families’ disapproval could dissuade them. . . . As early as 1910, black newspaper directed attention to these threats to the moral fiber of their citizens, especially females. (22)

Being a singer earned a black woman an unsavory reputation, and in many cases, the conditions of vaudeville and other theater lived up to that reputation, even if the women themselves did not. Female performers were debased and asked to do appalling things in the clubs in which they worked,

such as pick up tips with various body parts (Carby, “In Body and Spirit” 188). As a consequence, many newspapers and other media attacked vaudeville shows, calling them filthy and degrading (Harrison 30).

However, the denigration of black newspapers was not enough to dissuade most African-American women from joining vaudeville and being more promiscuous in their personal lives—which translated into the blues. A large part of this was due, once again, to Emancipation. Slaves had been sexually exploited by their owners for pleasure and bred to make more slaves; once free, black women relished their ability to pick their own partners (Davis 10). But just because a woman was free did not save her from exploitation, as has been discussed above. Furthermore, the combination of vaudeville abuse and the general sexism that was alive and well in the 1920s—despite the commonly-held belief that whites were superior to blacks, “[m]any black males [in turn] found refuge in the belief that men were superior to women” (Oakley 107)—resulted in the development of stereotypes about African-American women. Female vaudeville singers, as visible in the public eye as they were, faced the brunt of these stereotypes. Oakley describes this image of a black woman quite well: they were “[c]onsigned to the roles of mammy or whore by white society” and “economically exploited, sexually assaulted, or otherwise abused by whites” as a result (106).

Because they lived in such a male-dominated world, blues women had to reinvent the classic male blues songs in order to make them their own. These songs were often responses to male actions, many of which made up the content of male blues. For example, while men wrote many songs about hopping onto a train and leaving, female blues

included several songs about being left behind. This simultaneously allowed women the ability to express how they felt about being abandoned and, thanks to vaudeville and the mobility it offered, reclaim the idea of traveling for themselves (Carby, “It Jus Be’s Dat Way Sometime” 476). However, most of the songs were not about women going anywhere; many involved her staying at home, like “In House Blues” by Bessie Smith. This song shows that women are not weak and helpless when their men leave, and illustrates how angry the wandering (as romanticized in male blues) makes the woman. The lyrics do not seem atypical of female stereotypes: she is “wishin [sic] that [her] man would come home once more” and feels “so weak [she] can’t walk [her] floor” (Carby, “It Jus Be’s Dat Way Sometime” 478). However, lines like “Feel like calling ‘murder’ let the police squad get me once more” (Carby, “It Jus Be’s Dat Way Sometime” 478) hint at the underlying rage that so many women felt when their men left, and it is Smith’s growly, somewhat-menacing voice that puts the power to the words. After transcribing the lyrics that have been used above, Carby explains how this is a common theme, and that “[t]he rage of women against male infidelity and desertion is evident in many of the blues” (“It Jus Be’s Dat Way Sometime” 478).

Aside from expressing how a woman might feel when she is mistreated by a man, blues music can be used to help the singer and listener cope with these emotions. For many, the blues is “the battleground on which a woman’s emotional and rational sentiments fight to control her actions after her partner abandons her” (Lewis 601). While this is describing a poem by Langston Hughes, it could just as easily be describing “In House Blues,” as far as its subject matter goes. What many people of the 1920s

and 1930s had difficulty understanding was that women, like men, had desires and reactions to their circumstances; female blues helped articulate these feelings and make them accessible to listeners. In a way, it helped tie young black women together by singing about shared experiences and giving them—arguably for the first time—a feminine perspective. The blues could be used as a coping mechanism in this way, both for the singer and the listener, because airing these emotions is a potentially cathartic exercise.

Of course, not all songs by female blues singers involved mere discussion of her feelings; many also illustrated women doing something about their problems. Revenge was a popular motif in these songs, and the usual method used to do so was through sexual promiscuity and bragging. Ma Rainey’s “Oh Papa Blues” is another example of this. Rainey sings that, after her man has left her, he will “find some other man makin’ love to [her], now” (Davis xv) should he come back. This is one of three major reactions to a man’s infidelity and/or abandonment, as well as life’s other hardships: one can get revenge through promiscuity, as discussed above, leave the man, or do nothing and accept one’s circumstances. As Daphne Duval Harrison says, “we have a group of blues that depict the weariness, depression, disillusionment, and quiet rage that seethe below the surface when a woman as reached the end of her rope” (86). For example, “I Hate a Man Like You” by Lizzie Miles is about a woman who despises her significant other, but who does not plan to get revenge on him or to leave; it is a certainty that many women who listened to this song could empathize with a relationship where “[e]nmity has replaced love . . . yet there is no indication of intent to leave or do violence” (Harrison 87). No matter

how palatable leaving or taking revenge on a lover might be, it was not a path taken by every woman, or even desired by every woman; by exploring all the options a black woman could take while being mistreated, female blues artists can connect with a greater number of listeners, touching upon elements of all forms of relationships and femininity.

Male singers often bragged about their sexual prowess, and women in blues would try to outdo them in this regard. Not only would songs like Rainey's "Oh Papa Blues" imply that the man's leaving does not matter, as she can get herself another man without trouble, but female blues also poked fun at men's masculinity, challenging it with their own sexual prowess and desires. Ida Cox's "One Hour Mama" mocks the idea of men being sexually superior, making demands about what kind of lover she wants and sneering at the excuses men make for not living up to her expectations:

I don't want no lame excuses bout my lovin
being so good,
That you couldn't wait no longer, now I hope I'm
understood.
I'm a one hour mama, so no one minute papa
Ain't the kind of man for me.
(Carby "It Jus Be's Dat Way Sometime" 482)

In songs like this, women turn the tables on men, singing about using them for sex and entertainment; in much the same way as they were exploited, they are now the exploiters (Harrison 98). Many blues songs are empowering in their ability to vocalize the oppression that women of the time period faced, while others promote female might by emasculating men, establishing new balances of power where the woman gives the commands and the man better obey or risk her leaving him. "Safety Mama" by Bessie Smith reverses the typical roles of men and women in relationships. In this

song, Smith suggests that women make their men stay at home and do the cleaning as revenge for being "no-good"—a phrase that could have several implications depending on the listener. By having him stay at home and her go out and make money, Smith is "emphatically counsel[ing] women to find ways of supporting themselves financially" (Davis 58). Adopting elements of male blues and re-appropriating it for classic (female) blues was a powerful way in which these artists "redefine[d] black womanhood as active, assertive, independent, and sexual" (Davis 75), rather than allowing themselves to be used as sexual objects, the way they were often portrayed.

One of the consequences of making the black woman sexually and socially active was that some of the songs made her seem "as bad as a man in mistreating a lover" (Harrison 102). Strangely enough, this usually earned a positive response from audiences (Harrison 102), who perhaps liked the idea of a woman not being perfect or passive in a relationship. An example of these includes Clara Smith's "Don't Never Tell Nobody," in which Sadie, one of the characters in the song, learns that telling other women about how good a man is will only make them eager to "try some of his good points too" ("Clara Smith - Don't Never Tell Nobody Lyrics"), proving that women are just as prone to commit adultery as men. Another example would be Chippie Hill's "Charleston Blues"—where the woman is the one leaving, and she insists that she cannot bring her man with her, because she has no use for him (Harrison 102-103). These songs put the woman in the man's place, not only granting her access to his freedom to leave and power to exploit others, but also placing his blame of mistreating lovers on her shoulders as well, and forcing her to take the mis-

fortunes along with the benefits of this newfound empowerment.

Classical blues singers did more than subvert male lyrics, however. To continue to reinvent the concept of the black woman, female blues artists created their own subject matter. This is most obvious in the lesbian blues songs that, while not plentiful, opened up a facet of femininity that had been long missing from the music industry. The most popular of these songs by far was Ma Rainey's "Prove It on Me Blues." Carby describes it as "an assertion and affirmation of lesbianism" ("It Jus Be's Dat Way Sometime" 479), and this seems to be an apt description. The song is about how society rejects lesbianism with lines like "They say I do it . . . They sure got to prove it on me" (Carby, "It Jus Be's Dat Way Sometime" 479), where she argues that the way lesbians are treated is unfair, making her have to sneak around; it contradicts itself, however, by what is considered an open declaration of homosexuality with the line "I don't like no men" (Carby, "It Jus Be's Dat Way Sometime" 479). The other major song that is considered an embrace of lesbianism also comes from Ma Rainey, called "Shave 'Em Dry." Homosexuality was not accepted by African-Americans at this time, but somehow these songs slipped through onto the radio and records. While "Shave 'Em Dry" is not as overtly about lesbianism as "Prove It on Me Blues," there are still a few lines that indicate it, including the most likely candidate for homosexual euphemism: "State Street women wearing brogan shoes / Eh-heh, daddy, let me shave 'em dry" (Harrison 104). Some would argue that the songs are not wholly about lesbianism. However, the fact that even such vague euphemisms exist at all in a society that so unanimously rejected homosexuality is unusual enough to take note of.

Songs like the ones listed above show a defiance against the norms of society, which was extremely courageous considering Ma Rainey's dependence on her listeners. It seems strange for her to antagonize those who were responsible for her continued livelihood, and it is difficult to imagine why these artists would continue to write songs that defied custom, however, regardless of the reason, they did so repeatedly. The female blues singers had to fight a society that "discouraged black women's public disclosure of their sexuality and . . . created the illusion of sexual openness" that was false empowerment (Hobson 444). African-American society was so strongly against open immorality because black people, as a group considered less moral than their white peers, had to make sure that they were respectable in order to succeed in a white-dominated world. It is therefore to be expected that songs about open sexuality, the reversal of gender roles, and lesbianism would not be tolerated. And yet somehow, through the medium of blues music, these themes could be recorded, released, and enjoyed by the general public with minimal complaint or attempts to shut the industry down. Somehow, blues allowed women to discuss their desires, sexual and political (Hobson 444), and "began the female tradition of representing love and sex as concrete aspects of daily life in the Black community" (Bratcher 68).

Perhaps the reason these songs were created and enjoyed is because their message was important enough to be told, and many African-American listeners found it important enough to be heard. Carby elegantly defines the entire classic blues genre as it relates to female sexuality:

What has been called the 'Classic Blues' . . . is a discourse that articulates a cultural and political struggle over sexual relations: a struggle that is directed against the objectification of female sex-

uality within a patriarchal order but which also tries to reclaim women’s bodies as the sexual and sensuous objects of women’s song. (“It Jus Be’s Dat Way Sometime 474)

Carby’s idea is not that sexualizing women made them objects, because women could still be sexual (as evidenced by songs like “Need a Little Sugar in My Bowl” by Bessie Smith, in which she says that she “need[s] a little sugar in [her] bowl / [She needs] a little hot dog on [her] roll” (“Need a Little Sugar in My Bowl Lyrics”), which illustrates sexual innuendo); they wanted to define it in their own terms. One of the effects that female blues had on the time was that it “[articulated] the possibility that women could leave a condition of sexual and financial dependency, reject male violence, and end sexual exploitation” (Carby, “It Jus Be’s Dat Way Sometime 479), allowing women to have a life that put them in control, the way these singers had.

Bessie Smith’s “Young Woman’s Blues” is an excellent example of what this life looked like for many: in the song, “the protagonist maneuver[s] up, down, and through stereotyped roles set aside for Black women by Blacks who lacked the confidence to express their ideological or sexual freedom, and by Whites who wanted to maintain the status quo” (Bratcher 96). She denies the roles offered to her by society, and instead creates her own—a wandering, sexually-liberated woman who is happy with her life and sees no reason to adopt a more traditional comportment yet. Furthermore, through “Young Woman’s Blues” she “informs, advises, and even inspires Black women to be independent and to embrace sexual pleasure” (Bratcher 97) through the role model of the narrator, who does just that without degrading herself.

Although the blues sent a message of inde-

pendence and empowerment, not all of the songs had these lessons in them. In fact, just because a woman does not choose to leave her man or get revenge on him after being mistreated—as in “Don’t Explain” by Billie Holiday, where she decides to stay with her man even after he cheated on her—does not make her weak. She is instead “choos[ing] to act in ways that facilitate [her] interests, whether or not observers, readers, or listeners believe that [she] (re)act[s] appropriately” (Lewis 604-605). Female strength comes in multiple forms, and not all blues women’s songs look like one another; in fact, one artist can impart multiple messages, depending on the song.

The purpose of blues was not, after all, to try and create a new stereotype for women to fit themselves into; in this case the image is a strong, independent, promiscuous black woman. The primary goal of the recording artists was to entertain and sell records, and what appears to have been a secondary aim was to simply question the existing stereotypes and contradict them. Billie Holiday, for example, used her music to help women question their sexual roles, rather than define an ideal one. By creating a wide variety of characters in her songs, and giving them each different perspectives on feminism and sex, “[s]he offered other women the possibility of understanding the social contradictions they embodied and enacted in their lives” (Davis 179).

Classical blues was largely made up of women. Artists like Ida Cox, Bessie Smith, Ma Rainey, and others were wildly popular and influential to blues in the 1920s and 1930s, giving the music credibility and a market that would be able to support the artists that came after them. Aside from arguably enabling the blues industry to form, the women of the blues, in song after song, challenged the stereotypes

of African-American women that they had been pigeonholed into: that of the simpleminded—but innocent and mothering—“mammy”-figure, or that of the savage whore. Blues women used such strategies as male emasculation through mockery or role reversal, encouraging women to leave their abusive men, being open about their sexuality and sexual encounters, and giving a feminine perspective to the themes most often used by male blues singers in order to slip out of these stereotypes that they had been forced into. Though there is no definite link between these songs and any political movement towards female equality, merely voicing the opinions held by many for an untold period of time allowed a connection between all women, who could be unified by the enjoyment of the blues songs and the positive messages therein. The importance of these blues women is not their contribution to the female rights movements of the time period, but in their creation of a new black woman. While allowing African-American women to abandon or maintain the traditional views of femininity, this music also encouraged them to be confident in themselves and their decisions, by unequivocally assuring female worth.

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Native Americans: Scientists or Savages?

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This essay argues for the validity of Native American beliefs and natural knowledge as compared to Western scientific knowledge and practices, as well as examines the effects of Native American ecological practices on the land. Native American knowledge regarding nature is often discredited, while Western science is widely accepted. Additionally, many people blame Native Americans for ruining the wilderness in the United States. Through the examination of a variety of sources, I refute the claim that Native Americans had a detrimental effect on the land and argue that their scientific knowledge and practices should be taken seriously.

A theory is generally defined as a tested hypothesis that is commonly accepted as the explanation for an occurrence. Two parts of this definition that are especially important to highlight are “hypothesis” and “commonly accepted”. These phrases imply the often overlooked drawback of theories – they haven’t been proven. Following this definition, one could conclude that all of the scientific theories most people in the United States accept as true – such as the big bang theory and the theory of evolution – are still only hypotheses, or propositions. When members of Western society push their scientific “facts” on people of other cultures with different beliefs, they often don’t have proof that their ideas are, in fact, better. Overall, Western science is widely accepted as fact, while the knowledge and beliefs of other cultures, specifically that of Native Americans, are often discredited as oral tradition or myth. Many people have also blamed Native Americans for the deterioration of the American landscape, saying their ecological practices ruined the “wilderness”. However, many sources indicate that Native American practices did not have a significant detrimental effect on the land, and furthermore, that their beliefs, knowledge, and methods are just as val-

id as Western “scientific” knowledge and practices – possibly more so.

Before discussing the validity of Native American knowledge as a whole, it is important to focus on the related argument that Native American ecological practices ruined the wilderness in the United States because this belief contributes to the negative connotation surrounding many Native American practices and traditions. As William L. Baker aptly explains in his article, “Indians and Fire in the Rocky Mountains: The Wilderness Hypothesis Renewed,” “[i]t is commonplace today to hear the generalization that landscapes throughout the world were modified by pre-Euro-American people, and wilderness relatively free of human influences did not exist” (41). There is a long list of Native American practices that supposedly had a detrimental effect on the land; Baker mentions burning and agricultural practices (41), and in their book *Ecocide of Native America*, Donald A. Grinde and Bruce E. Johansen discuss the commonly attacked practices of buffalo hunting and fur trading (28). While it is true that the Native Americans likely had an impact on the land – as Louis Owens notes in his book, *Mixedblood Messages*, there is “the irrefutable

point that all human beings leave the marks of their existence upon the landscape” (220) – how much and how negative of an effect they had is much more debatable.

This argument that Native Americans destroyed the American wilderness is flawed for a variety of reasons. First, as Baker points out, since “[n]onnative scientists, explorers, and early settlers are a primary source about Indian influences on the land, ...it is thus appropriate to consider their motives and understanding before accepting the information they provide” (43). It is no secret that the Europeans had less than friendly relations with the Native Americans and throughout history proceeded to claim the majority of their land; therefore it’s not hard to imagine that they would have had negative views of the native people. Because of their rocky relationship, Baker asserts that “it is plausible that early Euro-American reports of burning by Indians could have been exaggerated to paint the Indians as reckless savages and poor land stewards who did not deserve to keep their land” (52). While Baker is specifically discussing reports of burning started by the natives, his explanation can be applied to a variety of generalized European reports regarding native behavior. Grinde and Johansen go a step further and point out that many “Native American” practices that are cited as ruining the land were actually the result of European or American practices and influence. For example, while Native Americans are often criticized for killing large numbers of buffalo, Grinde and Johansen note that “it was Europeans and immigrant Americans who obliterated the buffalo herds. The U.S. government at times subsidized hunters who slaughtered large amounts of buffalo for their hides... [and] also subsidized the railroads which brought the non-Indian hunters to the buffa-

lo” (28). Similarly, Grinde and Johansen suggest that the only reason Native Americans ever engaged in fur trade was because Europeans “imposed mercantile capitalism on them” and they were left with little choice but to comply if they wished to survive in their rapidly changing environment (29).

Aside from the likely bias present in European reporting, there is much uncertainty over exactly how big of an impact Native Americans could have had on the land, since the number of natives living in different areas is often estimated to be small, and many other statistical details are difficult to obtain. As Owens comically notes in response to the claim that natives were responsible for exterminating many species of “megafauna,” “considering that relatively small numbers of Paleo-Indians were supposedly using stone weapons to exterminate enormous herds of gargantuan animals and doing so apparently for the fun of it, ...they would truly have to have been giants of the earth to eat all that megafauna” (220). On a similar note, in discussing the impact of Native American burning practices in the Rocky Mountains, Baker points out that “some 30,000 people, living in an enormous mountain range with a strong climate-influenced fire regime, could hardly be expected to have much influence on the pattern of fires outside their heavy-use-areas” (70). It seems likely that in many cases, nature itself is responsible for the environmental changes for which Native Americans are being blamed.

However, in the cases in which Native Americans clearly did have an impact on the land, were the effects as detrimental as many would argue? Evidence suggests that, in actuality, many of their practices have positively affected the land. In the case of the Anasazis of today’s New Mexico, Owens explains that, far from damaging the land as some

might think, their practices such as cutting and moving trees for use in building and the creation of irrigation systems and “pebble-mulch gardens” actually helped create a thriving ecosystem that better supported plant growth and, later, habitation by none other than the Americans (222). Owens additionally notes that “it would seem self-evident that a people cannot continue to inhabit a region for millennia while doing fatal damage” (223); “Native Americans managed to live on this continent for many thousands of years without destroying it, poisoning it, or making it uninhabitable[,] [while] [i]n just five hundred years, Western man has come close to accomplishing that apocalypse” (225). Clearly, Native American practices were far from having a detrimental effect on the environment in the United States, otherwise the European settlers would not have discovered so much fertile land.

With the discussion of Native American ecological practices aside, it should be easier to understand the remaining argument at hand: the dispute over whether or not Native American knowledge and beliefs are scientifically valid. The view that they are not is exemplified by Raúl Valadez Azúa’s quote, as mentioned by Owens, explaining that he “does not seek to associate the level of scientific knowledge of the Mesoamerican culture with that of contemporary science” in his essay discussing the potential of the use of native ecology as a model in modern society (222-23). The basis of this argument is that, regardless of how true Native American knowledge and ideas may be, they do not measure up to Western scientific knowledge because they were not investigated in the same manner, and they contradict several key concepts that are integral in Western scientific principles. For example, Broadhead and Howard quote British physicist F. David

Peat as noting that “...in Labrador there was a traditional Indigenous way to hunt beaver and one that the European trappers used. Today both methods are used, and there is no sense that one method is ‘better’ than the other, or that one should replace the other. Rather, both methods are used, side by side” (306). Expensive equipment, lengthy experiments, or the ethnic background of the researchers do not automatically validate a scientific idea, so there is no reason to immediately discount those with different investigative approaches. Many critics also consider Native American beliefs to be based simply on myth or oral tradition, thereby undermining their credibility. Stories do have an important place in Native American society; however, many of these stories have been passed along countless generations as a way of relaying valuable knowledge, not simply as entertainment. As Vine Deloria explains in his book, *Red Earth, White Lies*, “oral tradition represented not simply information on ancient events but precise knowledge of birds, animals, plants, geologic features, and religious experiences of a particular group of people” (36). While some native ideas do seem to contradict commonly accepted Western beliefs, and it is understandable that some may not comprehend or embrace difference ideologies, this ethnocentric thought process is biased and invalid.

Despite the differences in how the information is obtained and interpreted, Native American knowledge is arguably as valid as Western scientific knowledge. As Owens eloquently queries, “can we really have the arrogance to believe that we know more about the world than did Mesoamerican peoples or our Pleistocene ancestors?” (223). As discussed above, Native Americans clearly had a closer, more balanced ecological relationship with nature than most Europeans, so why would we assume that

we know more about the environment than they do? Many of their practices demonstrate a detailed knowledge of the land and how to coexist with it. For example, the “Three Sisters” system of planting created by Native Americans displays a very sophisticated understanding of the environment. As Lee-Anne Broadhead and Sean Howard explain in their article, “Deepening the Debate over ‘Sustainable Science’: Indigenous Perspectives as a Guide on the Journey,” corn, beans, and squash are all grown in the same plot of land, each providing the others with specific benefits: the beans add much-needed nitrogen to the soil, the corn stalks provide support for the beans to grow on, and the squash covers the ground and prevents weeds from growing (309). A system as complex as this would likely be researched by Western scientists in a lab, but Native Americans were able to discover it through the trial-and-error experience of actually growing their food. Native Americans also had a much humbler motivation behind their discoveries; they valued the land and wished to live the most balanced lifestyle possible, while Western society places more value on economic efficiency and mass production. A second example demonstrating the impressive extent of native knowledge is the practice of salmon fishing as detailed by Grinde and Johansen. They explain that “[m]any native peoples who subsisted mainly on salmon runs intentionally let the fish pass after they had taken enough to see them through the year[,] ...acting through conscious knowledge that the salmon runs would vanish if too few fish escaped their nets to reach spawning grounds at the headwaters of rivers and streams” (40). The Native American people were able to understand a complicated aspect of the environment and adjust their practices accordingly, something that has challenged Western

scientists. After examining practices such as these that demonstrate such a complex understanding of the natural world, often surpassing that of Western science, it is very difficult to argue that Native American knowledge is not valid.

Although much evidence suggests the legitimacy of Native American knowledge, the view of those who argue that it is not exactly scientific – at least not in the Western sense – is understandable. If we are to use the term ‘scientific’, we must adopt a broader definition than what most people currently use. Broadhead and Howard again quote Peat as “suggesting that Native American ways of learning about the real world [are] as ‘scientific’ - as effective, organized, fruitful and insightful - as the western way he had been trained in and taught to revere. Not scientific in the same way: another way of being scientific” (306). This explanation embodies the idea that science is not a concept restricted to Western society, and there are countless ways to practice it while still getting legitimate results. For example, many people doubt the validity of Native American beliefs because of their emphasis on natural spirits and energies. While this belief clearly differs from popular Western ideas, Broadhead and Howard point out that, “[i]n pointing to energy as the fundamental basis of the ‘stuff’ of life, Native science is fully in line with modern western concepts” (308). Western science credits atoms, molecules, and chemical reactions, while Native Americans point to natural spirits and gods, but both schools of thought essentially name invisible energies as the basis of life. Clearly, sometimes differences are only a matter of interpretation. However, even if the above connection could not be made between Western and Native American ideas, native knowledge should still be considered its own brand of science. As Deloria

explains, “[t]he non-Western, tribal equivalent of science is the oral tradition, the teachings that have been passed down from one generation to the next over uncounted centuries” (36). Native American knowledge and beliefs are the result of thousands of years of experience with the world, as opposed to controlled experiments in a laboratory. That doesn’t make them unscientific; they simply utilize different research methods and employ different explanations for the difficult concepts. Who’s to say that a Native American explanation of the cause of a deadly illness isn’t truer than Western attempts to identify the cause of cancer? After all, neither explanation is proven.

Broadhead and Howard offer some insight into the reasons for many of the differences in scientific explanations across cultures, suggesting that “[i]t is time to recognize that all scientific world-views are products of the culture within which they are embedded; they are all, in short, ethnosciences” (310). This way of thinking can account for many of the differences present between Western and Native American belief systems. Native American culture encourages a much closer relationship with the earth, which is then reflected in their scientific endeavors; as Broadhead and Howard note, their “explorations of the natural world both represent an alternative mode of rigorous, systematic inquiry and demonstrate the practical potential for truly sustainable science” (303). Western culture, however, is much more focused on technological advancement regardless of ecological impact; in turn, as Deloria puts it, “knowledge is... impersonal for the Western scientist” (38). For many, considering the idea that much of science is influenced by a country’s culture makes it easier to understand and be open to differing views. To understand the different defini-

tions of ‘scientific,’ we must recognize that our own ideas are not irrefutable simply because we believe in them, and similarly, that the ideas of others are not ridiculous simply because we don’t believe in them. Deloria makes an interesting point regarding this concept in discussing Western culture’s idea of science as compared to that of other cultures’:

[W]e are the first society to accept a purely mechanistic origin for ourselves and the teeming life we find on planet Earth. Science tells us that this whole panorama of life, our deepest experiences, and our most cherished ideas and emotions are really just the result of a fortunate combination of amino acids happening to coalesce billions of years ago and that our most profound experiences are simply electrical impulses derived from the logical consequence of that first accident. We thus stand alone against the cumulative memories and wisdom of all other societies when maintaining this point of view. We justify our position by accusing our ancestors and existing tribal societies of being superstitious and ignorant of the real causes of organic existence. (24)

If nothing else, this quote reminds us of the complexity of nature and of life and speaks to the likelihood that none of us actually have it all figured out. Regardless of the different investigative methods and scientific explanations present among Western, Native American, and other cultures, it is clear that science is a constantly changing and evolving concept, so no idea should be counted out just yet.

Overall, it seems clear that Western society has underestimated Native American culture in a variety of ways. Not only has the belief that their ecological practices were unsustainable been challenged, but evidence has also shattered the common claim that Native American knowledge and practices are not scientifically valid. Now we are left with a decision to make: do we continue to invalidate the beliefs of other cultures and trumpet our own

theories as the irrevocable truth, or do we open our minds to the possibility and potential of that which is different? Broadhead and Howard query, “could it even be that there already exist forms of sustainable science overlooked precisely because they do not conform to the dictates and presuppositions - set and shared by supposedly ‘enlightened’ western culture - of what science is and should look and be like?” (302). As long as we maintain our strict definition of ‘scientific,’ we may never find out.

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