

UNA VOCE

2010

A Magazine of Tacoma Community College

Una Voce

2010

Student Editors

Michael Bettoni, Gil Grissom,
Damaris Hembry, Margaret Lundberg,
Sheri Miller, Vanessa Santourian,
Amanda Savage, Lisa Smith,
Chance Stanley, Nathan Ureta,
Ann Williams

Faculty Advisor

Mary Fox

Cover Design by

Andy Weiss

Photographs by

Ann Williams

Una Voce 10th Anniversary Edition

You hold in your hands the 10th anniversary edition of the annual *Una Voce* magazine. Inside this volume you will find some of the finest writing produced by our fellow students at Tacoma Community College. Thoughtfulness and hard work were evident, and we so enjoyed reading all the essays submitted. Choosing the 21 here, out of 80 submitted, was a difficult task, but we think we have chosen the best of the best; representing not only the best of TCC in quality, but also in their variety. The writing is strong, the subjects are both timely and interesting, and each has something important to say about the world in which we live.

Although each writer speaks with his or her own unique voice—voices that speak with passion, conviction, humor, instruction, and hope—we hope you will find the one voice, the *Una Voce*, which rings through them all. We come from different places, different backgrounds, and even different generations, but here at TCC we come together as one—one in our goal of a college education, and one in our dream of realizing a successful future. And through these pages, we hope you will be inspired to find your voice as well.

We would like to thank the many people who have made this publication possible, beginning with all of the students who submitted their essays and the instructors who have encouraged them in their writing. Our thanks also go out to Sakura Moses, of TCC Marketing, Communication and Outreach for all her help with planning, design and layout; to instructor Anthony Culanag, whose graphic arts students designed the cover; as well as the TCC student government, which provides funding and support for the magazine. A special thanks to Dr. Scott Earle, who started *Una Voce* a decade ago, and continues to serve as advisor every other year, and to Mary Fox who acted as advisor for this 10th anniversary edition. We so appreciate the dedication and encouragement from all of them as they made this publication possible. Lastly, we'd like to thank you, the reader. Sharing these wonderful essays with you was the reason behind it all!

We are looking ahead to next year as we begin another decade of *Una Voce*, and we greatly encourage more students to submit their work. If you would like to be involved with next year's issue, you may contact Dr. Scott Earle (searle@tacomacc.edu) or Mary Fox (mfox@tacomacc.edu).

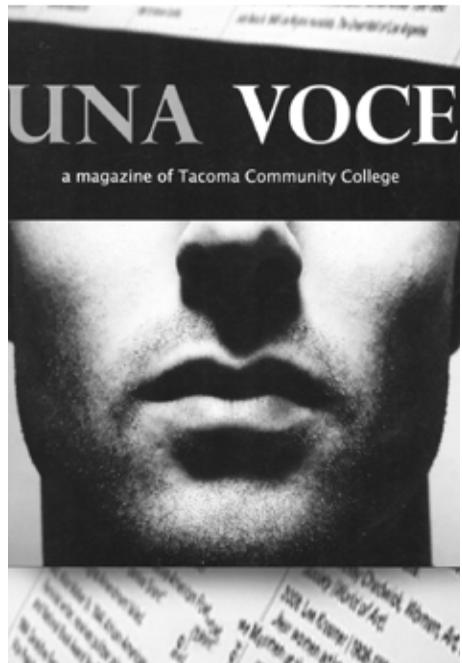
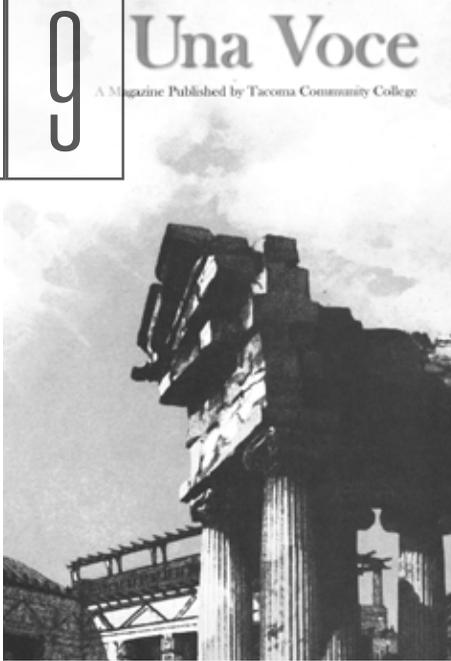


2	3
4	5



Una Voce

6	8
7	9



Contents

1	Abundant Grace	Victoria Wick
5	Are Regenerative Experiences Encounters of the Holy Spirit?	Nicholas Sweet
9	Eating Green.....	Margaret Lundberg
14	Short Story Reading Reflection.....	Patrick Early
17	Vivaldi and Bach.....	Elisha Rose
21	Aerogels	Nathan Ureta
25	Hope for Haiti.....	Mike Bettoni
29	Echoes Through the Wall.....	Anna Garcia
31	Protecting Americans' Right to Vote	Timothy Hearn
34	Day and Night: Black and White Dividing Worlds of Gray.....	Efniki Zambaras
36	Elizabethan Attitudes toward Foreigners: Xenophobia Defined	Rebecca Denton
41	Fetal Programming	Rachel Morrow
44	Where Have All the Red Pens Gone?	Robert Drake
47	Placage: Its History and Social Ramifications.....	Mary "Jill" Jackson
53	Public Arts Critique: The Veterans' Memorial.....	Pamella Nogueira
55	The Patriot Act: Stealing Our Freedoms?	Obert Xu
59	Gender Differences in Color Perception Or, "Honey, have you seen my white pants?.....	Margaret Lundberg
63	The Importance of Stability: A Child's Right	Jan Burdick
69	The Study of Vertebrate Embryology Using a Chicken Embryo (<i>Gallus gallus</i>)	Julie Kang
76	The Ramifications of Implementing a Foolish Universal Military Service Plan.....	Alex Valverde
79	Believe in Second Chances.....	Ann Williams



Victoria Wick, currently working toward a pre-nursing degree, is from Tacoma. The hardest thing about writing, she says, was trying to put her thoughts and her feelings into words. To her, the life of Daran Kravanh "was just teeming with grace. I believe he would not have survived his ordeal without it." She would like her papers to convey a specific message. Selecting the right words sometimes takes her a little longer than she would like.

She advises other writers: "Don't be afraid to write ... Practice makes perfect. Keep writing and you will improve."

Abundant Grace

By Victoria Wick

ENGLISH 101

Within the stunningly fluid language of *Music through the Dark* by Bree Lafreniere, there emerges a subtle yet important reoccurring theme. Through Lafreniere, Daran Kravanh recounts his epic tale of survival in Cambodia during the Khmer Rouge genocide from 1975-1979. His story is one of tragedy, survival and grace. Though a subtle theme, grace was the key to Kravanh's survival. He was spared from death due to unmerited favor bestowed upon him and was granted grace through his music; because of this grace he was eventually able to forgive the Khmer Rouge the unspeakable brutality they caused.

The Khmer Rouge genocide was a dark period in Cambodian history: a time of intense hardship and strife for the Cambodian people. "The four-year period saw the death of approximately two million Cambodians." (1) The Khmer Rouge had a very strict set of regulations and even the most minor of offenses was punishable by death. They did not believe in capitalism of any kind and focused on "agriculture rather than industry." (2) As a result of this they evacuated the cities of all people, moving the citizens to the countryside to tend to the crops. Loyalty to ones family was also prohibited. They killed anyone who had an education because they considered it of no value. Although ironically Pol Pot, the ruler of the political party, was an educated man who studied radio electronics in France in the earlier part of his life.

Upon the evacuation of the cities, the Khmer Rouge started the long and arduous process of relocating the entire population to the countryside. Because of his status as a student, Kravanh

was immediately separated from his family and placed in the group comprised of the educated. Even though the Khmer Rouge told them that they were being taken to a school in the forest to study, all of them feared that they were being lead to their death.

After we walked a while longer, we came to a sight that provoked fear in all of us—a massive hole in the ground intended to be our grave. I could smell it before I could see it: the smell of sickeningly sweet earth just turned to make room for death. (3)

Because of the hopelessness of the situation, this group of educated intellectuals deemed that they had nothing to lose and started to fight the armed Khmer Rouge soldiers. In this fight for their lives, they dared not to hope that they would emerge victorious. Life was precious and to give it up without a fight made them worse than the soldiers trying to kill them. In spite of all these obstacles, this group of unarmed prisoners overcame the might of the Khmer Rouge and the hole the ground intended for them now contained the graves of the soldiers. “It seems impossible to me now,” Kravanh later recounted, “that we could have overcome the soldiers.” (4) That night was just the beginning of this extraordinary grace granted to Kravanh. Given the circumstances of the situation, those men should not have lived. Grace is what saved them, this unmerited favor bestowed upon Kravanh.

Grace was also granted to Kravanh through his music. When he played it brought temporary joy to his Cambodian people who were deeply saddened by war and extreme poverty. It flowed from his accordion to the ears of everyone that heard it and helped them forget for just a moment their troubles. Because of his musical ability he gained favor in the eyes of the soldiers. For even the Khmer Rouge needed music to uplift their spirits and quite often Kravanh would play communist songs for the commanding officers. All of the traditional Cambodian songs were banned from being played during the rule of the Khmer Rouge and to break this rule meant certain death.

This crushed Kravanh’s spirit because of the emotional connection he felt to his family through the traditional Cambodian music of his childhood. Exposing him to music was just one of the many actions that his family had in bestowing him this grace that saved his life. He was held in high regard and when he was just a child they gave him the honor of representing the family. Kravanh knew that his survival was due in a large part to the values and lessons taught to him by his parents. So one evening, deeply saddened by the loss of his family, he began to play the forbidden songs that reminded him of his childhood, knowing well that he would not survive the dawn of another day. Death, he reasoned, would unite him with his loved ones and set him free from the excruciating agony of living under the Khmer Rouge rule. “For hours I surrounded myself with the sound. I played every song that entered my mind, even the forbidden ones.” (5)

Within hours the soldiers arrived, for they had heard the forbidden songs and were determined to uphold discipline. Kravanh just looked at them expecting at any moment for his life to be taken from him.

Despite all my years of struggle and survival, at this moment I felt I would die at the hands of these men. I looked at their faces and into their eyes. Though my music had saved me many times in the preceding years, the icy cruelty of these men terrified me and I thought nothing could save me. I played to the end of my song. My heart beat frantically. I began to shake. (6)

Miraculously the soldiers did not shoot him right away. Instead they ordered him to play a communist song he did not know and had never heard before. Kravanh paused, the soldiers grew impatient, one of them started to hit him with his gun and threatened to kill him if he did not play. “Then suddenly, without thought, without intention, without will, I started to play the song the soldiers wanted. I played beautifully, fluidly, like someone else was guiding my fingers.” (7) The Khmer Rouge did not kill him because they were intrigued by his music. Grace was the force directing his fingers and it had once again saved him from death.

As he continued to play, anger and hate began to well up in him. He despised the Khmer Rouge for what they had done to his family, to his people, to his country. “I hated these men for their lack of mercy, their callousness, their selfishness. They were beasts!” (8) The soldiers gradually started to relax and became vulnerable. Kravanh now had his opportunity. Revenge was within his reach. All he had to do was quickly take up the soldiers guns and shoot them. Then suddenly a wave of calm washed over him. The voices of his parents started to speak to him.

‘Sit and play your music. Play it, our young sweet son. Play it with all your strength. Play it with all the love we have given you. Play it with all the forgiveness we have taught you. Play it with all the mercy others have offered you. Play it until you cannot play it anymore.’ I listened to their voices and my anger subsided. (9)

The grace within him was more powerful than the hatred and anger he harbored toward the Khmer Rouge. Because of this he was able to forgive them all the tragedy and devastation their regime caused. The Khmer Rouge certainly did not deserve to be forgiven, but due to the fact that Kravanh was bestowed with this undeserved grace himself, he was able to freely grant grace to these brutal men through his forgiveness.

One cannot read Kravanh’s story and not be astounded by the abundant grace granted him. The definition of grace is receiving something undeserved. In every instance Kravanh’s life was threatened he should have died although remarkably his life was spared. It was nothing short of a miracle that he and his fellow countrymen overthrew the soldiers who intended to kill them in the forest. Likewise, playing a song perfectly that he had never heard or learned before was also a remarkable testament to his inner grace. He was able to survive all these trials because of the unmerited favor bestowed upon him. Grace is the only explanation to his survival. Without it he would not have survived the horrible holocaust that cost so many people their lives.

Many Cambodians died at the hands of the Khmer Rouge. On numerous occasions Kravanh's life hung by a thread. This grace granted to him through his music, given to him from above, was the reason why he survived while many others did not. His story is a heartbreaking account of the needless cruelty that human beings can inflict on one another.

Endnotes

1: http://en.wikipedia.org/wiki/Khmer_Rouge_rule_of_Cambodia

2: http://en.wikipedia.org/wiki/Khmer_Rouge_rule_of_Cambodia

3: Bree Lafreniere, *Music through the Dark: A Tale of Survival in Cambodia* (Honolulu: University of Hawaii Press, 2000), 49.

4: *Ibid.*, 49.

5: *Ibid.*, 149

6: *Ibid.*, 150

7: *Ibid.*, 150

8: *Ibid.*, 151

9: *Ibid.*, 151



Nick Sweet of University Place plans to major in sociocultural anthropology. He chose his topic because he “wanted to find other ways of explaining a regenerative experience besides an actual encounter with God. I don’t claim a religion, and I find it hard to believe that a God would favor certain individuals over others.”

He advises other writers to “start your paper early. The more research you put into it, the more fun you’ll have writing it. Writing can be stressful, but it can also be rewarding.”

Are Regenerative Experiences Encounters of the Holy Spirit?

By Nicholas Sweet

HISTORY 240

From new interpretations of scripture to signs from God, man’s creativity was abundant during the tough years of Europe’s Protestant Reformation. People began to ask important questions about the meaning of Christianity, and to formulate opinions on God’s relationship with man that defied traditional Catholic teachings. These controversies reached the surface with Germany’s Martin Luther and his 95 Theses. In short, the dissertation was his public disagreement with the Roman Catholic Church and their emphasis on good deeds over God’s Grace (Ahlstrom 71). He wanted to stress faith as the necessity to salvation, and place the idea of Original Sin back in the forefront of people’s minds. Beyond that, however, his theological views were consistent with Catholicism. Luther hoped his 95 Theses would heal the wounds of the church and its people, and guide them back in the right direction. Instead, his ideas were adopted by radicals and, over time new breeds of theology, such as Calvinism, Quakerism, and Baptism came to light (*History of Religion in America*). Quickly, Europe was divided into several different religious followings, each with distinct theological beliefs, and all certain of fulfilling God’s plan.

Many of these offshoots differed in just subtle ways, but others were further removed. Perhaps the most prominent inconsistencies among them all, however, were the alleged regenerative experiences that members from contradicting sects claimed to have. For example, George Fox’s conversion experience marked all men capable of salvation (Ahlstrom 177), whereas John Calvin’s spurred the roots of predestination

(Ahlstrom 79). These two ideas “commit a simple modal fallacy” and cannot both be true (“Divine Foreknowledge” 241). Actually, the conflicting messages suggest God probably hadn’t spoken to either Fox or Calvin. Instead, each concept is more likely a man-made response to repair his society’s tarnished world view, just as Luther tried to do with his theses. These humanistic reactions are defined as revitalization movements, and appear throughout history in societies who suffer high levels of stress and deprivation (Spradley 301). Thus, these regenerative experiences were simply another instance of man fighting to regain control of his life, not divine intervention.

American anthropologist Anthony F. C. Wallace breaks down these movements into five progressive stages in his 1956 published article, “Revitalization Movements: Some Theoretical Considerations for Their Comparative Study.” Wallace argues the movements develop from an initial increase in stress within a society that continues to build while “normal stress-reducing techniques fail to work.” Stage four marks Wallace’s “period of revitalization.” This phase can be dissected into steps of its own. First and foremost, a member of the society steps up with ideas of a new direction for the particular “culture that requires change.” Next, the visionary shares his revitalization plan with others. If these ideas become popular, then the society will begin spreading the word. After a significant amount of the population accepts the ideas, the society will undergo a “cultural transformation,” and implement them into everyday life (Spradley 301).

Taking a look at this systematic model, it’s clear these “visions from God” were not actual encounters of the Holy Spirit. In reality, it was Wallace’s five step process in affect. For example, before the Reformation, the Catholic Church was operating at a relatively “steady state” with devoted members who were dependent upon it to function in everyday life. That is, until Luther’s 95 Theses stirred up dormant tensions hidden beneath the surface. Once this anxiety was unleashed, many found it difficult to remain devoutly Catholic without tweaking some of its principles. This led to a “period of increased individual stress,” since some could no longer justify their traditional customs in quite the same way. The societal breakdown caused even more stress, resulting in Wallace’s third stage – a “period of cultural distortion.” Europeans such as Calvin and Fox were put in a hard spot. On the one hand, they still held strong religious beliefs; on the other, they disagreed with many aspects of the Catholic Church. The only way in which to resolve the situation was by coming “forward with a new vision (Spradley 301).”

Instead of starting from scratch, each founder simply adjusted his preexisting theology to adapt to the call for change, resulting in a solution people could relate to. These adjustments were then attributed to the Holy Spirit, giving them the influence they’d need to be taken seriously at their specific time and place (Spradley 301). Others heard and took kindly to these nuances because it rearranged the world into terms they could understand, just as one might expect (Butler 182). Each side then disseminated their message to large groups of people, converting those who found it suitable. With enough momentum, religious movements such as Quakerism and Calvinism gained the support needed to completely transform their subculture into something new and agreeable for its members (Spradley 301). Ultimately, the adjustments in theological practices had a tapering effect on religious-induced stress within the particular society. That is, until their new founded beliefs were called into

question, at which point the process repeated, carving out even more denominations of Christianity. Therefore, divinity did not play a role in any of the Reformation's regenerative experiences. How could it have? It's irrational. Man simply had to adapt to his new situation, and did so by using the age-old formula found anywhere there's a need for drastic change.

In India, for example, a young girl named Sita experienced a revitalization movement comparable to any during the Reformation; if not in style, certainly in structure. Though it may at first seem a stretch to make the comparison, it's important to note these movements take place within the context of their own culture, and can therefore, appear quite different from one another in look and circumstance. The basic principles, however, remain the same. In this case, Sita's regenerative experience was recognized amongst her people as ghost possession. But, just like so many of the conversion experiences, Sita's case can be studied closely for an ample explanation. Let's begin with Sita's unique circumstances (Spradley 301-09).

Her childhood life started out manageable, living under the love and care of her natal family and the camaraderie of her three best friends. By age 15, however, life turned to a sour note: all three of her best friends died, she was sent away from her family to live with her newly-arranged husband, and was pressured into having sex before she was ready. On top of all that, Indian brides typically don't receive much support from their husband's side of the family, and neither did Sita (Spradley 303). Naturally, Sita had more stress than she knew what to do with, and nowhere to turn for relief. She kept herself busy doing what she loved most – sewing. But, whatever pride and happiness she had left was stricken down when a man of her caste said sewing machines were not to be used by women. This left her hopeless and dependent upon a serious change. She needed a support system, familiar faces, and distance from pressures no 15-year old should ever have to face. Unfortunately, Indian tradition doesn't empower newlywed brides with much say in these matters, keeping her options limited at best. Consequently, she turned to her only feasible option within the boundaries of her culture – ghost possession.

Wallace would pinpoint this as Sita's "period of revitalization." Anthropologists Stanley and Ruth Freed would agree, as they "see a relationship between religion and the anxieties that are caused by stressful and seemingly unmanageable aspects of life (Spradley, 303)." The writer of a short history book, "Religion in American Life," conveys similar views, attributing the growth of evangelicalism during America's pre-Civil War years to "a deeply felt need for order, following the disorder of the Revolutionary War (Butler 183)." For Sita, ghost possession was as an effective response to her situation as the evangelicals was in the 1800's, or those who had regenerative experiences in the name of Christianity. But, what does ghost possession have to do with either of those? To find out, one must consider how this phenomenon fits into the world view of Indians and Hindus (Spradley 305).

In India, many believe human souls can stick around after death, and are especially malicious if they're ghosts of someone who's committed suicide or been murdered. Sita proclaimed to be possessed by the former, which, as one might imagine, made her in-laws very uneasy. They believed her possession could cause illness, misfortune, and even death to their loved ones. Whenever Sita's stress level rose, her ghost would return, posing a viable threat to her husband's family. After subsequent

failed exorcisms, the family had no other choice then to send Sita back to her childhood village, away “from the stress and anxiety of life in her marital family (Spradley, 309).” She remained married to her husband, but, from then on she was allowed frequent trips to stay with her parents, where the ghost never came. So, ghost possession gave Sita exactly what she needed to cope with her changing culture, just as regenerative experiences did for so many during the Protestant Reformation. Of course, Sita’s response wouldn’t have likely worked in Europe’s Christian empire. Then again, neither would John Calvin’s or George Fox’s, had they been surrounded by Hindus in India. The success of these revitalization movements was due, in main part, to their consistency within the context of their culture and set of beliefs; God had no hand in ordaining one or the other.

Regenerative experiences, then, are not encounters of the Holy Spirit. Simply put, they’re a human response to lack of control, just as Sita and her ghost possession. If God did share secret messages, one might assume he’d be consistent with it, allowing all to hear. In contrast, the messages are as diverse as people, and don’t apply to areas of non-Christian faith where it would seem to need it the most. Not to say conversion experiences don’t serve a purpose though. Each vision is made with one main thing in mind – creating “a more integrated, satisfying, and adaptive culture” for its people (Spradley 301). Rest assured, without these revolutionary ideas, America would be in a different place today.

Works Cited

- Ahlstrom, Sydney. *A Religious History of the American People 2nd ed.* New Haven and London: Yale University, 2004. 71-177. Print.
- Butler, John, Grant Wacker, and Randall Balmer. *Religion in American Life.* New York: Oxford, 2008. 182-83. Print.
- “Divine Foreknowledge.” *The Cambridge Dictionary of Philosophy 2nd ed.* 1999. 241. Print.
- History of Religion in America.* Online Highways, Florence, OR. Web. 04 Feb. 2010.
< <http://www.u-s-history.com/pages/h3787.html>>.
- Spradley, James and David McCurdy. *Conformity and Conflict: Readings in Cultural Anthropology 13th ed.* New Jersey: Pearson, 2009. 301-09. Print.



Eating Green

By Margaret Lundberg

ENGLISH 101

Margaret Lundberg grew up in California but moved to Washington after she got married 34 years ago. Her plans include transferring to UWT to their Interdisciplinary Arts and Sciences program; with a concentration in Arts, Media and Culture or Self and Society. She chose her topic “Eating Green” because the subject “is pretty close to my heart. I’ve been a vegetarian for almost four years and a vegan for about a year; not so much for ethical reasons (at least not involving animals anyway!) but for health reasons. I haven’t been concerned just for my personal health, but for the health of the planet.”

She advises other writers to “keep a notebook handy at all times. You never know when that ‘perfect’ idea will show up.”

When I was a child, our family’s diet was important to my mother. We had two vegetables with every meal, ate plain yogurt for breakfast, and exercised with Jack LaLanne. Later, as a young mom myself, I learned to cook meals from scratch, froze and canned fresh produce, and did aerobics with Jane Fonda. I was concerned with my sons’ nutrition, having learned early that good health didn’t just happen—you had to work for it. Now that my family circle has widened to include grandchildren, I find that my concerns go beyond just the health of my own family, to the health of the planet we live on. I believe that our personal and global health is tightly interconnected, and what benefits one will benefit the other.

I became a vegetarian about three years ago, and “went vegan” last spring. I could tout all sorts of reasons, but suffice it to say that I look and feel better at 52 than I did five years ago. For *my* health and well-being, becoming a vegetarian was the best thing I could have done. Which got me thinking-- what if we could establish that a vegetarian diet would benefit not only our personal health, but the health of the planet as well? Between pollution, greenhouse gases and dependence on a dwindling supply of fossil fuels, our little blue planet isn’t feeling too well. If all of us adopting a vegetarian diet could slow or stop all of these ills, shouldn’t we consider it? I believe it’s not as far-fetched as it might sound: a vegetarian diet could be “just what the doctor ordered” for our global health.

In March of 1984, I was on a bus headed to the airport in Jerusalem; traveling with a group of American tourists on our way home from a two week trip to Israel. We had been exposed to incredible sights, smells and experiences during our trip, yet on that last evening we were all feeling a bit homesick. And each of us was asking the same question: “Where’s the beef?” We had just come from an amazing dinner at an Arab restaurant in East Jerusalem, yet we were all longing for a hamburger—Golden Arches, here we come!

Eating meat is such a big part of the American way of life that it almost feels unpatriotic to spurn it. Would it still be Thanksgiving without the turkey; the 4th of July without barbecued hamburgers; a baseball game without hotdogs? All of these things seem to be permanently interwoven into our culture. We just like meat!

But the Great American love affair with burgers and fries also has a dark side. Just as the Standard American Diet is killing us individually—with skyrocketing rates of obesity, diabetes, heart disease and a host of other ills—it is also having devastating effects on our planet. Pollution, global warming, and an alarming dependence on fossil fuels can all be traced back, in large part, to the agricultural practices that are required to feed our ever-growing craving for meat. Dietician and author of “Go Green, Get Lean”, Kate Geagan states “the American diet is literally the SUV of eating styles.” She goes on to say that “the energy it takes to raise, package, transport, store and prepare food is now the single largest contributor to global warming.” (Stephenson)

Livestock production in this country and throughout the Western world has come a long way from the era of the American cowboy. The days of cattle grazing serenely on huge expanses of prairie pasture land are pretty much over. Raising cattle and other livestock is a multi-billion dollar operation that is now more manufacturing plant than traditional ranching. Cows no longer spend their lives grazing the hillsides until they are ready for slaughter. They are warehoused and fed a diet that is contrary to their very physiology – intended to eat grass, they are now fattened on corn, in as short a time as possible. In the early 1900’s it took four to five years to ready a steer for slaughter, it now takes fourteen to sixteen months. The corn-based diet they are fed leads to a variety of health issues for the cattle (Pollan). In his article “The Ecology of Eating: The Power of the Fork,” Mark Hyman states “Of the twenty four million pounds of antibiotics produced each year in this country, 19 million are put in the factory-farmed animals’ feed to prevent infection, which results from overcrowding, and to prevent the cows stomach from exploding with gas from the fermentation of the corn”(3). As a result of what is basically indigestion, cattle belch vast amounts of methane, which is 23 times more potent at trapping heat than carbon dioxide. Livestock manure is the source of 2/3 of the man-made nitrous oxide now circulating in our atmosphere – a greenhouse gas that is 300 times more potent than carbon dioxide (Jacobson).

Other statistics are equally grim. Livestock raised for meat production are responsible for 18 percent of greenhouse gas emissions—more than the cars we drive. The average household could make a bigger impact on greenhouse gas emissions by cutting their meat consumption in half than by cutting their driving in half! The food sector is responsible for 19 percent of the total energy use in the US every year, and most of that comes from the raising and packaging of livestock animals.

A non-vegetarian diet requires 2.9 times more water, 2.5 times more energy, 13 times more fertilizer (also made from petroleum products), and 1.4 times more pesticides than does a vegetarian diet—and the greatest difference comes from beef consumption. Less than half of the harvested acreage in the U.S. is used to grow food for people, and it takes 16 pounds of grain and soybeans fed to cattle to get one pound of meat ready for us to eat. Ten times as much land is required for meat-protein production than is required for plant-protein production, and producing one pound of animal protein uses almost 100 times more water than it takes to produce one pound of plant protein. Nearly 70 percent of the Amazon rainforest in Brazil has been cleared, and is now home to cattle ranches and the soybeans needed to feed the livestock. We have yet to understand what the loss of the rainforest will cost us in the long run, but at the very least global deforestation contributes 20 percent of the increase in carbon dioxide levels in the atmosphere.

As a population's income rises, they have traditionally eaten more meat and dairy foods, replacing wheat and rice in their diets; exactly what we have been experiencing over the last 50 years. Nevertheless, between global warming and decreased natural resources such as farmable land and water, the Earth simply can't support any greater increase in meat production. In my lifetime, the world population has doubled, and is still growing exponentially. Yet, with finite resources, how will we continue to feed us all? Factory farming is simply unsustainable. Even Dennis Avery, Director of the Centre for Global Food Issues (a very pro-livestock organization) made a comment recently that "The world must create five billion vegans in the next several decades, or triple its total farm output without using more land." (Vegan Society) If *he* thinks so, it *must* be time to rethink our diet!

But what about our burgers? For far too many of us, giving up meat seems like an unreasonable thing to ask. Meat is good for us, isn't it? "Meat has tremendous nutritional value and is very good for you," says Randall Huffman, vice president of scientific affairs for the American Meat Institute. Quoted in *Diet and Health*, Huffman said "even the fat in meat is—in some respects—healthy. Fully one third of the saturated fat found in meat is stearic acid, which actually helps lower blood cholesterol levels." (Masci) But Americans are now eating nearly 200 pounds of meat, poultry and fish every year; an increase of 50 pounds per person in the last 50 years. We eat about 110 grams of protein a day (more than $\frac{3}{4}$ of which is animal protein), while the USDA's Food Pyramid recommends less than half that – an amount which is still nearly twice the 30 grams most other experts say that we actually *need*. Since the advent of products like McDonald's Quarter Pounder with Cheese (30g of protein all by itself!), it has become entirely too easy to eat much more meat than any of us could ever need. Our expanding waistlines and rising levels of diabetes and heart disease are proof that any benefit that we might gain from a modest amount of meat in our diet is being overcome by the sheer amount we are eating on a daily basis.

There are also disagreements on the issue of global warming. In spite of growing evidence that human activities in general—and livestock production in particular—are indeed causing large-scale environmental effects, there has been a continued effort on the part of many major corporations to spread doubt about the data in an effort to divert attention from their activities. In his article from *The New York Times*, George Monblot, a British environmental activist and writer, is quoted as saying

that by promoting doubt “Industry has taken advantage of news media norms requiring neutral coverage of issues, just as the tobacco industry once had. They didn’t have to win the argument to succeed, only to cause as much confusion as possible” (Revkin).

In an effort to take the focus off the environmental effects of livestock production and “do their part” for the environment, a group of dairy farmers in New York state are teaming with General Electric to produce renewable energy from cow manure. Apparently manure from 2,500 cows can generate enough electricity to power 200 homes. In a state with 6,200 dairy farms and over 600,000 dairy cows, that’s a lot of potential kilowatts. “We’ve estimated that this could generate \$38 million in new revenue for dairy farmers around the country and offset two million tons of carbon dioxide equivalents annually by 2020” said Rick Naczi, executive vice president at Dairy Management Inc. in an article for *Business Wire*. The dairy industry has committed to reducing greenhouse gas emissions by 25 percent by 2020—the equivalent of getting 1.25 million passenger cars off the road every year (1). That’s a lot of gas.

But, even if we *can* make electricity from “cow pies,” does that make up for the fact that we in the Western world are using far more than our fair share of the earth’s limited resources? We use substantial amounts of fossil fuels and other nonrenewable resources, to grow a “crop” that many in our global population cannot access; one that pollutes and sickens the planet—and its inhabitants—in ways we are only beginning to comprehend. In the face of a looming worldwide crisis where food prices are rising and 2.1 billion people live on less than two dollars a day, two of every three people in the world already subsist on a vegetarian diet. Yet in the industrialized world over 50 percent of the grain that we grow is used to fatten livestock. Peter Timmer, a fellow at the Washington-based Center for Global Development states “There’s still plenty of food for everyone, but only if everyone eats a grain and legume-based diet. If the diet includes large... amounts of animal protein (not to mention biofuels for our SUV’s), food demand is running ahead of global production.” (Clemmit)

With finite resources already being stretched thin by a growing global population, is it rational for us to continue on as we are? Our food systems are not sustainable, and today’s livestock production methods make potential food crises more likely every day. If greenhouse gases continue to build as they have over the last 50 years, the effects on today’s farmlands may be irreversible. As global temperatures continue to rise, Alaska may become the new “Corn belt” and the Midwest could become a desert. How much of the land we now depend on to feed us, could be lost to agriculture? A vegetarian diet would enable us to healthfully feed many more people, and make much better use of the resources we have. Do we really want to wait until it’s too late to change our way of eating?

Over half a century ago, Albert Einstein declared “Nothing will benefit human health and increase chances for survival for life on earth as much as the evolution to a vegetarian diet.” I quite agree.

Works Cited

- Bittman, Mark. "Rethinking the Meat Guzzler." *The New York Times*. 27 Jan. 2008 Week in Review sec. *NYTimes.com*. The New York Times. Web. 29 Nov. 2009.
- Clemmit, Marcia. "Global Food Crisis- What's Causing Rising Prices." *CQ Press*. CQ Researcher. 27 June, 2008. Web. 19 Nov. 2009.
- "GE, US Dairy Industry Shine Light on Potential of "Cow Power" in New York." *Business Wire*, 29 Oct. 2009. Web. 19 Nov. 2009.
- Hyman, Mark. "The Ecology of Eating: The Power of the Fork." *Alternative Therapies in Health and Medicine* 15.4 (2009): 14-15. ProQuest. Web. 17 Nov. 2009.
- Masci, David. "Diet and Health- Can Certain Foods Fight Disease?" *CQ Press*. CQ Researcher. 23 Feb. 2001. Web. 19 Nov. 2009.
- Pollan, Michael. *The Omnivore's Dilemma: A Natural History of Four Meals*. New York: Penguin Books. E-book.
- Revkin, Andrew C. "On Climate Issue, Industry Ignored its Scientists." *The New York Times* 24 April 2009. ProQuest. Web. 19 Nov. 2009.
- Stephenson, Kathy. "Author: Eat Green, Cut Global Warming." *ProQuest*. 17 Mar. 2009. Web. 17 Nov. 2009.



Patrick Early was born and raised in Tacoma. At TCC, he is studying networking and convergence technologies. One of Early's interests, which has been greatly on his mind, is fantasy as a genre. He says, "Working with my instructor has helped me to understand my writing more." When asked about his struggles with writing, he says, "My penmanship is not what it used to be!"

Short Story Reading Reflection

By Patrick Early

HUMAN DEVELOPMENT 101

The fantasy genre of fiction writing has many stories about swords and sorcery. In this genre, the heroes present themselves as well equipped fighters (typically using swords) or profoundly able spell workers (using any variety of magical devices). The swords involved in these tales typically have a magical quality, such as producing flames or being able to slay a foe with one stroke. There exist other sorts of weapons that are also used in battle. The sorcery involved typically demands extreme discipline and ability to bring a spell to life. Likewise, there are magical places where one could imagine adventure. All of the items here need to come into the story and assist the protagonist in his or her successful adventure against the forces of evil.

I have chosen the short story "Sea Magic" from the collection of stories *The Knight and Knave of Swords* by Fritz Leiber. Leiber has written many stories about two very different heroes: Fafhrd (pronounced: faw-ferd) and the Gray Mouser. Fafhrd is tall, strong, and able (the knight) while his companion is short, smart, and lives by his guile (the knave). As the story begins, we see Fafhrd conducting archery practice. Fafhrd is a very effective archer, which is remarkable because he only has one good hand to accomplish this exercise. It seems that one of Fafhrd's companions has fashioned a magical device that fits on the heroes left arm stump that allows him to hold the bow with his short arm while he uses his good right arm to pull back the string. Judging by Fafhrd's reported success, you would be in trouble if he chose to shoot an arrow at you. When Fafhrd is not practicing archery, he attaches a hook to his arm: he would seem to be the very definition of a pirate.

Concerning the Gray Mouser, he does not present himself in this tale. As the story goes, he is off on an adventure in a sailing ship called the *Seahawk* while Fafhrd stays behind: seemingly the knight is between adventures while the knave is pursuing some business on the seas. We hear about the Mouser because he lost a magical device called the Gold Cube of Square Dealing in a different sea adventure. This lost device is recovered again by Fafhrd later on in this tale.

With fantasy stories, we can count on there being spoils: treasures collected on adventures that are stored in some secure location near to the settlement the heroes come from. In “Sea Magic” there is a particular problem concerning these treasures. It seems someone has broken into the treasury, killed the guard on duty, and made off with all of the magical items: including the rather valuable Golden Arrow of Truth. Many of the other characters are upset about this loss, but Fafhrd seems to not be concerned: possibly because he is under the effect of a spell. Who would produce this spell? As the tale goes, Fafhrd has had a curious interest in a silver clad woman which turns into an adventure for our hero. He spies her making off in a water vessel and pursues her, all the while affected by a spell she has cast over him. Leave it to Fafhrd to manage to get close enough to her to manage to recover the Golden Arrow of Truth and a bag full of the other treasures that the woman stole. As soon as it seems Fafhrd has won, the mysterious woman turns into a sea monster and, with a mouth full of fangs, bites off the hero’s hook that was on the end of his short arm. Our hero manages to get away, though, and also manages to keep a hold of the recovered items and return them to the treasury. After such an encounter, we see Fafhrd survive even after a considerable threat to his life.

Discussion

When we see Fafhrd succeed in this adventure, we are inspired how he manages to do so in spite of the rather severe handicap he has. If we relate to this hero and allow him to inspire us, it would seem we could be successful in spite of any handicap or disability we had. This is where I believe fantasy is important and needed in the world we live in. Vicariously, we can work out issues we have in our own lives through dealing with a situation in a fantasy story. We need an able and proud hero to win against an evil foe. Some would say this is escapism, but I know I have needed to consider the way a fantasy hero would conduct himself. Sometimes I imagine I am the hero of my own story, and I had better conduct myself bravely and proudly.

There is a convention in fantasy writing about magical devices that a figure uses in the story, like the protagonist Fafhrd uses magical means to hold his bow with his short arm. Of course, you may say this implement is technology, not magic. The convention says that the technological quality of a device such as this is not considered different than magic. Likewise, the bow our hero uses is also considered magical because it enables the archer to shoot an arrow for a considerable distance with great accuracy. You may say that the archer himself is responsible for the distance and accuracy, but this is also distinguished as the archer using magic.

Typically, in the fantasy genre, the women appear as mysterious, beautiful, and treacherous. Before Fafhrd pursues the silver clad woman who stole the treasured items, he has been affected by the woman. He has seen her in a drinking room and been attracted to her. It seems this attraction

has worked against her and Fafhrd does succeed in catching up to her in his boat and recovering the items. As the story goes, Fafhrd did not know she stole the items before he decided to pursue her. What a surprise our hero has when this beautiful woman turns into a monster. What parallel I drew about this encounter (and other encounters in other stories) was to be careful: people are not always what they seem.

When I encountered heroism in the world, like when someone returned a lost item, I knew this was something that helps us transcend problems we face in life. We need to hear about positive actions and people making a difference in the world, because there are plenty of things that go wrong. Somehow, with our minds on the success of a fantasy hero, the bad things don't seem so horribly bad. However, I do believe there is a reason for the hero's enemies to win every now and again. Having the villains be somehow effective increases the need we have for the hero to conquer his foes. I remember having trouble with some friends of mine, and thinking about a villain in a fantasy tale, "Well, they aren't that bad."

I have read many novels and short stories in the fantasy genre. I have really enjoyed the tales of adventure that relate a story where the hero is able to overcome the forces of evil and succeed where it seems he has no chance to even survive. In these stories, usually the bold hero wins in the end by using his physical abilities and resourcefulness. What was against the hero appeared to be obviously evil or twisted. I also liked imagining a world where magic existed and there were basic distinctions between right and wrong. I found I could escape to beautiful and mysterious lands just by reading a book. With the help of these stories, I found I could get away from any problems I had in the world I lived in, where I found the heroes were not so bold and the problems not so black and white.

Yes, when I grew up, I was a dreamer; and I still am.



Born in St. Louis, Missouri, Elisha Rose moved to Lakewood. He plans to major in music and attend Oregon Coast Culinary Institute. He writes about what he loves and works relentlessly to make it something “you would want to read.”

His advice to future writers is to “show your work to your friends and family and have them proofread it, so that you know you are sending the message you want.”

Vivaldi and Bach

By Elisha Rose

ENGLISH 101

When classical baroque music is discussed, two famous composers are usually in the first measure of musical prominence: Antonio Vivaldi (1678 – 1741) and Johann Sebastian Bach (1685 – 1750.) Vivaldi brought flamboyancy and playfulness to his music, while Bach brought science and mathematics. Though these two men differed in their approach to music, a similarity of joy and excitement can be heard in their compositions. They represent an important component of the classical music realm; their works brought them much admiration from later composers such as Mozart, Beethoven, Chopin, and Schumann. These succeeding composers studied their music, and were influenced by them in their own composing. Vivaldi and Bach were the primary potters of the Baroque Era, shaping the period’s music with their own. Their energy and excitement for music is shared, and highly utilized during their lives.

Vivaldi and Bach lived during the period toward the end of the Baroque era. According to George J. Buelow, Baroque refers more to a place of musical development than a period in time. This period of history originated in 1680, and ended in 1750 at the time of Bach’s death. The era was a stage where music underwent reinvention towards more complexity in its style. Music from this time had an extraordinary diversity, revealing a new creativity amongst composers.

Composers of the Baroque Era were obsessively moved to make music more orated in its tones, and move listeners through different levels of emotion. They strongly believed that music had a power to express affections, even those found in

the natural characters of words (Palisca). These beliefs lead to experimentation, which lead to the development of new styles and forms. According to George J. Buelow, these new forms became very distinguished in opera.

Experimentation and reinvention of music were two of the many areas Vivaldi and Bach excelled in. Vivaldi tested and played with music's form abilities, while Bach used the complexity of counter-point—the art of combining melodies into melodic textures—to plan out new musical patterns. Though the composers were opposite in nature, there are similarities that can be found in their life stories.

Vivaldi's history begins in 1678 Venice; a cultural capital of the flourishing baroque art. He was taught to play the violin by his father, who was a leading violinist of St. Mark's Chapel. In 1693, at age fifteen, Vivaldi began studying to become a priest. His ordination took place ten years later, after which he received the nickname "il Prete Rosso," or "The Red Priest," as he sported a head of red hair, which was a prominent family trait (Grout & Palisca). His practice, however, became limited as he suffered with a form of asthma that he would be faced with for the rest of his life. He became short of breath, and unable to recite the prayers and rubrics for the Holy Mass celebration of the Catholic Church. He slowly withdrew from active service, but remained a priest.

As a minister, Vivaldi served at the Pio Ospedale della Pietá, a convent school and shelter to young orphan girls. The Pietá provided excellence in music education, which Vivaldi taught as music director, violin instructor, and choirmaster. His performances with the girls of the Pietá always attracted large audiences, and expressed great energy and emotion that was felt equally by both spectator and performer (Grout & Palisca).

Much of Vivaldi's composing took place during his time at the Pietá. He wrote all the music that was played by the students of the school, sometimes shaping it to the performers themselves. Not only did he write music for every festival held, but was required to write new pieces annually. The Pietá and public were always demanding new music, pressuring him to write faster than most copyists could write out the individual parts. Several of his operas were written not only for the Pietá, but for other regions of Italy as well: such as Florence, Vienna, and even Rome. His output became immense, as he was faced with a high and undeniable demand. It was said that Vivaldi's opera, *Tito Manlio*, was written in five days. He also wrote for specific students of the Pietá, featuring them in several of his concertos. One year he had four gifted violinists, and featured them all as soloist in a concerto for four violins. This was a major accomplishment not only for Venice, but for all of Europe (Grout & Palisca).

When considering his compositions, Vivaldi was playful, but maintained an equal attitude of seriousness. His music imitated nature, which was most notable in one of his most famous concerto collections, *The Four Seasons*. His fast songs, or allegros, expressed a power that some thought was as vibrant as fire. For slower melodies, called largos or adagios, Vivaldi became the first composer to give them importance equal to that of the allegros. These slower songs were composed with an operatic air, giving performers the ability to add embellishments of their own; most of the time it was expected of them. (Grout & Palisca).

Vivaldi's music possessed a form of clarity, with a progressive flow of ideas. It was these elements that were influential, admired, and emulated in the writing of Bach.

Johann Sebastian Bach was born in 1685 in Eisenach Germany as the eighth and youngest child of Johann Amrosius Bach. The Bach family line was known for producing amazing musicians, passing their knowledge down to every new generation. Johann Sebastian received his first music education from his father in the form of violin instruction. Unfortunately, when young Bach was ten years old, his mother died, and his father joined her a year later. Orphaned, Johann Sebastian was taken into the family of his older brother, Johann Christoph. His brother carried the family music tradition as an organist, and was a pupil of Johann Pachelbel, composer of the famous Cannon in D. Christoph continued his brother's musical schooling with the organ, giving him his first introduction to keyboard.

Bach also instructed himself in music by copying manuscripts of other composers; something that would become a lifelong practice. Of the pieces he copied and studied, Bach highly admired the work of Vivaldi. He took several of Vivaldi's violin concertos and rewrote them as concertos for harpsichord as was a common practice of all composers (Bettmann). The concertos were further enriched by Bach, and crackled the original fire of Vivaldi even further. Bach gave them a style and complexity that many historians say made them his own. He reaped a great profit from studying the violin master's music, and from him acquired a pleasantness that lightened his heavier Germanic style (Bettmann).

In 1703, Bach served as organist of Arnstadt court, and later at Mühlhausen court. It was the organ that first inspired him to compose, and that received a great portion of his work. A favorite musical structure natural to the organ, and considered the height of musical composition was the fugue. Bach became the master of the fugue, using his knowledge of counterpoint that surpassed all composers. He wrote a total of fourteen fugues in his life, with the fourteenth fugue sadly going unfinished. Bach died while attempting to finish this piece. The man died composing!

Though Vivaldi had a vast repertoire of original music, Bach's compositions far exceeded his in comparison. Living in Leipzig Germany in 1723, Bach was in the employment of not just one of the city's Lutheran churches, but four. He was Leipzig's Director of Music; teaching, directing, and composing for four different choirs. Like Vivaldi, Bach was expected to write music for every Sunday service and festival held at the churches. However, Bach wrote music that was unique to the churches he wrote for. With so many services to compose for, and expectation of writing new pieces annually, Bach was never allowed to stop composing.

Bach wrote music for all genres of the baroque era, excluding opera (Grout & Palisca). His primary motive for writing was to fulfill the needs of the establishments he worked for. Most of his works were also dedicated as sacred, revealing his devout Lutheran faith in God. Several of his chorale and cantata compositions were inscribed at the beginning with J.J. (Jesu, juva – Jesus, help) then at the end with S. D. G. (soli Deo gloria – glory be to God alone.) Bach's music was dedicated to an audience of One.

As previously mentioned, Bach had an extraordinary understanding of counterpoint. This was his primary tool while composing, and is demonstrated in all his compositions. It is even used in one of his most cherished and favorite chorales, *Jesu, Joy of Man's Desiring*. His music demonstrated complicated, melodic work, expressing a clear emotion.

Otto L. Bettman describes Bach as having a star that shown brighter than that of Vivaldi. However, he also quotes Vivaldi's biographer, Marc Pincherle, stating, "Far be it for me to equate Vivaldi with Bach. But to stand comparison with him—even for a moment—is quite a handsome claim of glory." Bach wrote more music and used higher levels of musical form and structure, yet we find Vivaldi sharing success with him. Vivaldi was indeed an admired figure of Bach, and without him, a large part of Bach's music would not have been.

These are two composers from opposing locations of Europe, but planted in similar situations. They used different maps to guide them, but reached the same goal. Their lives were as dedicated to their work as they themselves were to God. The concert stage owes much to these great men. Vivaldi was the one who perfected the art of the concerto, and it is Bach's application of counterpoint that is studied in music theory classes abroad. They are both integral parts that serve a great purpose; they remain friends and professors to musicians and aspiring composers alike.

Works Cited

- Grout, Donald J., and Claude V. Palisca. *A History of Western Music*. Sixth ed. New York: Norton International Student Editions, 2001. 374-405. Print.
- Buelow, George J. *The Late Baroque Era: From the 1680s to 1740*. Englewood Cliffs, NJ: Prentice Hall, 1994. 4-5. Print.
- Palisca, Claude V. *Baroque Music*. Second ed. Englewood Cliffs, NJ: Prentice-Hall, 1981. 165-68. Print.
- Bettmann, Otto L. *Johann Sebastian Bach: As His World Knew Him*. Secaucus, NJ: Carol Publishing Group, 1995. xvii-208. Print.



Aerogels

By Nathan Ureta

CHEMISTRY 161

Nathan Ureta was born in Germany and later moved to Milton. He says that before writing this paper, he had “heard about aerogel, but assumed that it was only a theoretical substance or product of science fiction. Through [his] research, [he] learned that aerogels are not only real substances, but they have already seen use in everything from tennis rackets to NASA spacecraft.”

He advises other writers to “read! And when you’re done, read some more. Reading and analyzing the work of a good writer will help you understand how to intrigue a reader and keep him or her interested.”

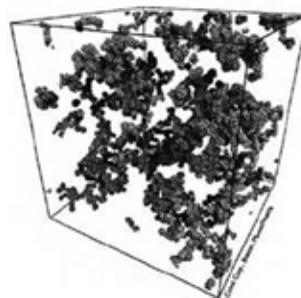
It is comprised of 99.8 percent empty space, and has the lowest density and the highest surface area of any known solid. It can protect against the heat of a flame at 1300 degrees Celsius. Humorous editorial site Cracked.com exaggeratingly refers to it as one of the top seven “man-made substances that laugh in the face of physics.” Hyperbole aside, aerogel, thanks to its extraordinary properties, has piqued the interest of scientists and corporations everywhere. Its potential applications are widespread, from insulating space suits to soundproofing buildings. Just like Bakelite, carbon fiber, and silicone of decades before, with a few years of research and application, this seemingly futuristic material can become a mainstay of both everyday life and scientific development.

An aerogel is an extremely light synthetic solid that is smoky and transparent in appearance. When handled by an average person, it appears fragile because of its weight and color. Despite this, when correctly utilized, it can prove to be an effective insulator, filter, and armor. Most aerogel is created from silica gel, but it can be produced from a number of other substances, such as pure carbon, tin oxide, and aluminum oxide. Carbon aerogels have the ability to absorb great amounts of light and can conduct electricity well, which allows them to be used in the production of superconductors. Aerogel, colloquially known as “solid smoke,” is created by extracting water from a silica gel or other substance and replacing it with gas, commonly air or carbon dioxide. The resulting material has very little mass and a

typical density of three milligrams per cubic centimeter, but a surface area of up to 1200 square meters per gram. These properties help to create a sturdy yet delicate material.

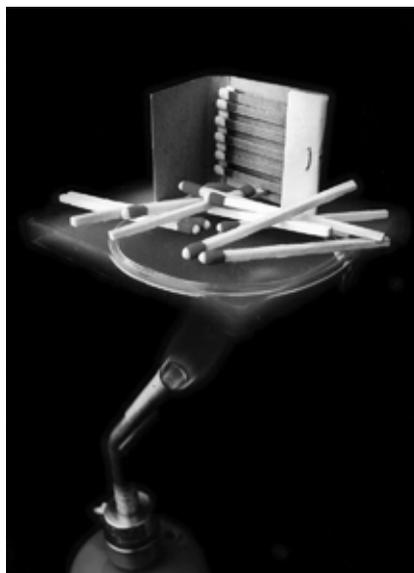
Aerogel's properties are incredibly unique, especially when considering its chemical structures. Many of them are composed of twisted chains of molecules clustered together. These chains form around pores that are ten times the size of any given cluster. Though the actual molecular structure of aerogel is significantly smaller than the pores of empty space it creates, its molecular chains are abundant and extremely rigid, providing a high surface area and a sturdy structure. Conversely, because of its abundance of pores, aerogel boasts an extremely low density. While abundant, the pores of aerogel are smaller than the wavelength of light, allowing an aerogel to interact with light as a singular substance rather than a mixture of air and solid. These pores also help absorb most infrared radiation because of their abundance and size.

Creation of an aerogel generally involves taking a substance, depriving it of water, and replacing the water with a gas. For instance, in the creation of an aerogel generated from silicon, orthosilicic acid breaks up into silicon dioxide particles that form chains. These chains form around each other, creating the aforementioned pores, filled with methanol and water. This creates an alcogel, which must be dried to create a true aerogel. To drain the methanol and water from the substance, it must be kept at 240 degrees Celsius and 80 atmospheres for about 1.5 days. Drying the product at this temperature and pressure replaces any other substances in the pores with air without causing anything to decrease in quantity or size. At this point, while the new aerogel may still contain trace amounts of water, further chemical treatment can render the aerogel completely hydrophobic. Carbon variations of aerogel are produced differently, as an organic compound- such as ethanol- can be heated in an inert medium, such as argon. During this process, everything but carbon in the ethanol has been removed, leaving behind aerogel. The only reason such a functional substance has never seen widespread use is because of its costly and prolonged development. The initial process, first used in 1931, consisted of solvent exchanging, causing one solvent to diffuse out of the aerogel while another diffuses into the aerogel. Such a procedure would take weeks to complete. In the past few years, some groups have experimented with processes that involve squeezing the water out of silica gel rather than directly replacing its water with a gas as mentioned, resulting



Molecular clusters in aerogel. Note the empty space.

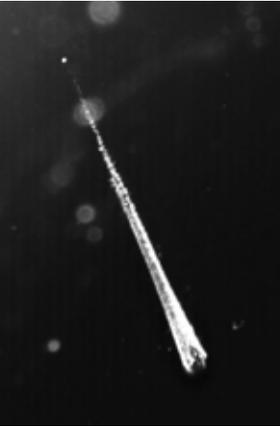
Image by Cabot Corp., Boston, MA



A layer of aerogel protecting matches from the flames of a blowtorch

Courtesy of NASA

Courtesy of NASA



The conical trail left behind by a sample of cosmic dust

in a process that reduces production time from weeks to a matter of days. The process of creating aerogel has not yet been perfected, but scientists are quickly working toward an efficient solution.

Because of Aerogel's extraordinary properties, groups are diligently researching many applications of this substance. It has proven to be an excellent insulator, and may be used for insulation for everything from buildings to astronaut's suits, as 18 millimeters of aerogel can protect up to temperatures of negative 130 degrees Celsius. Its pores help it act as a sponge, which can be used to clean pollutants from water. However, aerogel has seen most of its use on NASA's Stardust spacecraft, a variation of the space probe, whose primary objective is to collect samples from comets and cosmic dust.

Aerogel is seen as the ideal material for such a process because of its extremely porous structure. Cosmic samples fly at extremely high speeds, almost six times the speed of a rifle bullet and are no larger than a grain of sand. Incorrect handling of these particles could alter their shape and chemical structure, and could even result in their complete vaporization. Therefore, it is necessary for whatever material that collects these samples to allow them to decelerate safely, without being destroyed in any way. Aerogel absorbs these particles from space and suspends them within its rigid molecular chains and pores. Bricks of aerogel are configured in a "tennis racket" pattern that is exposed to space while in flight. In one case, one side of the racket is exposed to a comet while the other side is focused on any interstellar dust the spacecraft encounters. Any sample trapped within the aerogel racket buries itself in the material, leaving behind a hollow cone, similar to a crater, with the sample itself at the point of the cone. The particle is left unperturbed as the aerogel brings it to a gradual stop. These samples, and the trail they leave in the aerogel, can easily be analyzed with a microscope. The trail, which can be up to two hundred times the length of the particle itself, can be used to trace the particle's point of entry and consequently the sources of certain types of samples. Such information could prove valuable, as all sorts of cosmic samples collected could have contributed to the formation of stars.

From listening to a simple description of aerogel, one might be led to believe that it is nothing more than a chemist's pipe dream, a theoretical substance that could only exist in science fiction. With its absurdly high surface area, minute volume, and uncanny characteristics, this assumption can be justified. However, this substance- which is essentially dehydrated silica gel- will soon see widespread use in the home, the workplace, and the scientific front. Its potential applications have scientists researching and corporations fascinated. After investigating the properties, prospective uses, and its functions in the scientific community, I am also significantly interested in such a futuristic substance. I am greatly anticipating seeing aerogels used in everyday life in the coming years.

Works Cited

Hambling, David. "Aerogel: Invisible Protection." *Wired*. 29 Aug. 2007. Print.

Lerner, Eric J. "Less is more with aerogels." *The Industrial Physicist*. American Institute of Physics, 21 Sept. 2004. Web. 4 Nov. 2009. <<http://www.aip.org/tip/INPHFA/vol-10/iss-5/p26.html>>.

"Stardust - NASA's Comet Sample Return Mission." *Stardust*. NASA, 31 Mar. 2005. Web. 5 Nov. 2009. <<http://stardust.jpl.nasa.gov/tech/aerogel.html>>.

Taher, Abul. "Scientists hail 'frozen smoke' as material that will change world." *The Times [London]*. 19 Aug. 2007. Print.



Mike Bettoni, currently residing in Tacoma, is a business major working toward an applied science degree. He was assigned to write a paper regarding the recent earthquake in Haiti in his English 101 class. While other students chose to write about humanitarian efforts in the region, he decided to write about the nation's government and what must be done to reconstruct Haiti.

Writing this essay gave Mike a better understanding of managing what little time he had to research and compose the paper.

Hope for Haiti

By Mike Bettoni

ENGLISH 101

Now on the brink of annihilation, all eyes are on the poorest, smallest, and oldest republic in the western hemisphere. Three months ago, half the world didn't even know Haiti existed or even where it was located. Also, for years the question on many journalists' and U.N. bureaucrats' minds was, is there any hope for Haiti? Lindsay Reed of *The Observer* writes, "The answer . . . was resoundingly negative. Haiti was too poor, too deforested, too far behind the rest of the world" (Reed). This outlook was very grim. Now with the entire country ravaged and devastated by a 7.0 earthquake, it looks as if hope is lost. After hundreds of years of oppression by the rest of the free world, it seems this poor country will finally have the attention of the international community's goodwill which will help to free them of a corrupt, inept government and grant them the freedoms they have struggled to enjoy for so many years. Finally, there seems to be some hope for Haiti.

Since the 7.0 quake that has left the entire country in ruins, the focus of international aid was on the epicenter of the quake which is Port-au-Prince. Little or no aid was reaching the outlying towns, and for days people were still lacking treatment, food, shelter and water. Sara Miller Llana, of the *Christian Science Monitor*, reported that "Leogane will be known as the epicenter of what some are calling the worst humanitarian crisis in recent history" (Llana). She writes that while Haiti's capital is overrun by international rescue teams and relief aid, the residents of outlying towns have been left to fend for themselves (Llana). Towns like Leogane, which is only about 20 miles

outside of Port-au-Prince, waited up to a week for aid and relief. The former colonial town, which once held many old, historical buildings, now lies in ruins. Entire families left dead and buried under the collapsed buildings that they once called homes. Residents of this small town like Jean Brunel Lemaire, whose crumbled house lies next door to another where all occupants remained dead under the rubble for days, have made camps in their own front lawns hoping that help will arrive soon. They risk the threat of disease from the rotting corpses, they have little or no food or water, and many fear that the rains will come soon and they have no shelter. Mr. Lemair tells Llana of his concerns, “We are the same country, but they are only focusing on Port-au-Prince ... they are being negligent and irresponsible” (Llana). Eventually, help did arrive nearly a week later; and by the day after, the medical aid team had performed 600 treatments and delivered two babies in an open field. The chief coordinator for the group stated, “We need double the amount of doctors ... the people here need food and water, and there is nothing” (Llana). The inability to speed recovery and aid efforts is causing chaotic conditions for the people of Haiti; the threat of cholera and other deadly diseases is rising every day. The unsanitary conditions have put Haiti on the verge of an epidemic. Many towns outside of the capital of Port-au-Prince are experiencing this threat more and more everyday because of the slow response by the recovery and relief effort. With billions of dollars of relief funding, why are these people being forced to deal with these unspeakable conditions.

According to Sananda Sahoo of the Tribune News Service, the slow relief and recovery of a country that has been totally ravaged by a major natural disaster has become the issue at the U.N. The Haiti aftermath is the topic of discussion among many world powers, and the United Nations is blaming many of the problems of the relief effort on Haiti’s inept government. Paul Farmer, the United Nations deputy special envoy to Haiti states,

“The inability of Haiti’s government to respond and to speed the work of the aid organizations has its roots in years of corruption, the mushrooming of slums, deforestation and faulty U.S. Policy,” he continues his report to the U.N., “As a result of these failed policies, the Haitian government is unable and underprepared to coordinate the relief and reconstruction efforts today” (Sahoo).

It is believed by many within the U.N. that Haiti’s relentless past of failing and corrupt governments was a major contribution to the stress of the Haitian people before the quake, now the limitations of the current government are hindering the prospects for recovery. Sahoo writes that Farmer urged Haiti and the U.S. to lay down ground rules that must be followed by NGOs operating in the country to ensure that aid makes it to the people who need it (Sahoo). When the relief effort is finally complete, and the dust settles, international powers must begin to address a more familiar issue regarding this impoverished country and its reconstruction.

The U.N. and other international powers have begun to propose a number of possibilities to rebuild Haiti into the developing, stable nation it should be. According to Stephanie Hanes, a reporter for the *Christian Science Monitor*, these proposals include “everything from turning Haiti into a U.N. protectorate to paying reparations for the U.S.’s crippling treatment of the newly independent, black-led republic in the early 1800s” (Hanes, Llana). But will money really make a difference? Haiti’s

bad track record with foreign funding and international aid says this is not a good idea. Hanes explains that for 13 years starting in 1990, Haiti received billions of dollars in international aid. Most of which was given to improve governance, security, and economic recovery. Throughout all this time Haiti kept getting poorer and remains to be the most impoverish and unstable country on this side of the world (Hanes, Lana).

If the international community were to establish a presence in Haiti, it would be to occupy and help Haiti politicians to productively govern their country by establishing some sort of government structure. Distribution of foreign aid dollars will be budgeted into rebuilding the country's devastated economy. Hanes writes that with international financial support Haiti can begin to create work projects to build irrigation systems, reforestation projects, and road networks. They can begin to provide farm extension services which will help boost food production throughout the country and establish a stable economy (Hanes, Llana). Likewise environmentalists believe that reforestation is the key to any future plan for Haiti. Specifically, anti-erosion projects, which can be created by distributing quick growing, deep rooted trees. Ms. Jean Babtiste, the development contractor, believes trees like the *Jatropha* tree, for instance, which is a biofuel-producing plant that has been used in many reforestation projects in other developing countries (Hanes, Llana), would be ideal for helping the reforestation of Haiti. Experts say that the best approach for Haiti is one that treats the entire island of Hispaniola as one ecological unit. The Dominican Republic is Haiti's direct neighbor and shares the same water sources, so new irrigation and reforestation projects would benefit both countries and increase economic stability on both sides of the border. These projects would help establish employment for workers from both countries. In addition to ecological programs, Haiti must address the issue of national poverty as well.

Stephanie Haines writes that to address the issue of poverty, "Haiti must open its doors to businesses, private investment and the professionally skilled Haitian diasporas," (Hanes, Llana). Tim Carney, a former US ambassador to Haiti states, "Business, after all, is the engine of prosperity," (Hanes, Llana). By establishing international accounting standards, Haiti's government would be able to better keep track of its financial needs and expenditures. Robert Pastor, once a senior advisor to the US mission to restore the democratically elected and overthrown Aristade believes, "international donors should take advantage of this goodwill and ask Haitians- through referendum-to allow their country to become a 10-year UN trusteeship or to approve some other form of strong international control" (Reed). It is believed by many UN bureaucrats that the international community should designate one body, similar to that in Iraq, to govern over Haiti in order to allow ineffective aid dollars to flow through a more productive government. Reed writes of a Haiti specialist who says, "The international community must commit to a strong presence in Haiti for years" (Reed). The presence of foreign powers is actually welcomed in Haiti right now, and should be taken advantage of. Steve Victor, a Haitian doctor says, "Alone it will take us 50 years to get the country to where it was before. Right now the important thing is that Haiti is running; it is not important who is doing it" (Reed).

With international aid and Haiti's willingness to allow the trusteeship, Haiti now has a chance to completely rebuild their nation from the ground up, to start over and make life better for themselves. Whether or not Haiti survives and recovers from this crisis is not going to make a difference to the rest of the world; but if they take advantage of the goodwill of the world powers and international community to give them a chance, then as a result, over time Haiti can finally become the self sufficient and independent nation that their ancestors fought and died for. Finally, it looks as if there may be hope for Haiti after all.

Works Cited

- Sara Miller Llana. "Haiti earthquake: Outside Port-au-Prince, Haitians say they've been forgotten: Residents of the former colonial town of Leogane say the outside world has neglected them in the scramble to help Haiti's beleaguered capital, Port-au-Prince. A view from the epicenter of last week's 7.0 earthquake." *The Christian Science Monitor* 19 Jan. 2010, Christian Science Monitor, ProQuest. Web. 2 Feb. 2010.
- Stephanie Hanes, with Sara Miller Llana, and Photos Mary Knox Merrill Photographer. "Envisioning a new Haiti: Outlines of hope emerge from the country's earthquake disaster. When experts think outside the box - what do they believe would really save the nation?" *The Christian Science Monitor* 27 Jan. 2010, Christian Science Monitor, ProQuest. Web. 2 Feb. 2010.
- Reed Lindsay. "World: Disaster Aftermath: Commentary: The story moves on but the struggle remains." *The Observer* 24 Jan. 2010, ProQuest Newsstand, ProQuest. Web. 2 Feb. 2010.
- Sananda Sahoo. "Inept government, past U.S. policy seen hampering Haiti relief effort." *Tribune News Service* 28 Jan. 2010, ProQuest. Web. 2 Feb. 2010.



Anna Garcia was born in Tacoma and is enrolled in the Fresh Start program at TCC. She will graduate in the fall with her high school diploma, as well as her associate's degree. Writing this essay meant a lot to Anna because it not only taught her that writing can be a way to remember the past, but it also allowed her to share the hardship she and her family have been through. "Cancer is a life-changing disease not only for the diagnosed individual, but also for everyone who knows them," she says.

Anna offers this advice to her fellow writers: "Never give up, and always enjoy what you are writing about."

Echoes Through the Wall

By Anna Garcia

ENGLISH 95

As I pressed the play button on the answering machine, I did not know at that moment what I was about to hear would change my life forever. It was a long day in late October, and I had spent the night before in the emergency room with my mother at St. Josephs Hospital. Going to the emergency room in the middle of the night was not new to me. In the past three years since my mom had been diagnosed with stage four-breast cancer, I had made the trip many times. Every trip to the emergency room seemed to be another battle in the long war my mother was fighting. On the particular night, we had made the trip because of her unmanaged pain caused by the cancer that had metastasized to her lungs. The pain was a constant reminder of her cancer. During the long hours we had to wait before she was admitted, I stayed and kept her company. Eventually, I was forced to go home and rest, so that I could go back to visit her in the morning.

The phone rang loudly that next morning waking me from my deep sleep. It must have been ringing for a while before my dad reached it because the sound of the answering machine echoed down the hall to my room. My dad was talking on the phone in the room next to mine. I heard muffled sounds of pleas and cries through the wall separating our rooms. The cries were like nothing I had ever heard from my father; they were full of fear and sorrow. My father hung up the phone and left without saying a word to anyone.

As I lied there in my bed, I had wondered to myself what had just occurred. I got out of bed and made my way to the answering machine. When I finally reached it, the light indicating a new message was steadily blinking red. I pressed the play button to listen to it. The machine played and the voice I heard sounded weak and frail, but I still recognized it as my mother's. Her voice was very soft and distressed. I heard her speak to my father saying that it was not good news and that the doctors were only giving her one to two months to live. I stood there shocked and in disbelief. Each word from my mother's mouth was like a stab to my heart leaving deep gashes. At that moment, I thought I was going to become physically sick because of all the emotions that I felt.

After listening to it all a piece of me was in denial and wanted to play it over again hoping the message would be different. Instead, I rushed down stairs an emotional wreck and told my brother the bad news that I had just heard. We both knew where we needed to be at that moment. We got into the car and headed towards the hospital. The whole drive there was silent no radio or voices were to be heard. As we entered the elevator, I hit the button for the tenth floor, the oncology floor. Happiness surrounded me in the elevator, but I was in my own personal hell.

When the doors to the elevator opened, I rushed to my mother's room. The smell of antiseptics overtook my nose bringing back memories of past visits. As I entered her room, I was lost in a raging sea of emotions. Feeling spent I climbed into the uncomfortable hospital bed and laid my weeping self next to my mother's pale and clammy body. She held me close to her as if saying to me that everything would be all right, but deep down I knew my life had changed that day.

Looking back on that moment, I have come to realize how strong a woman my mother was. She called herself the unhappy warrior, unhappy about the cancer, but she was always a warrior in her battle. Every time we received bad news on her health, she would always be the first person to be positive about the situation. Even though she is not here anymore, at times of need I feel the essence of her warm embrace holding me, just like in the hospital bed. A wound may heal, but it leaves a mark that is there forever. Her sickness and death has left a mark on me that changed the person I am and taught me to love life just as she did.



Protecting Americans' Right to Vote

By Timothy Hearn

ENGLISH 102

Timothy Hearn is from Bellingham and is in the Human Services Program at TCC, focusing on education. He selected this topic because he is a disenfranchised citizen due to a criminal background. By writing this paper, Timothy was able to gain a better understanding of the topic: "The fact that there is a disparity of minorities in prison versus in the community affects the voting strength of minorities, therefore discriminating against citizens that have committed no crimes."

Timothy would advise other writers to use outside sources that are credible and to write about issues that they don't initially believe in: "There is value in trying to defend a topic that you initially disagree with; it can only broaden your perspective, as it forces you to look at another point of view."

The right to vote is shared by most Americans. Most of us, when we turn eighteen, cannot wait to make our selections on a ballot and drop them in the box. If we were born in America, we almost take the right to vote for granted. We are encouraged to take part in the discussions that surround elections and are admonished if we do not cast a vote. It is not only a right, but a responsibility of all citizens. Having a say in the nation's political process is the hallowed hallmark of what a democracy is.

Unfortunately, not all American citizens have the right to vote. In fact, a large segment of our population is not allowed to vote. That group of people are felons: people that have been convicted of a felony. According to Gabriel Chin (2007), a law professor at the University of Arizona, "On election day 2004, 5.3 million Americans were disenfranchised because of a criminal conviction, namely, 2.5 percent of the voting age populace" (11). If 2.5 percent of any other group of American citizens were not allowed to vote we would be up in arms and vehemently demand that the situation be corrected. We would stand and shout "This is wrong!" from the rooftops. It is our responsibility, as Americans who hold personal freedom in high regard, to insure that felons are allowed to have a voice by way of the electoral process, just as we would for any other minority. All citizens of voting age should have the right to vote as a means to direct their own path.

Many countries allow their prisoners to vote. According to StateMaster.com, a fact finding encyclopedic website, "Examples are the Czech Republic, Denmark, France, Israel, Japan, Kenya,

Netherlands, Norway, Peru, Poland, Romania, Sweden and Zimbabwe” (para. 7). This is important in understanding that America’s stand on felon’s voting rights is not necessarily the stand taken by other industrialized nations. There are countries that not only allow their incarcerated citizens voting privileges, but also according to StateMaster.com, “In Germany, the law even calls on prisons to encourage prisoners to vote. Only those convicted of electoral fraud and crimes undermining the ‘democratic order,’ such as treason, are barred from voting, while in prison” (para. 7). The fact that the German government encourages their prisoners to vote can only be seen as evidence of their view of how important that right is. We can see that it takes a pretty serious criminal charge for a German citizen to lose the right to vote. For an American citizen the crimes that bar them from voting can pale in comparison. However, historically, Americans hold the right to have a voice in public matters in very high regard.

The founders of this great country saw the need to direct their own path as reason enough to fight for it. America separated from England for various reasons, but chief amongst those were a desire to have a say in civil matters. As stated in *West’s Encyclopedia of American Law*, the Revolutionary War “had its roots in the growing economic power of the colonies and the limited political freedom granted by Great Britain to the colonists for managing their affairs (War of Independence, 1). The desire for political freedom helped spawn the American Revolution. That is a testament of how important having a voice in civil matters was to our founding fathers. They were willing to go to war to gain freedom from Great Britain and have the ability to direct their own path. They selflessly sacrificed their safety for the cause of human dignity.

The right to vote is a fundamental freedom and should not be taken from any person living in America. There are people that have had their right to vote taken from them due to a felony conviction, regardless of the severity of the crime they committed, and the disenfranchisement doesn’t end with future good behavior. J. Fellner (1998) of the Sentencing Project, a human rights watch group, puts it this way,

“A person convicted of a singularly relatively minor crime who never serves any prison time can be turned into a political ‘outcast’ for life. Decades after the crime was committed and the sentence served, regardless of however exemplary the ex-offender’s subsequent life may have been, he or she is still denied the ability to exercise the most basic constitutive act of citizenship in a democracy: the right to vote” (Losing the Vote, 19).

Imagine the plight of this young woman. According to the fact sheet from author Sasha Abramsky’s book titled *Conned*, “Jamaica S. picked up a low-level felony in 2000 after her boyfriend robbed a store and forced her to drive him from the crime scene. It was her only conviction, yet, for this she was permanently disenfranchised” (Personal Stories). Two other personal stories of voting rights being unceremoniously yanked from the grasp of those that deserve to plot their own course in life are outlined in Sasha’s book. One is about “Lorenzo Jones, convicted of breaking and entering when he was 18. Now in his forties, and a law-abiding member of the community, he still cannot

vote” (Abramsky, Personal Stories section). The next story has quite a different ending: “By contrast, ex-Governor Guy Hunt, convicted on more serious corruption charges, pulled personal favors and managed to get his vote restored fairly quickly” (Abramsky, Personal Stories section). It is often a quite disturbing matter of not what you do after a felony conviction, but rather who you know.

The story of Jamaica S. above is not uncommon. She eventually had her voting rights reinstated, but only after retaining an attorney and pursuing the matter in a court of law (Abramsky, Personal Stories section). Being able to calmly and proudly walk into a polling place, fill out a ballot, and place our well-researched choices in the box with the ballots of our fellow citizens, is an experience- no matter how alluring, no matter how well protected the right is for others- some will never be able to have, due to a poor decision made years ago as a misdirected youth. Felons are denied, as Fellner (1998) states above, “The most basic constitutive act of citizenship in a democracy” (Losing the Vote, 19). The ability to speak your mind in the form of a vote is the most basic part of what makes an American an American. That right is what makes America a democracy. Voting is a right and a responsibility.

It is the responsibility of people who have the right to vote to insure that right for others. After all, if a person is denied the right to vote, they can hardly affect change that will benefit themselves and their countrymen. A disenfranchised person is caught in the downward spiral of the voiceless vacuum of despair. They can never hope to partake in shaping their own destiny as their forefathers once did when they separated from Great Britain, and in their hopeless debilitating non-citizenship, will not be able to cling to the one most important aspect of the a regular citizen: the right to vote. Will we allow them to drown? Will we, the people who possess the lifeline of democracy, allow this terrible travesty? I, for one, will not stand by as my fellows are treated like outcasts, outcasts with their civil tongues cut from their mouths, and let them lie bleeding from the wound of disenfranchisement. I will use the life-giving power of my vote. I will use my voice in whatever form it may take to help my people, our people, have the voice they decidedly deserve as American citizens.

Works Cited

- Abrabsky, Sasha. (n.d.). Conned, How millions went to prison and lost the vote. Retrieved February 17, 2010 from <http://www.connedthebook.com/background.com>
- Chin, Gabriel J., & Wagner, R. (2007). Felon disenfranchisement and democracy in the late Jim Crow Era. *Ohio State Journal of Criminal Law*, 5, 329. Retrieved from <http://ssrn.com/abstract=1075642>
- Fellner, J. (1998). Losing the vote, the impact of felony disenfranchisement laws in the United States. The Sentencing Project, Retrieved from http://www.sentencingproject.org/doc.file/FVR/fd_losingthevote.pdf
- Final Bill Report. (2009). Washington State Senate Bill 6167. Retrieved from <http://apps.leg.wa.gov/documents/billdocs/2009-10/Pdf/Bill%20Reports/Senate%20Final/6167%20SBR%20FBR%2009.pdf>
- Statemaster.com. (n.d.). Felony disenfranchisement. Retrieved February 16, 2010 from <http://www.statemaster.com/encyclopedia/Felony-disenfranchisement>
- War of Independence. (2005). West's Encyclopedia of American Law, Retrieved from Gale Virtual Reference Library, [http://find.galegroup.com/gps/retrieve.do?contentSet=EBKS&resultListType=RESULT_LIST&qrySerI=Locale%28en%2C%2C%29%3AFQE%3D%28ke%2CNone%2C19%29war+of+independence%24&sgHitCountType=](http://find.galegroup.com/gps/retrieve.do?contentSet=EBKS&resultListType=RESULT_LIST&qrySerI=Locale%28en%2C%2C%29%3AFQE%3D%28ke%2CNone%2C19%29war+of+independence%24&sgHitCountType=None&inPS=true&sort=Relevance&searchType=BasicSearchForm&tabID=T001&prodId=IPS)



Day and Night: Black and White Dividing Worlds of Gray

By Efiniki Zambaras

ENGLISH 101

Efiniki Zambaras was born in Meligaga, Greece, and plans to return this summer and may pursue an online degree in social sciences. She chose “Day and Night” to write about because she loves the artist and her parents have that piece of art in their house: “Even though I used to look at the specific print every day when I was in Greece, I never really thought about its composition, so by writing a descriptive essay about it, it helped me see things that I hadn’t noticed before.”

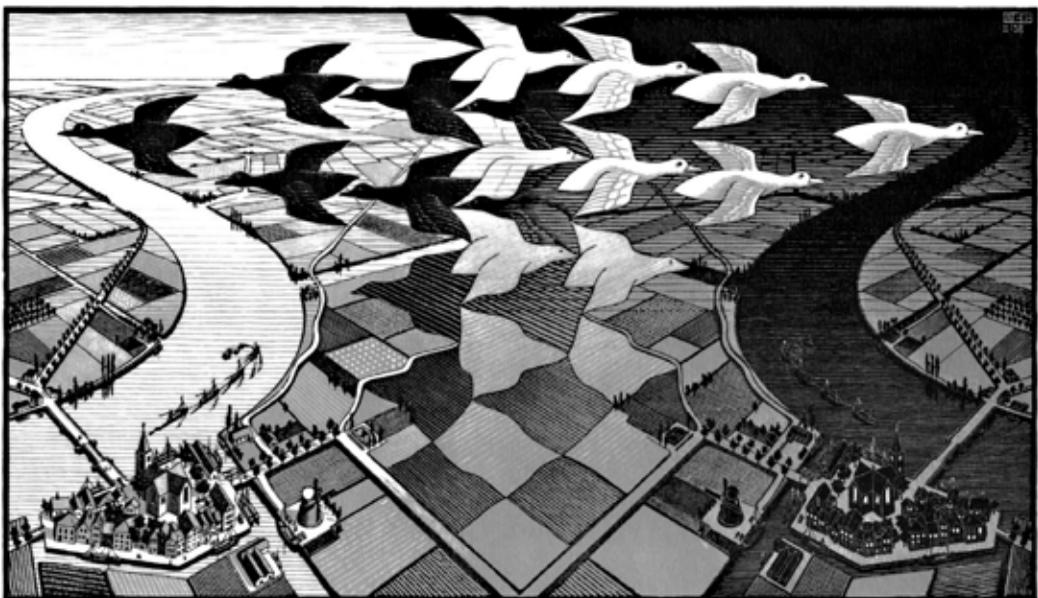
A small, quiet Dutch village, surrounded by all kinds of fields of mixed shapes and shades—square, rectangle, diamond, grey, black and white—lay under the clear, sunny sky, alone by the riverside. The houses, like willing soldiers stacked tightly together, protect their cathedral, which stands among them gallantly and kingly; discussing with a windmill, which looks like a soldier who has gone astray and poses at the edge of a cliff, ready to jump. What are they talking about? Maybe about the slender human figures walking in the streets, across the small bridge leading to a long, narrow path full of poplars. Or maybe about the wide, tranquil river flowing in the midst of the land—like the blood stream inside a body—a river that strokes the clear and sunny sky and moves beyond what you can see with your eyes. The only thing unsettling the stillness of the river are four little boats floating in line, as if ready to join a battle; but more likely carrying precious herbs and spices from all over the world.

Smells emanate from the barrels at the back of the boat—ginger, cinnamon, paprika and vanilla, and as the eyes raise towards the sky, black and white, diamond-shaped fields slowly begin to transform into black and white birds; like silkworms metamorphose into butterflies. The black fields rise in the air, turning into black birds that fly away and merge into the skies above the village. White fields whisk aloft, becoming ashen birds that fly high above in the opposite direction, and enter into a dark reflection of the sunny landscape. Exactly at that point, the two worlds gather. Where day and night kiss, and white gives birth to black and black to white. Everything diverges

and converges at the same time, like the gentle in and out of your breath. It's the moment when time pauses, and everything gazes at its dark reflection in the mirror.

Before turning back, the bright, sunny landscape turns dark and mysterious and silence blankets the land. The boats slow to a crawl and finally stop. The same Dutch village that was once vibrant and alive, is hushed. The soldiers that once guarded the cathedral have fallen asleep at post. The conversation between the windmill and the cathedral has long since been stilled, for all the daily matters have been settled. The people gone, and the river dark.

At the stern of the boat swallowed by darkness, the only thing that dominates the mind is that the whole scene, from light to dark, is a sheet of paper. A sheet that if folded would flatten the two sides into one, causing all the sharp hues and crisp shapes to muddle together, in a blob of grey, and both to lose their meaning.



Escher, M.C. *Day and Night*. 1938.



Elizabethan Attitudes toward Foreigners: Xenophobia Defined

By Rebecca Denton

ENGLISH 220

Rebecca Denton has a bachelor's degree from University of Washington, takes classes at TCC and works in the Writing and Tutoring Center. She says, "This particular topic intrigued me because, although it may have been au courant during Elizabethan times in Great Britain, the topic is equally pertinent or relevant now in the U.S. After 9/11 and other unsettling national and international current events especially, it seems that fear of the foreign has rooted itself into the psyche of many Americans ... Reading about Elizabethans' attitudes—about what drove or motivated their fear—naturally led me to contemplate, compare, and contrast what motivates Americans' attitudes and how that fearfulness may inhibit us."

"The common curse of mankind, - folly and ignorance." -from Shakespeare's *Troilus and Cressida*, Act II, Scene III

To understand Elizabethan attitudes toward foreigners, it is especially helpful to know something of the broader historical context relating to Great Britain and Europe. Europe had passed through its Early Middle Ages- or the Dark Ages as it was also called- after the decline of the Roman Empire, when Arts and Literature had previously thrived. Depending on the historical text, the Dark Ages lasted from roughly 450 to 1000 AD. This period after the Roman fall was when European powers began to redefine themselves independently as country states, and argued over boundaries or territorial lines. By the reign of Queen Elizabeth I (1558 to 1603), or the Elizabethan period when William Shakespeare lived, Great Britain and its European counterparts had established their own power seats, allies, and enemies, and were entering a time of artistic rebirth that became known as the Renaissance. That is not to say that wars were not being fought, or that boundaries or territories were not still being challenged, only that boundaries were relatively established and art was again progressing. The Renaissance—lasting from approximately 1400 to 1600 AD—was a time in Europe when art and artisans began to flourish. Nevertheless, while it can be said that art was flourishing in Great Britain and throughout Europe, in pockets of intellectual and artistic creativity where noble patrons and artists comingled, the same progressive interests or attitudes should not be accredited to the general

population of Great Britain or even to its general nobility when it came to feelings about foreigners or outsiders; in Elizabethan Great Britain especially, xenophobia—the fear or dislike of things or individuals considered foreign—ran rampant. For anyone considered different, whether different was defined by one's dark skin, religion, or even different stature, Great Britain was not hospitable.

In Great Britain, and throughout most European countries, the sixteenth and seventeenth centuries were times of great social change and upheaval, and during such times,

...the old and the new are not blended harmoniously. They [the old and the new] jarred each other in Shakespeare's time. He was a representative of the new age of the Renaissance, but the forms and ideals of the Middle Ages, which were close to him in time, stand in his works side by side with those of the Renaissance. His works show such medieval characteristics as a rigid demarcation of social classes, a reverence for authority and precedent, a firm adherence to marriage and family ties, and a reliance on formal studies, such as logic and rhetoric ... And yet Shakespeare's point of view was modern; he tended to face forward ... [as] an innovator. (Greenblatt 1)

Similarly, according to Raffel Burton, of *The Annotated Shakespeare*, the Elizabethan period was "...a time of unusual and unusually rapid social and economic change, accompanied by the pressure of varying and often threatening international involvements, [and] Elizabethans quite naturally felt a strong need to know where they had come from and where they thought they had come to" (xxii). This Elizabethan need to associate with common past and common present led to a love of stories about their past, but unfortunately also led to distrust of anyone considered foreign, especially if that foreigner was obviously different—whether in skin-tone and/or religious beliefs. Such intolerance for foreigners was likely strongly influenced by two major factors, the predominant religious beliefs and the accompanying level of ignorance in Great Britain. Burton claims, "It is estimated that some 90 percent of the population, in Shakespeare's time, could neither read nor write" (xx). As such, scripture and other stories were received orally, hence plays being so very popular. The truth is, though, that those who follow a faith through ignorance—and such a largely ignorant population would easily fall within this realm—are far more likely to twist faith into hatred for the *xeno*, or foreign. And even those who were well-educated, such as Christians, would have generally distrusted foreigners having different appearances and faith bases; reflecting the pervading norms and social biases of the times. In a side note, this same xenophobic attitude was widespread throughout much of Europe.

Stephen Greenblatt, author of *Will in the World: How Shakespeare Became Shakespeare*, argues, "Shakespeare and his contemporaries [contemporary writers] found Jews, along with Ethiopians, Turks, witches, hunchbacks, and others, useful conceptual tools. These feared and despised figures provided quick, easy orientation, clear boundaries, [and] limit cases" (259). These figures of scorn did so because such foreigners, outsiders, or outliers would have been easily recognized by Shakespeare's audiences. And truthfully, Shakespeare's myriad of characters illustrate the upheaval occurring in Great Britain, and Shakespeare's awareness of the disharmony such changes were making. More importantly, his characters show the biases that had developed throughout Great Britain and Europe about

anything or anyone considered foreign or different. There, anyone obviously dark-skinned would have been considered suspect; likely been labeled Moorish, and therefore inferior in some way. The Moors were, in fact, originally a nomadic people of Arab and Berber descent, who settled in regions of Spain. Moors, as such, may have been Islamic in faith or in heritage. For a Europe that was largely Christian in faith and intolerant of other faiths, those Moorish individuals would have stood out and been seen as heathenish.

Shakespeare touches upon this discriminatory bias in *The Tragedy of Othello — The Moor of Venice*. While Othello is set in Venice against the backdrop of the wars between Venice and Turkey, rather than in Great Britain, it undoubtedly houses a thread of the then contemporary xenophobic attitudes running unchecked throughout Shakespeare's England and throughout a primarily white-skinned Europe. Othello, as a Moor with dark skin and an accent, is living in a foreign land—standing out against people who consider him less than worthy, or as the enemy, even though Othello himself is Christian. Shakespeare clearly develops how Elizabethans may have seen dark-skinned foreigners such as Othello, during his lifetime. For example, Othello comments upon his supposed inferiority based on how he believes those around him may perceive him: “Rude am I in my speech, / and little blessed with the soft phrase of peace” (1.3.81–82). In other words, Othello recognizes himself as not as worthy of those with a lighter color skin or of a different accent. Undoubtedly, anyone living as a foreigner might speak thusly, if wishing to live peaceably in a foreign land fraught with such prejudice; the words act as a form of placation and acquiescence to those around him.

The first scene of *Othello* is, in fact, peppered liberally with defamatory or negative descriptions of the Moor's appearance, which may reflect contemporary England's attitudes that were thriving throughout Shakespeare's lifetime. Othello is quickly labeled as “the Moor” in both the title and the first scene of the first act. Othello stands out as different because he has “thick-lips” (1.1.66), unlike those around him. Moreover, his appearance is unfavorably compared to that of several domesticated beasts. He is likened to the appearance of “an old black ram” (1.1.88), which may refer to his curly dark hair; he is even compared to “a Barbary horse” (1.1.113), concerning his strong and stalwart stature, and his physical relations with Desdemona are defined as “making the beast with two backs” (1.1.118). Much later in the play, Othello is even compared to an Indian—another supposedly inferior group in the eyes of the British—after the man murders his wife: “Like the *base* Indian, [he] threw a pearl away/ Richer than all his tribe” (emphasis placed on base, 5.22.356–357). Shakespeare's development of Othello's character undeniably illuminates the pervading discriminatory attitudes toward foreigners that prevailed in Great Britain and Europe during Shakespeare's own lifetime. His character development of Othello and other *xenos*, or foreigners, reflects the attitudes of those around him in Elizabethan England.

Anyone considered Jewish was similarly painted by the same societal brush of scorn in Great Britain and abroad, practically guaranteed objects of ridicule, and Shakespeare likewise illustrates an awareness of this form of bigotry in *The Merchant of Venice*. The antagonist of the piece—Shylock, a Jew—states, “If you prick us, do we not bleed? If you tickle us, do we not laugh? If you poison us, do we not die? And if you wrong us, shall we not revenge?” (3.1.49-61). His character showed a surprising

amount of humanity in a race of people generally despised by many in Great Britain and throughout Europe. Shakespeare, later in the same play, through the words of Antonio's character, adds a beautiful jab that could easily be directed at such ignorant Christians who would misuse scripture, their faith, or the prevailing prejudices of the day: "[Even] the devil can cite Scripture for his purpose" (1.3.96). It is interesting to note this awareness in Shakespeare; how it illuminates the general defamatory attitude toward foreigners. But, moreover, it gives light to an especially interesting point: there were no Jews in England during the Elizabethan era.

Truly, during Shakespeare's lifetime there were no Jews in England to hate, directly. For whatever reason, more than three generations before Shakespeare lived, Jews living in England had universally and wholly been removed, firmly ushered from its shores by the royal decree of King Edward I (circa 1290). Greenblatt bluntly states, "[S]ome three hundred years after their expulsion from England, the Jews were in circulation as despised figures in stories and in everyday speech ... Jews in England in the late sixteenth century had virtually no claim on reality; they had been subject to what the German language so eloquently calls *Vernichtung*, being made nothing" (260). The absent Jews became symbols of all things appalling and blamed for all things inexplicable during that era. Greenblatt illustrates,

[T]he Jews left traces far more difficult to eradicate than people ... stories circulated, reiterated, and elaborated—continually ... There were Jewish fables and Jewish jokes and Jewish nightmares: Jews lured little children into their clutches, murdered them, and took their blood to make bread for Passover. Jews were immensely wealthy—even when they looked like paupers—and covertly pulled the strings of an enormous international network of capital and goods. Jews poisoned wells and were responsible for spreading the bubonic plague. Jews secretly plotted an apocalyptic war against the Christians. Jews had a particular stink. Jewish men menstruated. (258)

Such ignorant tales of horror and falsehood prevailed throughout the country. Nevertheless, this strange absence of Jews in England may most likely be why Shakespeare set *The Merchant of Venice* in Venice, not in greater Great Britain or even within London; otherwise, there could be no Jewish antagonist.

Still, although Shakespeare uses such figures of scorn as "useful conceptual terms" (Greenblatt 259), he does so with a surprising degree of awareness of the humanity of such scorned figures. Many of his characters—whether protagonist or antagonist—in his plays are wholly and fully developed. In fact, Shakespeare's characters undoubtedly still resonate with the audiences today as much as in the past because of this very fact. More than that, though, Shakespeare's characters illuminate much about what the prevailing xenophobic attitudes of the large majority of light-skinned, uneducated, and Christian English citizens would have been during Elizabethan times.

Works Cited

- Burton, Raffel. "Introduction." *The Annotated Shakespeare, William Shakespeare: Henry IV, Part I*. New York: Chelsea House Publishers & Yale University Press, 2006. Web. 16 Jan. 2010. <http://yalepress.yale.edu/yupbooks/excerpts/shakespeare_henry.pdf>
- Craig, Hardin, ed. *The Complete Works of Shakespeare*. Chicago: Scott, Foresman, & Company, 1961. Print.
- Greenblatt, Stephen. *Will in the World: How Shakespeare Became Shakespeare*. New York: W.W. Norton & Company, 2004. Print.

For Further Reading, Consider the Following Sources:

- Alexander, Catherine M. S., and Stanley Wells. "Shakespeare and Race." New York: Cambridge University Press, 2000. Web. 30 Jan. 2010. <<http://catdir.loc.gov/catdir/samples/cam032/99089004.pdf>>
- Bodian, Miriam. "Hebrews of the Portuguese Nation: The Ambiguous Boundaries of Self-Definition." *Jewish Social Studies: History, Culture, & Society* 15.1 (2008): 66-80. Web. 15 Jan. 2010.
- Geyer, Dr., Andrew. "The Renaissance and the Elizabethan Age: England as an Example of the European Rebirth." Murray State College, n.d. Web. 21 Jan. 2010.
- Lipski, John M. "Me Want Cookie" Foreigner Talk as Monster Talk." John M. Lipski (Personal/Homepage). The Pennsylvania State University, n.d. Web. 5 Feb. 2010. <www.personal.psu.edu/jml34/monster.pdf>
- Lloyd, Megan. "'To Speak Welsh': Nonsense and Subversion in Shakespeare's Henry IV, Part I." *Welsh Studies Association*. University of Michigan, n.d. Web. 29 Jan. 2010. <spruce.flint.umich.edu/~ellisjs/Lloyd.pdf>
- Newman, Dr., Karen. "And Wash the Ethiop White": Femininity and the Monstrous in Othello." The State University of New York, at Buffalo: College of Arts & Sciences, n.d. Web. 23 Jan. 2010. <www.cas.buffalo.edu/classes/eng/willbern/Shakespeare/Shake587/Othello_Crit/Newman.doc>



Now living in Fife, Rachel N. Morrow was a military kid, so she doesn't consider herself from "anywhere in particular." She plans to get a medical transcriptionist certificate. She says, "I always knew nutrition during pregnancy was important, but wow, I had no idea it had such a great impact on the unborn child for the rest of their life. As I began diving further into my research, I knew the idea of fetal programming would be a great focus for my essay. I learned so much while writing this paper and know that when I do get pregnant I will be able to provide my child with the best future possible by eating healthy every day."

Fetal Programming

By Rachel Morrow

ENGLISH 101

Heart disease, hypertension, diabetes, and obesity are all chronic illnesses that are generally thought to be caused strictly by genetics and unhealthy lifestyle choices. There is now mounting evidence that the development of these diseases may actually be pre-determined before a person is even born. The nutrition that an unborn baby, or fetus, receives in the womb has a lifetime effect on that person's potential risk of developing chronic illnesses as an adult (Walker 31).

Fetal programming is the idea that if a fetus is undernourished it will adapt to its surroundings in order to survive, resulting in permanent changes to its structure and metabolism. "These 'programmed' changes may be the origins of a number of diseases in later life" (Barker 115). There are several lifetime effects that have been linked to poor nutrition in the womb; however, the most severe consequences are the development of heart disease, hypertension, diabetes, or obesity as an adult. In order to fully understand the science of fetal programming, one must first understand the origins of it.

The concept of fetal programming came out of the Dutch Hunger Winter that occurred at the end of World War II. In retaliation for a railroad strike to aid the Allies, the Nazis suspended food supplies to the people of the Netherlands for nine months (Agin). Consequently, the Dutch people were forced to survive on a daily food allowance of 300 to 600 calories per person (Walker 35). This famine was the first time that science and clinical medicine were provided with detailed records of what a large group of women ate while they were pregnant as

well as the adult medical histories of the fetuses that survived (Agin). It was not known at the time, but these records would prove to be a pivotal point in science and history.

David Barker, a British epidemiologist, was the first person to show interest in fetal programming. In the late 1980s, he noticed that certain areas of Britain with high rates of infant death also had very high rates of adults dying from heart disease (Walker 34). Additionally, Barker came across the health records from a large group of men born in Hertfordshire, England, in the early 1900s. These records showed a direct correlation between a low birth weight (under five-and-a-half pounds) and an eventual death from heart disease. As the birth weights increased, the amount of deaths from heart disease decreased (Barker 117). It is important to note that Barker only included people in his studies that “were small at birth because they failed to grow [due to lack of nutrition], rather than because they were born early” (117). Barker has since conducted several studies from different countries that all prove the same theory: Poor nutrition in the womb causes a low birth weight, which results in a greater chance of developing heart disease as an adult.

Hypertension, or high blood pressure, is another chronic illness that can begin in the womb. Almost all of Barker’s studies showed that people who were born with lower birth weights had higher blood pressures as an adult (Barker 118). In addition, Dr. Barbara Luke, ScD., M.P.H., R.D. and Tamara Eberlein have been able to confirm that the amount of protein a pregnant woman consumes also contributes to the future development of hypertension in her baby. “Insufficient protein prevents an enzyme in the placenta from deactivating harmful hormones such as [the stress hormone] cortisol: When this occurs, the baby’s set point for blood pressure may be permanently raised” (Luke and Eberlein 10).

The third chronic illness that can be pre-determined in the womb is diabetes. An undernourished fetus uses the few resources it receives to develop its critical organs, such as the brain, while other parts of the body get ignored (Walker 39). If the fetus does not receive enough protein, for example, the pancreas will develop fewer blood vessels in the cells that produce insulin, resulting in diabetes later in life (Luke and Eberlein 11). Barker’s study of the men from Hertfordshire, England, also confirmed a direct correlation between birth weight and diabetes: 40 percent of men that were born weighing less than five-and-a-half pounds had diabetes as an adult, compared to only 22 percent of men that were born weighing eight pounds (Barker 122).

Metabolism, which can affect a person’s odds of becoming obese, is also programmed in the womb. Dr. W. Allan Walker writes, “A fetus ... has ways of sensing its environment and using that information to match its metabolism to the conditions it predicts it will meet in the world” (37). For instance, if a pregnant woman does not eat enough, or eats too much, the fetus interprets this to mean that there is a famine, or that one is coming. As a result, the fetus will adapt to its conditions, causing it to store every last bit of energy it is given. The slowed-down metabolism the fetus had to create to survive will be with that child its entire life, possibly causing obesity as a child and as an adult. According to Dr. Michael F. Roizen and Dr. Mehmet C. Oz, a woman should only consume an additional 250-300 calories per day while pregnant (67). If a pregnant woman can follow this guideline, her baby will maintain a steady metabolism in the womb and throughout life.

Fetal programming is considered to be “one of the most exciting breakthroughs in the twentieth century” (Luke and Eberlein 7). It provides doctors with a completely new, highly effective approach to preventative medicine. The discovery of fetal programming validates the belief that by eating the right amount of nutritious food during pregnancy, in addition to ample protein, a woman can lower her baby’s chances of developing heart disease, hypertension, diabetes, or obesity as an adult. Ultimately, “healthy mothers are the foundation of a healthy population” (Walker 43).

Works Cited

- Agin, Dan. “More Than Genes 1: So What is Fetal Programming?” *Psychologytoday.com*. Sussex, 26 Oct. 2009. Web. 4 Feb. 2010.
- Barker, D.J.P. “In Utero Programming of Chronic Disease.” *Clinical Science* 95 (1998): 115-128. Print.
- Luke, Barbara, and Tamara Eberlein. *Program Your Baby's Health: The Pregnancy Diet for Your Child's Lifelong Well-being*. New York: Ballantine, 2001. Print.
- Roizen, Michael F., and Mehmet C. Oz. *You Having a Baby: The Owner's Manual to a Happy and Healthy Pregnancy*. New York: Free, 2009. Print.
- Walker, W. Allan. *Harvard Medical School Guide to Healthy Eating During Pregnancy*. Ohio: McGraw-Hill, 2005. Print.



Robert A. Drake II of Lakewood is majoring in IT Network Administration & Convergence Technologies. He says writing this paper “helped [him] establish a conscious, reflective way of delivering a topic that [he] was passionate about.”

His advice to other writers is to “be interested in what you write, find the angle of the topic that gives you fire and write about it. If you want to have fun, write a paper using a perspective opposite of your own.” The hardest thing about writing for him is “having confidence that what [he] has written is any good.”

Where Have All the Red Pens Gone?

By Robert Drake

ENGLISH 101

A week ago, as a group of twenty students received a single sheet of paper, dread began to fill my soul. English teachers seem to love this part of their classes, scaring me with an essay assignment. The topics are always so broad and uninteresting to me. Now I have to find a way to take two professional authors’ ideas and turn them into my own paper. On top of that, I have to convey an opinion on something I have already convinced myself is uninteresting. The next day is spent racking my brain trying to come up with ideas to write about. I always try to find a few of the most unique and irrelevant quotes I can, and build off of that. Okay, finally a thesis has popped into my head; now I just have to write about it. What the heck, let’s just start throwing words onto the paper and see where it goes from there! A few hours later and three pages of words are in front of me. Now is the time for the most frustrating part of writing: peer review. There are two things that frustrate students like me. First, is my work any good? Second, will I get any good feedback? Peer reviews can be one of the most challenging aspects of English class writing. In order for students to create powerful papers it is necessary for them to revise their papers. This can be easier to accomplish with the help of good peer reviews.

When many students receive a paper to review, they put on their gentle gloves and begin to read. Trying to make sure that they do not hurt the writer’s feelings, they tell the author that everything is great and that nothing needs to be changed. In Donald Murray’s article “The Maker’s Eye: Revising Your Own Manuscripts” he states, “(Writers) must accept the praise of

others and be even more suspicious of it” (126). When a peer review sheet raves about how wonderful your paper is, it creates many questions and concerns. Is my paper truly that great? So does this mean that I do not need to revise? Why won't anyone give me an honest review? Do they want me to fail? While these questions may feel valid, they are typically unwanted. When in peer situations no one wants to hurt the other people's feelings. By not giving any constructive critiquing, there is a disservice students do to both themselves and to the person they were originally supposed to be helping. By looking at someone else's work with a critical eye and being honest with them, students are able to help them improve their writing. There should be an expectation that papers will need to be revised.

The chances of a professional writer creating a perfect draft on the first try are somewhere between, as the saying goes, zero to nil. In “Shitty First Drafts,” Anne Lamott makes the bold statement, “Almost all good writing begins with terrible first efforts” (112). Knowing that a student's first draft will need to be improved they should expect to receive helpful tips on how to make their paper better. On the other side of the coin, students need to give the best and most honest criticism they can. There are many methods that can facilitate a student getting the opening to respond to a paper with good intentions. When I am about to do a peer review, I always ask the student whose paper I am reviewing if he or she wants my honest opinion and assure them I am just trying to offer the best advice I can. Knowing that the first draft will contain grammatical and spelling errors, I try to ignore those. I try to point out any run-on and wordy sentences that interrupt the flow of the paper. After I finish reading the paper, I look to see what the purpose of the paper was, giving advice where it is needed. When my opinions have been stated, I await the inevitable review of my paper that I hope to receive. With the words “good job” and “I wouldn't change a thing,” the wind has been stolen from my proverbial sail. It would be great if there was somewhere to get the feedback that I need.

Fortunately there is a place here on the campus of Tacoma Community College that offers just that. Students can go to the Writing & Tutoring Center to obtain help in revising their papers. According to their website, they will “help you identify problems in your writing and offer ways of solving them” (“Writing & Tutoring Center”). Having the option of going somewhere on campus that affords students the opportunity to get this type of constructive criticism is exactly what many students need. From the research I have done on the Writing & Tutoring center, it appears that their focus is on the students and their success. While they do not give students the answers by writing the paper for them, they do help you work through the process of writing so that a student's final paper is their own.

There are many revisions that must be done to produce a quality paper that students can turn in for a good grade. It is important for students to know what revisions are necessary if they want to turn in a paper that they can also feel proud of no matter what the grade. By offering any insight students have to another student during peer reviews they help them see their papers through a new set of eyes. This new point of view on the paper can help it progress to a new level of greatness. When we are too inhibited to give the assessment that another student needs, we do a disservice to them. When we are too anxious to hand over our papers to be reviewed by a peer, we do a disservice to ourselves. The next time we are faced with a fellow student's paper, hopefully we can be honest with them so that they, in turn, can be honest with us as we read each others' papers.

Works Cited

- Lamott, Anne. "Shitty First Drafts." *Reading for OSU Writers*. 2nd ed. Boston, New York: Bedford/St. Martin's, 2007. 110-113.
- Murray, Donald M. "The Maker's Eye: Revising Your Own Manuscripts." *Reading for OSU Writers*. 2nd ed. Boston, New York: Bedford/St. Martin's, 2007. 121-129.
- "Writing & Tutoring Center." *Tacoma Community College*. 17 May 2009.
< <http://www.tacomacc.edu/academics/studentlearningcenters/writingtutoringcenter/whatwedo.aspx>>



Mary "Jill" Jackson is from Portland, Oregon, and her major is psychology and art psychotherapy. She selected the topic of "placage" because it is in her family history, she is a woman of color, and she is greatly interested in her African-American roots.

Her advice to other writers is to "stay true to the material. Don't be afraid of how other people perceive your work because if you have something interesting to say, it enlightens, no matter how painful what you are writing about can be to you or your readers."

Placage: Its History and Social Ramifications

By Mary "Jill" Jackson
SOCIOLOGY 101

I have long wondered about the physical beauty in my mother's family: their almond-shaped eyes, high cheekbones, thick wavy hair, and caramel-colored skin. My great, great grandmother, known as Cher, my grandmother Mimi, and my mother were three of the most beautiful women I have ever seen. I had always wondered who they had mixed with and where they came from. As beautiful as they were physically, I could never imagine the ugly story behind that beauty until the day Mimi told me the story her grandmother told her.

I was told the story of the "gens de couleur libre" or the free people of color in her native Louisiana. These women had mixed with mostly French, Spanish, and Native Americans because of something called placage, an extralegal system that involved the forming of interracial sexual liaisons in exchange for financial sponsorship. These meetings would take place at elaborate balls where upper-class white men could choose a "quadroon" (one quarter black, three quarters white) woman as a concubine. She told me of the practices and the pains of placage as it was told to her. These women lived under a system that degraded and humiliated them physically, psychologically, and socially with ramifications that have plagued African Americans, both men and women, to this day.

There is little information regarding the origins of placage, although it is believed that it was a practice followed in Saint Domingue, a French colony on the Caribbean island of Hispaniola, now known as Haiti. Prior to French rule, the Spanish occupied this colony and had the largest population of

color in the Caribbean. It was during this Spanish rule, in the aftermath of the Treaty of Paris, which many slaves in Africa and the West Indies were brought into colonial Louisiana. As the enslaved population expanded, there was also an increase in the number of people of color who attained freedom due to the more lenient Spanish codes that were added to the French Code Noir, controlling Louisiana's people of color.

Under these more lenient codes, many slaves were able to work for wages and were only obligated to give a portion of these wages to their masters. This enabled them to save money and ultimately join the ever-growing free population, the gens de couleur libre (the free people of color) in New Orleans. Along with this process, there was another significant way that slaves could attain their freedom: enslaved women and their offspring were often manumitted by their white masters. This had two important consequences. First, it guaranteed a consistent increase of free, light-skinned people of color who were the offspring of interracial relationships. First generation gens de couleur libre were typically the offspring of a male, French slave owner and an African slave chosen as a concubine. The semi-official institution of placage defined this practice. Either their mothers or grandmothers had been the sexual partners, by force or by choice, of a white master. This practice clearly favored women who had served as concubines. On average, women were manumitted twice as often as men before 1805. This gender balance may be attributed partly to the fact that women were considered less valuable as slaves, and that they were also able to make a living selling goods and services. Due to manumission practices and other slave laws, there was a significant portion of the free black community that was of mixed heritage; 70 percent of all mulattos were free men and women. These two factors in Louisiana's distinct demographics produced an emerging class of mixed race women who became known as "quadroons". These women, also known as the "femmes de couleur libre", were in a class higher than slaves but lower than poor whites. Due to these racial classifications, a division began to grow among the free population that was based on racial composition. Among themselves, there were fiercely guarded distinctions: griffes, briques, mulattoes, quadroons, octoroons; each term meaning one degree further toward the Caucasian standard of physical perfection.

Although placage offered a certain freedom, this came at a price. The free people of color living in the colony often had to fight to maintain their desired legal status in the midst of confusing and fluid definitions of race. Many free women of color found themselves internalizing these racial gradations and saw their relative whiteness as a possession which granted them higher standing. These insignificant and slight changes in skin tone had a strong social relevance. This type of internalized racism begins with these quadroon women who took pride in the white portion of their racial composition and identity, therefore, it would have been an insult to call them mulattoes, as they regarded them with contempt, along with Negroes. Since Louisiana's white society was well aware of the possibility that quadroon women could be mistaken for Creoles and Americans, laws were passed that required free women of color to no longer wear too many jewels or deck their hair with plumes. They were required to tie up their hair in a tignon, a handkerchief or scarf used as a headdress, as a symbol of their lower status. However, instead of becoming a badge of dishonor, the tignon became a fashion statement and was said to have enhanced the beauty of these women even more.

The beauty of quadroon women has been celebrated by many writers. However, it is important to note that this perception of beauty was based on European tastes and standards which held the “pure” white woman as the epitome of perfection. Any part of their mixed heritage was condemned. Quadroon women were very aware of their beauty in the eyes of white society. Clearly, white women felt threatened by them, while white men were attracted to them. As a subclass they were not considered to have honor or morals according to white society. Since many quadroon women set themselves above others of their culture and caste, and were constantly trying to prove themselves better at anything a white woman could provide her male counterpart, it can be deduced that they chose to enter into risky placage relationships, not only for financial security but also for perceived racial advantages. It can be said that free women of color were not forced into sexual liaisons with white men out of a need for survival, but consciously chose to enter these relationships. However, due to the social climate toward any person of black ancestry and the bleak outlook of the times in antebellum Louisiana, one could hardly, being a woman with any trace of Negro blood, have a better chance at a future no matter how disdainful the situation.

Because placées, in many instances were disregarded upon the white man’s death, they were industrious, and took precautions during the relationship to secure their futures and the futures of their offspring. If not, they had to make their way by obtaining another white man or marrying a free man of color. During the placage relationship, a skill of some sort would have been acquired becoming a “marchande” or merchant, with their own shop selling goods, cooking food, doing hair, etc. If a quadroon were really industrious, she would along the way acquire property, since it was not against the law for free women or men of color to own real estate. In fact, quadroons were more likely than white women and free men of color to own property due in part to their white benefactors and their sellable skills.

Due to the placage system, many light-skinned women of African descent faced prejudice inside, as well as outside, their own culture. Entering into a sexual relationship with a white man enabled some free women of color to have the possibility at “passing” into white society. This of course was critiqued by members of the free population of color. But some free women of color may have had a larger “trans-generational passing” agenda in mind upon entering into relationships with white men. They may not have been thinking purely of themselves, but of their children as well since with each successive generation of intermixing, offspring had greater potential of having lighter skin. Ultimately, with enough intermixing over several generations, whole families could “pass” into white, privileged society.

Rather than deal with the prejudices on both sides of the fence, one for being too white, the other for being too black, many light-skinned black men and women of African descent, have generation after generation, passed for white. The fact that their light skin provides them certain privileges that many dark-skinned African Americans are not privy to, is a source of contention in the culture between men and women alike. This internalized racism has heavy roots in the placage system since this gradation of shades was the measuring stick for success socially and financially. Although the goal of the placée was to set her own price of worth by using her beauty, body and brains to gain financial security, the entire system laid the groundwork for the divisiveness within black culture. The ultimate slap in the face to the pride of being black would be to try and become white.

Since millions of black men and women have been doing this for generations, it could be estimated that a tenth of all white Americans are at least a tenth black. Some people are part black and do not even know it because they have been lied to or kept in the dark regarding their family history. From looking at DNA of white Americans, it has shown that the mixing and passing has been taking place for over 400 years. The census also tells us that passing is going on. Every ten years the government does a count of all people in the country and, among other things asks what their race is. From that, and immigration records it shows that blacks are disappearing without dying or leaving the country and whites are appearing without ever being born or entering the country. A study done along these lines in 1958 showed that 21 percent of whites must be part black. According to another study about one person in 500 who is born to black parents looks white. If you are less than one-eighth black by blood you have a good chance of passing. However, you can be one-half, it simply depends on how you look. Passing is a direct consequence of how race works in America. Because of the "One Drop Rule", if you look even part black, or of African descent you are seen as black by whites and suffer all the racism that goes with that, including the internalized version from other blacks. Although the system of placage is only in part to blame for this social view, its social ramifications have a stinging impact on African American culture on the whole. Various stigmas about being too dark vs. being light, kinky hair vs. straight or wavy hair, advantages vs. disadvantages in the job market, housing market, etc, are all too real to many black Americans who perceive color as a deciding factor in this country.

Internalized racism plays out in many unique ways in each individual. This is widely experienced by the black community in our society. However, many women (and men), descended from the placage system feel great pain for their darker complexioned counterparts as well as their own pain toward the hue of their skin. Many light-skinned women in current society have no love for the white blood that created the lightness of their skin due to the pain it can inflict on the darker-skinned members of their culture. Some of these distress patterns are so prevalent throughout black sub-cultures that they are mistaken for a true part of the culture. However, these are simply chronic patterns resulting from systematic and institutionalized mistreatment. Some of these systems, like placage, are still alive and well today. Modern day placage has taken the form of a chronic pattern among some black women who still feel the need to be socially and financially taken care of by a white male. This type of thinking is still an issue in black culture, however we now see it being played out by black males far more, especially in those who have risen to the top of the financial ladder and feel in order to "fit in" with white society, a white woman is the ultimate prize, and the ultimate slap in the face to white men.

The psychological devastation of systems like placage, put in place by Europeans, has long since wreaked havoc on black culture in America and in most parts of the Caribbean and West Indies to this day. It is still thought that there are no advantages to having black skin or physical features, socially or financially, and is a widespread social disease that plagues any culture of African descent that resides among those of European descent. Because these cultures of African descent have been the victims of attack, humiliation, and exploitation, the patterns of behavior resulting from racist systems, draw out certain survival tactics. While placées in later times, made the choice of being with a white man, this was done for financial and social gain, however this was not always the case since black women have been used for sexual pleasures and procreation since slavery began, with absolutely no say in the

matter. Survival for these women of lighter skin tones, who were themselves descendants of white slave masters, put into use the only survival tactics that they knew could be of any use.

While placage was a system that degraded free women of color and theoretically forced them into a certain survival mode, it could be said that they were certainly better off than their enslaved counterparts being the lesser of the two evils. Since placées, living in antebellum Louisiana, were in many ways, active agents in their relationships with white men, the choices they had over enslaved women were extremely lucrative. The price paid by a placée for better opportunities, from a psycho sociological viewpoint, was the same price paid by enslaved women who received little to none of the same. The sexual exploitation of free and enslaved women of color as asexual Mammies or oversexed Jezebels, served to reinforce the antebellum stereotypes of black women. This does, however, offer a context for understanding the growth of the multiracial population during this era. Rampant sexual exploitation of both free and enslaved women of color ultimately created a sizeable mixed-race community throughout the South. Black men and women were thought to have such insatiable sexual appetites that they had to go beyond the boundaries of their own race for satisfaction. Many claimed the black women tempted men of the “superior caste” and actually celebrated the societal social stratification that made black women available, but put white women out of reach.

Today, this line of reasoning is still apparent in African American culture by way of a large number of black women not crossing racial barriers in their relationships, the thought being that whether free or enslaved, white men are looked at as agents of domination and that all interracial sexual relationships are manifestations of the exploitation of the black female. While women of color can resist the sexual advances of white men, the actual act of sex is always an assault.

New Orleans provided an ideal setting for free women of color to maneuver their way through the social ranks and to gain financial and social benefits by having access to education, learning of a trade, owning property and businesses. These women may have enjoyed a type of freedom unique to their caste which exceeded the status of both slaves and white women. Given the situation these women found themselves in, a conclusion can be drawn that placage relationships were in essence forced upon these women because of their need to survive in a racist and sexist society. This, however, does not discount the many free women of color who chose these relationships, but only stands to offer a reasonable explanation as to why one might “choose” such a relationship. While enslaved women did not have this choice, and it stood to further create divisiveness among black women, many of them worked for and were owned by placées themselves. A placée could and generally would choose her own kitchen and parlor maids and cooks. These slaves would also enjoy living in a certain atmosphere of comfort far better than they would experience on a plantation. However, this type of relationship could cause much jealousy and dissention.

While working within the constraints of a racist society, free women of color determined their own identities and destinies for themselves and their families. They flourished in a society that was forever trying to keep them in their place as subhuman. The money they earned and the education afforded them put them in a position not many black women could ever dream of. Many of the male offspring were educated in France as part of the sponsorship these women were given, thus, these children were able to earn education in such fields as medicine and law to name a few. The generations of these families could and have become extremely wealthy due to these advantages. For this reason,

many wealthy African American families, of “old” money, can be found all through the south. Also, in the migration of blacks after slavery, many headed to the northeast for even more advantages.

This is also a source of contention in the black community due to the fact that many of these family members only married and procreated with their own ilk and caste. It is not unusual to find whole families of extremely light-skinned black men and women for generations. Not wanting to have anything to do with whites nor darker-skinned blacks, many of these families are close knit and the fortunes and businesses are passed from one generation to the next, and education is of the utmost importance.

These types of dynamics leave many African Americans to further perpetrate their internalized racist stereotypes; however, as we move through history in this country, it is becoming apparent that economics and not color is the new racism. Still, the history of placage is little known to either black or white Americans, and remains a part of history that warrants further study since its ramifications, to this day, can easily be readily identified. As we move toward globalization, these issues will surely be of great interest for generations to come.

References

- Ms. Jacqueline Lawson. Certified Genealogist. Seattle, Washington (2003).
- Howard University. The Library System. African American Digital Initiatives. <http://howard.edu>
- Louisiana Culture. French Creoles/Mulattoes. History of Placage. <http://frenchcreoles.com>
- The Placage System. Placage in New Orleans. <http://margaretmedia.com>
- Louisiana Creoles. Divisiveness of Blood. <http://louisianacreoles.com>
- The Re-evaluation Counseling Communities. Internalized Racism. Seattle, Washington. <http://www.rc.org>
- Abagond. Passing For White. <http://wordpress.com>
- National Park Service. U.S. Dept. of Interior. Park Ethnography Program. African American Heritage & Ethnography. <http://nps.gov>
- Gens de Couleur.com. Geneology and Ancestry. <http://gensdecouleur.com>
- Stormfront. Ideology and Philosophy. The Victims of Race Mixing. <http://stormfront.org>
- The Free People of Color of New Orleans. History and Geneology. <http://creolehistory.com>



Pamella Nogueira, from Sao Paulo, Brazil, plans to major in political science. Her paper assignment taught her to “pay more attention to art. I understood that every single art has a background and that is exactly what makes it art. The Memorial that I wrote about is definitely a nice piece to see; however, it becomes indescribably touching after knowing the artist’s story.”



Public Arts Critique: The Veterans’ Memorial

By Pamela Nogueira

ENGLISH 101

“The power to exercise choice and make decisions without constraint from within or without; autonomy; self-determination.”

“Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.”

Millions of definitions can be found to describe what freedom actually means. Some define it as a liberty of action, others by the First Amendment, which says that no law should exist that restricts the freedom of religion, press, or speech. Is it still freedom if you have to demand that nothing will prohibit it? Or is it still freedom if you have the right to express how you do not accept the freedom of speech of someone else? Although arriving at an exact definition may be difficult, everyone knows innately what freedom is and some will even fight for it. Some may even make a sculpture to portray it.

In 2002, General Bill Harrison, mayor of Lakewood, Washington, commissioned a new sculpture to be undertaken by the Lakewood Arts Commissioners, whose task is to enrich the community with public art. This sculpture would be to honor the men and women who have served the United States of America in wartime. His demand had also a criteria to be followed: it should present no bias.

The artist chosen by the Arts Commission was Jim Mattern, well known for his metallic art. This local artist, who lives in Gig Harbor, executed the Lakewood project within eight months. Although he was selected from among hundreds of applicants, Mattern stated: “It was a deep honor to be chosen, and an honor to give something back to the men and women who served our great country.” Being himself a Vietnam veteran as well as an experienced sculptor, Mr. Mattern was definitely a good choice.



The Lakewood Veterans’ Memorial, prominently displayed in front of the Lakewood City Hall, is constructed of human-sized figures in a circle, where each person represents different jobs in distinct branches of the military – nurse, chaplain, deck-hand, officer, mechanic, ship captain, and man in combat – and all of them are in the shadow of a copper and steel globe.

For Mattern the most difficult part of his art, emotionally, was to build the weapon, an M-14, that one of his characters in the sculpture, the man in combat, holds. He explains his choice by saying that the soldier is actually himself and the weapon is the one he used to carry in Vietnam.

By this, he chose to illustrate to people what is sometimes needed to defend our country. Even though he had never made a weapon before, the intensity of the image is easily felt in the art.

The primary artistic challenge, however, was the large metal globe. Mattern explains: “I had to go to the Library of Congress and check out a map, you know, the kind that has the earth divided into four orange slices. I had to make templates to trace onto the steel, so that when I made the cuts the pieces would weld together in a sphere and the continents would lie right.”

This remarkable sculpture has become not only a landmark for Lakewood residents and visitors, but an artistic achievement of international interest. Its message may not be immediately understood by the casual observer, however it is a very moving piece for those who have served in or been touched by the various branches of the military. In one of the front pillars he dedicates his project to these people: “In honor of the men and women who served in the armed forces of the United States of America. They served, and many sacrificed their lives, not only to preserve the freedoms which we enjoy today, but to bring freedom to people and nations throughout the world.” Being very considerate of veterans, Mattern affirms that he wanted this project to be the best he had ever done and to be a representation of the sacrifices that are made by all those who take part in guarding our freedom.

The artist began sculpting in the 1960s, when he returned from Vietnam, as a soothing process postwar. This art that was dedicated on Memorial Day, May 26th, 2003, gave him the chance to pay his homage to the Army, Navy, Air Force, Marines, and Coast Guard.

Even though describing freedom may be very uncertain, vague, and sometimes even contradictory, every citizen has a clear idea of what it is and desires it strongly. The freedom of choice has become a symbol of well-being in all cultures, and not having choices, a poverty of spirit.



The Patriot Act: Stealing Our Freedoms?

By Obert Xu

ENGLISH 102

Obert Xu's parents emigrated from China, and Obert was born in Sydney, Australia. His family moved to Vancouver, Canada before finally settling, in 2007, in University Place. A Running Start student and a senior at Curtis High School, Obert hopes to be a nurse. He says he chose his topic "based on an interest which stemmed from the television show, *24*. Jack Bauer, the main character, made reference to the Patriot Act. I had heard of this contentious topic before; however, I wanted to learn more about what this law entailed."

His advice to other writers: "It is very important to re-read and revise your papers several times over several days ... I will read my paper four or more times to rid it of imperfections."

The morning of September 11, 2001 was devastating. The World Trade Center in New York was destroyed and the Pentagon was severely damaged. Al-Qaeda terrorists targeted these landmarks by hijacking several commercial jets filled with passengers, to fly them into the buildings. Close to three thousand casualties were reported. Many were from the four hijacked airliners, staff members working in the Twin Towers, or emergency personnel trapped and killed in the debris from the wreckage.

Amidst the period immediately following the national crisis, Congress responded by launching the War on Terrorism which included the enactment of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001. This law takes excessive measures in protecting national security and, in turn, sabotages our civil liberties and violates our American Constitution. Under the Patriot Act, investigators are granted access to any American's confidential records, with the right to search any American's private property, and monitor any American's personal conversations. Furthermore, the law infringes on the guarantees provided by the Bill of Rights such as, freedom of speech, freedom from unreasonable searches, freedom to due process, freedom to legal representation, and freedom from cruel and unusual punishment. Consequently, the Patriot Act needs to be revised with celerity, as to preserve the freedoms and liberties that are afforded and assured to all people in America, strictly in accordance with the Constitution and within democratic realms.

Law enforcement officials should not legally be permitted to trespass and encroach upon a person's privacy as currently allowed by the Patriot Act. For example, according to Jost from the *Congressional Quarterly*, the law allows "the government to obtain ... 'any tangible thing' ... held by so-called 'third parties' without notice to the subject of the search" and can enforce a "gag rule" which prohibits individuals from divulging or discussing that such a search ever occurred ("Civil"). The capacity of this stipulation is astronomical as it allows the government to obtain virtually any personal record, such as library records, medical records, tax records or business records of anyone. Investigators can merely suspect that a person is terrorism-affiliated, without incriminating evidence, and thoroughly examine their confidential records, while silencing the parties from speaking about the information seizure; 'gagging' a person clearly infringes upon the First Amendment's right to free speech. Allowing such extraordinary powers, without limitations, compromises the privacy and discretion of all Americans.

Moreover, the Patriot Act has allowed the Federal Bureau of Investigation (FBI) to misuse the power of information appropriation by sending out superfluous National Security Letters. According to Eggen from the *Washington Post*, the Justice Department's Auditor General has revealed that the FBI "abused its intelligence-gathering privileges by issuing inadequately documented national security letters" and that "60 percent of the nearly 50,000 security letters issued ... targeted Americans." An exorbitant amount of information has been gathered by government security agencies, where much of the information obtained is unrelated to terrorism. Had the Patriot Act implemented crucial supervision on the information seizure system, such misuse would not have occurred. As a result, the provisions of the Patriot Act necessitate immediate reform.

An alternative data gathering option that investigators are authorized to use is the interception of electronic devices. For instance, according to John Files of the *New York Times*, under the Patriot Act investigators may intercept or 'wiretap' communication devices, without warrants, "of people within the United States when the authorities suspect that [there may be] links to terroris[m]." Although inquisitive snooping may provide leads on terrorists, unwarranted intrusions on innocent people are highly probable. These intrusions strip the integrity of our conversations and our right to private communication. Additionally, authorities are not required to produce compelling evidence before a judge, for approval. Again, the lack of essential oversight allows for unreasonable interceptions. The resources that have been allotted to investigators are far too intrusive because they disregard our privacy and set little limitation on power granted to authorities.

Aside from the invasive surveillance, the provisions of the Patriot Act are severely unconstitutional. For instance, investigators may "detain [individuals] for up to seven days—or, in some cases, indefinitely—any noncitizen suspected of posing a threat to national security" (Mockaitis). A prime example of unconstitutional detainment, involves alleged suspect, Jose Padilla. Even though he was held for 16 months incommunicado, prohibited from communicating with lawyers, friends, or family members, he had not been formally arraigned for an offense (Jost, "Civil"). Despite the fact that he is a lawful American, his rights to due process, right to a trial by jury, and right to a lawyer, were contravened. Allowing unconstitutional incarceration to occur discolors the very fabric of our American culture and values.

In addition to undemocratic detainment, allegations of interrogations involving torture, mistreatment, and abuse have arisen. For example, terrorist suspect, Mohammed al-Qahanti was held at the American naval detainment facility at Guantanamo Bay, and was subjected to torture. As Justice Susan Crawford explains, “we tortured Qahtani ... The techniques they used [were] a combination of things that had a medical impact on him, that hurt his health. It was abusive and uncalled for” (qtd. in Woodward). *The Washington Post* reports that Qahanti endured detrimental interrogations which led to his hospitalization, on two occasions, for bradycardia, a life-threatening condition characterized by the slow beating of the heart (Woodward). Susan Crawford is the convening authority of military commissions. As a federal official, she herself even believes that the intensity of the ‘interrogations’ constitutes as torture. Therefore, the methods violate the eighth amendment’s protection from cruel and unusual punishment. In addition, according to the *New York Times*, a military official who witnessed the mistreatment at Guantanamo Bay describes a deplorable technique employed on detainees, prisoners are forced to “strip to their underwear ... sit in a chair while shackled ... endure strobe lights and screamingly loud rock and rap music played through two close loudspeakers, while the air-conditioning [is] turned up to maximum levels” (Lewis). The prison official was so outraged and abhorred by the cesspool of abuse, that he alerted the media and provided his recollections. The techniques employed are demeaning, degrading, and distressing. Adhering to our Constitution must be preserved as the highest priority, yet, mistreatment occurs nonetheless. The Patriot Act is flawed and revisions are necessary.

The inequalities that Guantanamo Bay prisoners face are cancerous to our democratic society. As Martin Luther King Jr. once stated, “Injustice anywhere is a threat to justice everywhere.” Allowing investigators to commit unconstitutional acts or defy the privacy of Americans will escalate and gradually erode our core values. The Patriot Act attempts to secure America from malicious factions, yet it is Americans who are sacrificing the civil liberties and constitutional rights that rightfully belong to us. The U.S. Constitution is the supreme law of the land and is one of the only hindrances which preserve our society from declining into an overpowering and tyrannical government. Hence, no law or policy must ever suspend or breach the citizen’s safeguard. Destroying America’s constitutional and democratic values is the very ambition of those we seek to convict (Jost, “Closing”). Therefore, reform must be brought forth to restore the honorable democracy America is so effervescently celebrated for.

Works Cited

- Eggen, Dan. “FBI Found to Misuse Security Letters.” *The Washington Post*. The Washington Post, 14 Mar. 2008. Web. 12 Feb. 2010.
- Files, John. “Senator to Propose Censure of Bush Over Spy Program.” *The New York Times*. The New York Times, 13 Mar. 2006. Web. 12 Feb. 2010.
- Jost, Kenneth. “Civil Liberties Debates.” *CQ Researcher* 13.37 (2003): 893-916. CQ Researcher. Web. 12 Feb. 2010.
- Jost, Kenneth. “Closing Guantánamo.” *CQ Researcher* 19.8 (2009): 177-200. CQ Researcher. Web. 3 Feb. 2010.

King, Martin Luther. "Letter from Birmingham Jail." *Aims of Argument*. Ed. Timothy Crusius and Carolyn Channell. Boston: McGraw-Hill, 2008. 247-284. Print.

Lewis, Neil. "Broad Use of Harsh Tactics Is Described at Cuba Base." *The New York Times*. The New York Times, 17 Oct. 2004. Web. 12 Feb. 2010.

Mockaitis, Tom. "Patriot Act." *World Book Advanced*. World Book, 2010. Web. 15 Jan. 2010.

Woodward, Bob. "Detainee Tortured, Says U.S. Official." *The Washington Post*. The Washington Post, 14 Jan. 2009. Web. 24 Jan. 2010.



Gender Differences in Color Perception Or, “Honey, have you seen my white pants?”

By Margaret Lundberg

ENGLISH 101

Margaret Lundberg grew up in California but moved to Washington after she got married 34 years ago. Her plans include transferring to UWT to their Interdisciplinary Arts and Sciences program; with a concentration in Arts, Media and Culture or Self and Society. She spent “the last 20 years working as a decorative artist; most of my work involved painting murals or helping people use color to redecorate their homes – so color was my business. It was so funny to watch couples discuss their color choices, and to hear the different words they used to describe those colors – NO ONE could agree! Men and women just don’t see color the same!”

There has been a recurring theme in disagreements and misunderstandings at my house over the last 33 years; we just can’t seem to agree on what color things are. Color has been my business for the last 20 years, and I know a lot about the subject. My husband knows that, yet again and again we seem to have the same disagreements about color. I have spoken to many women who tell the same kind of stories, so I decided to do a bit of research to see if there actually is a quantifiable gender difference in the perception of color. I came to the conclusion that there is a great deal of difference, on many levels, in the ways that men and women see and communicate about color, leading to repeated disagreements over the colors themselves.

My husband insists that he owns three pairs of white pants. He has been known to ask me, from time to time, if I’ve seen them. Knowing that there is no way that I would ever buy him white pants, my answer is always the same: “You don’t *have* any white pants.” At this point he will insist that he does, and there will be a flurry in the closet as he sets out to find them. Eventually they will turn up, and as he proudly holds them up, he gives me a look that says “See, white pants!” Well, the manufacturer and I beg to differ; the tags label them *Stone*, *Light Khaki* and *Tan* – not white. But, no matter how many times I tell him otherwise, to him they are still white.

My friend Jacquie tells me that her husband calls all shades of tan, beige, and taupe – BROWN. Valri recalls that on their wedding day, her husband wore one blue sock and one black one, because he “knows” that no one can tell the difference- something that comes up every time they look at their wedding pictures (the socks – and their color difference – are captured there for posterity).

This brought to my mind the classic 1940’s film, *Mr. Blandings Builds his Dream House*. In one scene, Mrs. Blandings is discussing paint colors for her nearly completed home with the contractor:

I want it to be a soft green; not as blue-green as a robin’s egg, but not as yellow-green as daffodil buds. Now, the only sample I could get is a little too yellow, but don’t let whoever does it go to the other extreme and get it too blue. It should just be a sort of grayish-yellow-green. Now, the dining room, I’d like yellow. Not just yellow; a very gay yellow. Something bright and sunshine-y. I tell you, Mr. PeDelford, if you’ll send one of your men to the grocer for a pound of their best butter, and match that exactly, you can’t go wrong! Now, this is the paper we’re going to use in the hall. It’s flowered, but I don’t want the ceiling to match any of the colors of the flowers. There’s some little dots in the background, and it’s these dots I want you to match. Not the little greenish dot near the hollyhock leaf, but the little bluish dot between the rosebud and the delphinium blossom. Is that clear? Now the kitchen is to be white. Not a cold, antiseptic hospital white. A little warmer, but still, not to suggest any other color but white. Now for the powder room - in here - I want you to match this thread, and don’t lose it. It’s the only spool I have, and I had an awful time finding it! As you can see, it’s practically an apple red. Somewhere between a healthy Winesap and an unripened Jonathan.

“You got that Charlie?”, says the contractor, turning to the painter.

“Red, green, blue, yellow, white,” is the painter’s reply.

“Check.”

Mrs. Blandings was very specific about her color choices; right down to what hue of white she wanted, but what does the (male) painter hear? “Red, green, blue, yellow and white.” I can imagine there was a great gnashing of teeth over that one!

So, I began my search for answers to why this miscommunication happens, and found a great deal of information that led me to believe that there are logical reasons why men and women so often cannot agree on color.

Researchers have long known that the human eye interprets color through its cone cells, but have only recently discovered that there are people (nearly all female) who have a fourth type of these photoreceptor cells rather than the usual three. A study by K.A. Jameson, found that it may be as many as 50 percent of women and 8 percent of men who carry this extra cone cell. What this means is that these people could be capable of seeing 100 million colors, as compared to the one million that the rest of us see (1).

One such person, a medical doctor, was confirmed through genetic testing by Dr. Gabriela Jordan of Newcastle University in Great Britain. Dr. Jordan was quoted by Mark Roth, in the Pittsburgh Post-Gazette, as saying of this woman, “this super color vision might give her the ability to tell whether a person is ill just by noticing subtle changes in skin tone that a normal doctor wouldn’t see.” (2) As someone who was able to tell when my young son had strep by the whites of his eyes, I can certainly believe it!

There may also be social reasons for these color disagreements. In their paper *Sex Differences in Color Vision*, Bimler, Kirkland and Jameson theorized that although there appears to be a difference in the way some men and women actually see color; women also seem to have developed a larger color vocabulary, beginning in early childhood (1). Researchers Anyan and Quillian report that little girls tend to learn to identify primary colors earlier than boys (2), although that may just be because girls, for the most part, begin talking earlier than boys. I do know that my two year old granddaughter knows the intricacies of pinks and purples far better than her four year old brother!

To test my assertion that men and women see color differently, I did my own small, thoroughly unscientific study. I put together 20 cards with four different color dots on them, and handed them out to classmates here at TCC; 10 men and 10 women, asking them to name the colors on the card. The results (which follow) were intriguing. I must admit I expected more of the “red, blue, yellow and brown” sort of answers from the men, but instead got a much wider variety of color names.

Under the *Burgundy* spot (the color names given are from the paint manufacturer), the women gave me more different color names, while the men gave more under *Blue Bayou*. The *Camel* spot drew three names from the men, but four from the women. The *Meltd Butter* spot got an equal number of names from men and women, but men gave the most unusual (sometimes just wrong!) – like Peach and Teal. It’s no wonder that people often disagree on colors, when some of them are naming a pale yellow, “Teal.” It could certainly make choosing the right item off of a store shelf difficult, if one was looking to identify it by color!

On the website *Color Matters*, Natalia Khouw referenced color studies done in 1938 by M.W. St. George; that ascertained men preferring blues, while women preferred red colors (1). Could this be why the men in my study gave more color names for the blues, and women gave more for the reds?

Not only do men and women seem to see color differently, and communicate those differences to each other, but there are tangible physiological and sociological reasons for their doing so. Our preferences are different, and our “seeing” is different; in some ways it’s as though we are each speaking a different language. Knowing this, we really shouldn’t be surprised when we cannot agree. Maybe we should begin to look at discussions on color with the opposite sex as though we were speaking to someone from another culture- because, in some ways, we are.

(Maybe my husband really does have three pairs of white pants!)

Results of my color study:

Male				Female			
Burgundy	Camel	Melted Butter	Turquoise	Burgundy	Camel	Melted Butter	Turquoise
Burgundy - 3	Brown - 2	Cream - 2	Aqua Blue - 2	Burgundy - 1	Brown - 2	Beige - 2*	Aqua Blue - 1
Dark Red - 1	Caramel - 1	Eggshell - 1	Blue - 4	Dark Red - 1	Lt. Brown - 1*	Buttermilk - 1	Blue - 5*
Maroon - 3	Lt. Brown - 1	Peach - 1	Ocean Blue - 1	Dried-out Red - 1	Tan - 3	Canary Yellow - 1	Sky Blue - 1
Red - 3	Tan - 5	Tannish Yellow - 1	Sky Blue - 1	Maroon - 1	Taupe - 3	Cream - 4	Teal - 3
		Teal - 1	Teal - 1	Mauve - 1		Lt. Yellow - 1	
		Yellow - 3	Turquoise - 1	Red - 4*		Tan - 1	
				Velvet Red - 1			

*One person claimed she was color blind in one eye.

Works Cited

- Anyan, W.R. Jr., Quillian W.W. II *The Naming of Primary Colors by Children*. Child Development, 1971: 42 (5); 1629-1632.
- Bimler, David A, Kirkland, John, Jameson, Kimberly A. *Quantifying Variations in Personal Color Spaces: Are there sex differences in color Vision?* (Under review Color Research & Application) <http://aris.ss.uci.edu/~kjameson/BKJ.pdf>. May 7, 2003.
- Hackett, Jacquie. *Send me your Color Stories*. Message to the Author. October 21, 2009. Email.
- Jackson, Valri. *Send me your Color Stories*. Message to the Author. October 22, 2009. Email.
- Jameson, K. A., Highnote, S.M., Wasserman, L.M. *Richer color experience in observers with multiple photopigment opsin genes*. Psychonomic Bull & Rev 2001; 8: 244-261.
- Khouw, Natalia. *Color Matters, The Meaning of Color for Gender*; <http://www.colormatters.com/khouw.html> > Web, October 21, 2009.
- Mr. Blandings Builds his Dream House*. Dir. H C Potter. Perf. Cary Grant, Myrna Loy, Melvyn Douglas. RKO Radio Pictures, 1948. Film.
- Roth, Mark. *Some women may see 100 million colors, thanks to their genes*. Pittsburgh Post-Gazette. <<http://www.post-gazette.com/pg/06256/721190-114.stm>> pg. 2, Web, Sept. 13, 2006.



The Importance of Stability: A Child's Right

By Jan Burdick

ENGLISH 101

Jan Burdick of Tacoma hopes to be a para-educator with an early childhood emphasis. She chose the topic of homelessness for her paper because it "affects people from all walks of life regardless of their background. When children are involved, the situation intensifies and will eventually escalate."

Her advice to other writers is to choose a topic they feel passionate about. When a writer can personally relate to the topic, the emotion and empathy that they feel will eventually be transferred to the content of the writing.

Homeless and nowhere to go. No one to turn to for help. Scared of the unknown. The fear of becoming homeless can be an unwelcome burden for families that reside in our local communities. Homelessness does not choose a specific type of person; it affects all ages and people from all walks of life. More and more people are finding themselves in situations that are out of their control. This is what makes them prime candidates for homelessness. Situations involving unemployment, divorce, physical disabilities, substance abuse and eviction are just a few reasons why people become homeless. It is easy for us to assume that the homeless are nothing more than a non-essential member of society; a menace or a bum. On the contrary, these are individuals that have families — just like us; they had good jobs — just like we do, and through no fault of their own they become victims of society.

Because we are creatures of habit and we subject ourselves to the negativity of stereotyping, we find ways to justify ourselves by ignorance rather than face the truth head-on. We need to ask ourselves one question: What would we do if we were in their shoes? What we take for granted, they wish they had. Being homeless is not something a person looks forward to; it is an enormous setback on one's life. It is not something people volunteer for; it just happens. Homeless people are victims of circumstance. Quite often we speculate that many of the homeless have suffered family related problems that may or may not be due to individualized disabilities or restrictions. Rather, it is because the support system that used to be in place is no longer

available to them. Regrettably, the homeless have lost the empathy and compassion that is associated with loved ones and find it easier to stray from them than to maintain involvement with them. As heart-wrenching as it is, this is all so true of families that involve children.

Although parents attempt to make a better life for themselves and their children, it often turns into a struggle; a struggle caused by a lack of understanding. Many adults are not aware of the resources that are available to them. Some parents have fragments of knowledge that produce many unanswered questions. They may wonder if and how they “qualify” for help. They may not know who to talk to or where to call in order to receive it. Many parents refuse to ask for help. For them, asking for help is an admission of failure and the inability to provide. However, there is one question that most every parent will ask. The magnitude of this question is priceless: What about the children? Children are faced daily with encounters they may not understand and questions they are not able to answer. Even more difficult are the answers to those questions that parents may or may not be able to provide. Ultimately, when parents lose the stability of their home they go to extremes in order to hold on to their self respect, confidence and most importantly, their pride. These are the components that are considered “all that is left.” In “Prognosis for Homeless Children and Adolescents,” Karol A. Reganick refers to the estimated number of homeless children in the United States. As of 2007 there were “anywhere from 310,000 to 1.6 million” (2) children without a home. Although homelessness affects people differently, for children it leaves an indelible imprint in their mind and in their hearts. This imprint is not easily erased, if ever. The elements that children are exposed to can leave long lasting impressions hidden deep within their soul. Regardless of how diligently parents work toward their relocation efforts, children fall victim to the psychological effects of being homeless: behavioral and emotional problems, learning disabilities and mental illness.

Young children need consistency in their lives. Children need to know they are safe regardless of who they are with or where they are going. Many families consider stability an important factor that determines whether a child has a happy childhood. When this routine is disrupted with events such as homelessness, these children lack the understanding which is necessary for them to make sense of it. Therefore, they react the only way they know how: behaviorally. Behavioral problems such as aggressiveness, anxiety and loss of control eventually come to the surface. A child’s behavior is a reflection of how they feel. Since the comforts of home no longer exist, children in transitional housing, more commonly known as shelters, find themselves surrounded by strangers and uncertainty encompassed by fear. Residing in shelters that are often unsanitary, crowded, and insensitive to the needs of its inhabitants, only intensifies the degree of stress that already exist for parent and child alike. Unfortunately, children react to this stress through behavior. Sometimes they begin arguing and fighting with their parent which only makes the situation worse. Eventually this additional stress induces an emotional strain on the parent/child relationship. Reganick states, “A parent who is unable to provide for a child loses status in the child’s eyes; in turn the child loses a positive role model” (2). This means that children look up to their parent. They have a silent expectation of them that includes security, housing and stability. When a parent is unable to provide these things children fail to understand why. Unaware to the child, they lose respect and trust for their parent. Other children may

view their parent as less of a person. Parents portray a positive role model and want to be a positive influence on their children. When this image vanishes, children are left feeling abandoned; they long for their toys, their friends and the security of what used to be. They are left with emptiness without an explanation. With the absence of these important elements comes the increase in child anxiety which can lead to other emotional problems.

Children diagnosed with emotional problems that stem from childhood homelessness can suffer the ramifications throughout their adult lives. Although parents are struggling to make the best of a worst situation, they often find themselves engulfed by it. This not only takes an emotional toll on the parent, it also reduces their empathy and support toward their children on a physical and emotional level. An article written by Rosemary DiBiase and Sandra Waddell for the *Journal of Abnormal Child Psychology* states, "Because their emotional resources are expended trying to meet basic human needs, they often have little support and understanding to offer their children at a time their children need it most" (1). In situations such as this, parents have an obligation to provide for their children in the best way possible. Sometimes this means they are forced to make the necessary arrangements first and attend to their children upon completion. Depending on the facility this process can be lengthy. Meanwhile the children become scared and confused. It is during this time that they temporarily rely on each other for comfort. Growing up with emotional instability, children tend to lose their need to trust; they erect an invisible barrier of distance between themselves and others, specifically when they engage in any type of personal relationship. In "The Psychological Effects of Homelessness on Children", Jacquelyn Jeanty reveals that "50 percent of children from homeless families experience anxiety, depression and withdrawal compared to 18 percent of non-homeless children" (2). These are long term emotional problems that consume children at a very young age, yet worsen as they progress throughout the developmental stages of their lives. As children get older this anxiety is commonly diagnosed as attention deficit disorder or attention deficit hyperactivity disorder. While this is treatable by medication, it can also lead to addiction. Depression can also be treated with medication. However, whether depression is treated or left untreated one is confronted with the possibility of suicidal intentions. Today's youth are faced with a clear and concise 'catch 22' when it relates to medication. Where do we draw the line?

Depression in children is easily demonstrated by self isolation. These children do not engage in group activities. They play by themselves simply because they lack the knowledge in how to form foundations in which to build friendships. Play is crucial for a child's social, emotional and intellectual development. Having the ability to play while we are young strengthens us as we get older. It forms a cement that keeps us intact as a whole person. Play reinforces the innocence of life through the eyes of a child. It is unfortunate that many homeless children are limited in their opportunity to participate in random acts of play. Rather, these children are involved with the harsh reality of losing their sense of security. They are put in a position of having to grow up fast. As a result, their childhood becomes a thing of the past and eventually ceases to exist. Homelessness plays an extensive role in the formation of a child from the inside out. Children need to know where they fit in; homelessness has the potential to destroy the inner child all because they cannot escape its damaging effects. When children withdraw

from others, they also withdraw from themselves. They isolate themselves from their surroundings simply because they are not sure how to react or behave. As an adult, this can be the point of no return. For individuals teetering on the threshold of emotional instability versus being psychotic, isolation can literally be the last straw; the trigger point that ultimately sends them 'over the edge'. We must wonder if being homeless at a young age is a contributing factor toward the violence committed by adolescents and young adults today. The emotional problems that children encounter through homelessness is at the core of learning disabilities; it serves as the adhesive that binds.

Learning disabilities come in all forms. The connection between homelessness and its effect on learning stems from the constant relocation of the family. Jeanty explains how a child's education is put at risk, specifically by families that have an increase in mobility in spite of how long they actually reside at each shelter. She states, "On average, children lose one to three months of schooling per move, with relocations happening anywhere from three to five times a year" (1). As a result, children are susceptible to learning delays. These delays may be in the form of speech, reading or building relationships with peers. Although there are a multitude of programs available to enhance speech and reading, only a portion of children are active participants in them. Many other children fall-through-the-cracks from a developmental standpoint simply because the parent is unaware of the intervention resources available. Parents lacking this knowledge innocently put their children at risk by the deterioration of their sense of connection toward themselves and others. This deepens the isolation of a child with regard to their peers. It also diminishes a child's self esteem and self worth. Children with learning delays have more difficulty keeping up and on task with school work. Some of them that have reading delays are held back a grade. Many of them have high absenteeism because they have fallen prey to illnesses and other health related concerns. Early intervention is a positive way to rise above the negative effects of being homeless. A study conducted by the Family Housing Fund in Minneapolis indicates that "41 percent of homeless children attend two or more schools in one year; 28 percent attend three or more schools in one year; 75 percent of children test below grade level in reading and 54 percent of children test below grade level in math" (3). These percentages validate the importance of a stable home life for children. It stands to reason that when children have a stable environment in which to live they have less obstacles to overcome and are more actively engaged in the learning process. On the contrary, children that routinely live from shelter to shelter quite often demonstrate behaviors that are reflective of an inconsistent environment which prohibit them from obtaining a quality education. When we combine all of these factors, those that are classified as being psychological and their corresponding effects, clear explanation is made in how it relates to mental illness.

When children are exposed to homelessness at an early age they are much more susceptible to intensified psychological problems as they grow older. In "The Long-Term Effects of Homelessness on Children" Elizabeth Kelly references the Institute for Children and Poverty. She indicates that "Individuals who are homeless while growing up are twice as likely as the rest of the homeless population to be diagnosed with mental illness in adulthood". Kelly further states "this is no surprise given that, by the time homeless children are eight years old, one in three suffers from a major mental health disorder" (19). Clearly stated, the changes children have encountered early in their lives such

as extensive stress and traumatic events have had many years to accumulate. Children subconsciously suppress these changes and events deep within their minds, which ultimately puts them at a high risk of becoming mentally ill later in life. She suggests that “Children who were placed out-of-home (i.e. foster care or institutional supervision) also had far higher rates of long-term stays in psychiatric facilities during adolescence” (19). Most adolescents struggle every day just to find their place within society. However, adolescents that are homeless find themselves in more dire situations. Just as non-homeless adolescents, they are easily coerced toward active participation in negative activities. However, these specific teens, who are already dealing with life’s unfortunate circumstance of being homeless, compound their already suppressed emotion even further by their involvement in these activities. By the time they come to the realization that their life can be improved simply by the choices they make, the silent, internal emotional crisis is transforming into mental illness. How these individuals deal with their new found reality and the consequences it presents is in the form of a psychiatric ward at a local hospital. Little do they know, nor do they understand, that the severity of being homeless as a child would give way to the condition they are now in.

Ironically, the beginning stages of being homeless have now come full circle. It is hard to comprehend that so many children are deprived of the joyful life they are so entitled, just because life threw their parents a curve ball. The consequential experiences that have been imposed on families will never be forgotten. Experiences such as these have detrimental life-long effects on our children. Children have the right to be who they are - children. In today’s society young children want to be older; older children want to be adults and independent; adults focus on obtaining material possessions rather than necessities. It must be nice to have options. However, these options only encourage the desire to grow up too fast. The homeless have no options. These individuals are forced into becoming a statistic for matters that are out of their control. Nobody chooses to be homeless. No man, woman or child deserves to be without a home filled with warmth, love and security. Communities face a grave concern; the lack of parental awareness in regards to the resources that are available. As a society and as a nation, we must step up to the plate and help these individuals. We have a moral obligation to our children; to ensure they live productive, healthy and successful lives. These three elements are very basic, yet they are the individual rights of each and every child regardless of how or where they reside. Through consistent guidance and early intervention it is our hope that an end to homelessness is within sight. We must do everything in our power to eliminate any and all psychological effects that homelessness has on our children such as behavioral and emotional problems, learning disabilities and mental illness.

Works Cited

- DiBiase, Rosemarie, Waddell, Sandra. “Some effects of homelessness on the psychological functioning of preschoolers.” *Journal of Abnormal Child Psychology* 23.6 1995: 783 Platinum Full Text. Periodicals. Proquest. Tacoma Community College Library, Tacoma, WA. 26 May 2009 <<http://proquest.umi.com>>.
- Fund, Family Housing. *Children Pay the Price for Homelessness*. 2005. 24 May 2009 <<http://www.FHFund.org>>.

Hart-Shegos, Ellen. *Homelessness and its Effects on Children*. December 1999. 24 May 2009
<<http://www.FHFund.org>>.

Jeanty, Jacquelyn. *The Psychological Effects of Homelessness on Children*. 1999-2009. 24 May 2009
<http://ehow.com/about_4671883_psychological-effects-homelessness-children.html>.

Kelly, Elizabeth. "The Long-Term Effects of Homelessness on Children." 2007.

Reganick, Karol A. *Prognosis for Homeless Children and Adolescents: Childhood Education*. Spring 1997.
23 May 2009 <http://findarticles.com/p/articles/mi_qa3614/is_199704/ai_n8774801>.

The Homeless Children's Playtime Project (HCPP), Inc. *Why Play? Effects of Homelessness, Importance of Play, Enrich Lives of Children*. 2007. 24 May 2990 <<http://www.playtimeproject.net/play.php>>.



Julie Kang is from Baker City, Oregon, and is majoring in biology, as well as pursuing her career goal of becoming a large animal veterinarian.

When asked what advice she would give to other writers, Julie says, "Thorough research and hands-on learning is the best way to gain knowledge on a subject. With the proper knowledge, a person will feel confident that they can write a detailed and thoughtful paper." Julie mentions that she has to put a lot of thought and time into anything she writes. "I am not a very fast writer because I am continuously editing and re-editing what I write as I type it. I take a lot of pride in everything I do, so putting forth my greatest effort is what I expect from myself, and nothing less."

The study of vertebrate embryology using a chicken embryo (*Gallus gallus*)

By Julie Kang

BIOLOGY 223

Abstract.

Chicken embryology was used to study the general embryological development in vertebrates. Slides were viewed first, in order to study the wide range of developmental stages within gastrulation and organogenesis of chicken embryos between 12 to 96 hours old. The slides allowed for an adequate orientation of the chicken embryo before live embryos were examined that were between 118 to 119 hours old. Examining the live embryo was helpful in studying the process of organogenesis. Since all vertebrates follow the same general path of development, studying a live chicken embryo allowed for a hands-on learning experience. The knowledge gained from this study can be applied toward the more broad study of embryology later on, since most vertebrate species are almost indistinguishable at the early stages of development.

Introduction.

Chicken embryology is used to study and research a general model of early vertebrate embryo development. Different vertebrate species generally follow the same mechanism of development with a few slight variations and they are often indistinguishable in early stages of development. This study allows for a better understanding of early developmental stages in vertebrates using chicken embryos as a model. Chicken embryos provide a good model to study because fertilized eggs are fairly easy to acquire without damaging the hen and the eggs are fairly easy to incubate with proper equipment. This is not the case in most vertebrates. Fertilization, gastrulation,

and organogenesis occur within the uterus of most vertebrate species not in shell-enclosed eggs. Fertilized chicken eggs provide a cheap and effective way of studying embryology in an educational environment or laboratory. A better understanding of vertebrate embryology will be attained after studying chicken embryology.

Materials and Methods.

Prepared slides and whole mount chicken embryos between 12-96 hours old (from WARD's, M. Momsen, and Carolina Biological Supply Company) were available for study. The prepared slides were studied under a microscope (Leica CM E Microscope) in order to get oriented with a chick embryo before studying a live embryo. Digital pictures were taken—with Sony Cybershot—for reference, to allow for comparisons to be made between different stages of embryo development.

Fertilized eggs were collected from a local farmer six days before the study. The eggs were handled delicately to prevent any jostling that might damage them. The eggs were refrigerated overnight, then placed in an incubator (Little Giant 9200 Still Air Incubator) the next morning (1045, February 19, 2010). Water was added to the incubator to create a humid environment while the incubator automatically rotated the eggs. They were incubated for five days at a fairly constant temperature of 38°C. On day five of incubation, one green egg and one brown egg were removed from the incubator (at 0908 and at 0949, February 24, 2010) and studied. An egg was cracked and its contents were placed in a large watch glass. A warm saline solution (0.9% NaCl, warmed in a Precision Water Bath) was dripped on the embryo to keep it moist throughout the examination. The yolk and albumin (egg whites) were carefully removed from around the embryo in order to better study it. With gentle handling, the embryo was kept alive throughout the entire examination. The embryo was studied under magnification of a dissecting scope and pictures were taken for later references. After studying both embryos, all liquid waste was placed in a waste container and the shells were placed in the trash.

Results.

Prepared slides of chicken embryos at different phases of development, between 12-96 hours old, were examined. The slides illustrated different stages of gastrulation and organogenesis. Gastrulation is the period of development where groups of cells migrate or reposition themselves in preparation for the future formation of tissues and organs, Figure 1. The formation of tissues and organs is called organogenesis, which involves shaping the tissues and cells, Figure 2. Examination of chicken embryos at different periods of development allowed for a better understanding and orientation of the embryo, before a live embryo was studied.

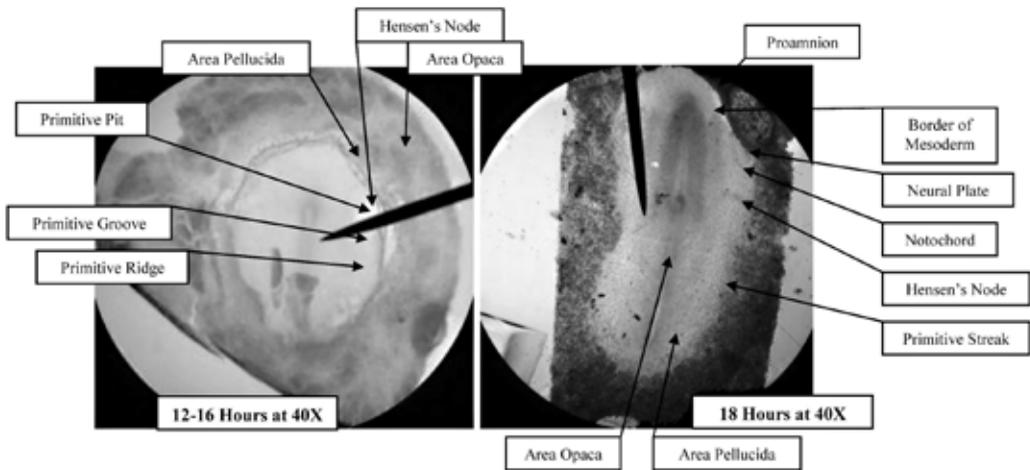


Figure 1

Figure 2

Figure 1 represents a 12 to 16-hour old chicken embryo that was undergoing gastrulation. It can be seen that this embryo was undergoing gastrulation because the primitive streak is very evident.

Figure 2 illustrates an 18-hour old chicken embryo undergoing the early stages of organogenesis. It is noticeable that the chicken embryo is undergoing early organogenesis because the notochord and neural plate are beginning to form above Hensen's node.

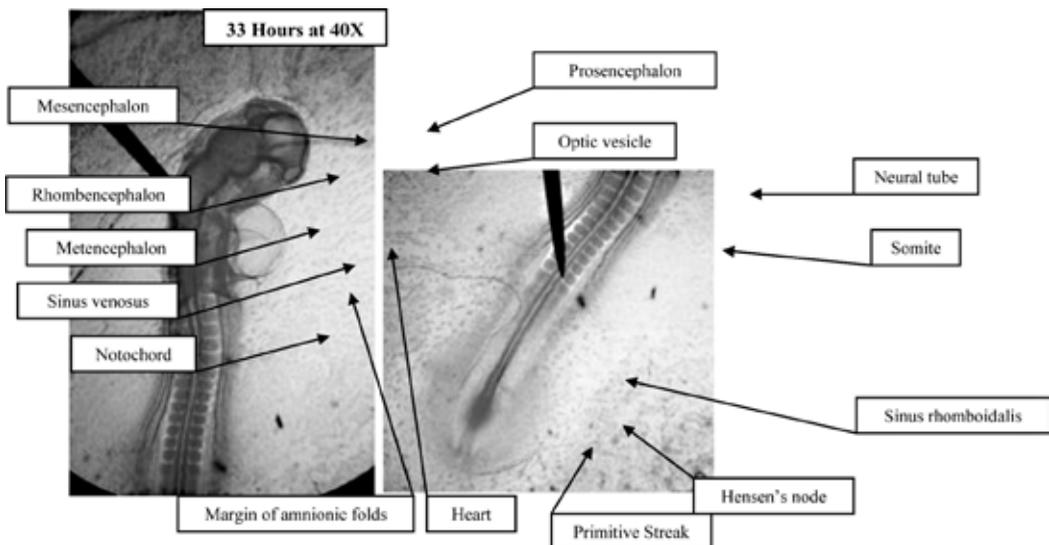


Figure 3

Figure 4

Figure 3 shows a 33-hour old chicken embryo that is undergoing organogenesis. It is apparent that organogenesis is further along than in Figure 2 from above.

Figure 4 is the tail end of the chicken embryo in Figure 3.

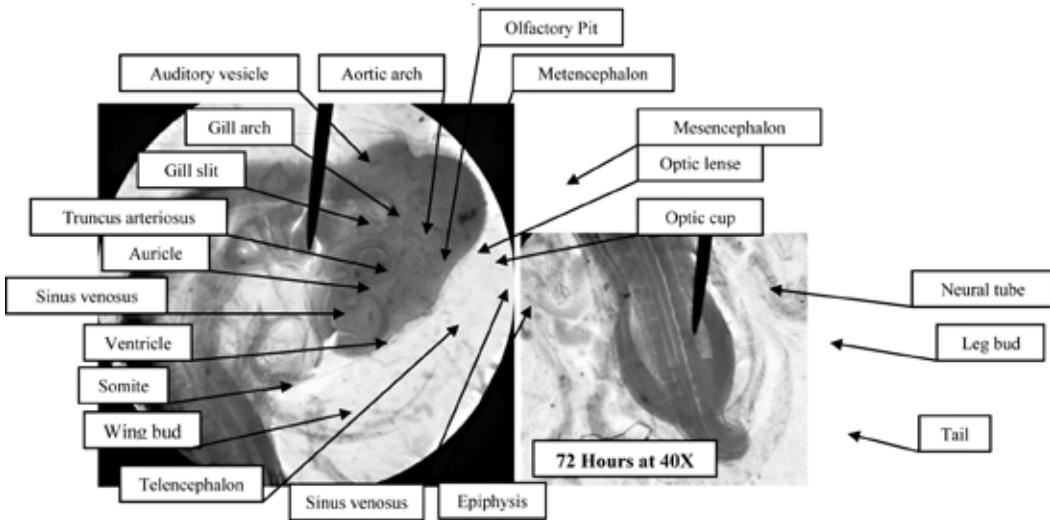


Figure 5

Figure 6

Figure 5 is a 72-hour old chicken embryo that is further along in organogenesis.

Figure 6 is the tail end of the same embryo represented in Figure 5.

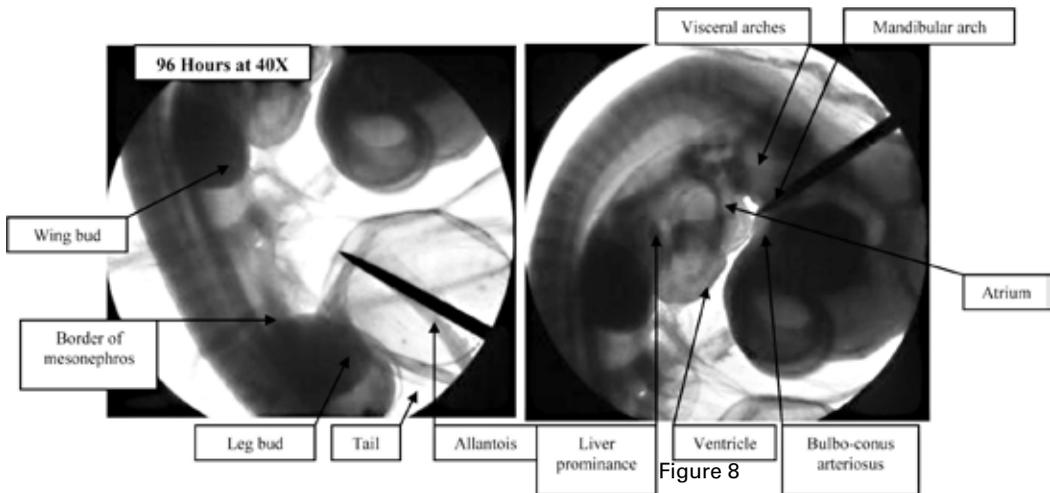


Figure 7

Figure 8

Figure 7 is a 96-hour old chicken embryo, which is the closest representation of what will be seen from the live embryo.

Figure 8 is another picture of the same embryo in Figure 7.

The live embryos were incubated for a longer period of time than any embryos observed on the slides. It was found from past laboratory studies of chicken embryos that a five day old embryo is the easiest to find, examine, and study due to its bigger size. The first egg retrieved (at 0908, February 24, 2010) from the incubator was a green egg, and the second (at 0949, February 24, 2010) was a brown egg. The embryo within the green egg, Figure 9, was less developed than the embryo within the brown egg, Figure 10, even though there was only about an hour difference in age. The chicken embryos may have been different breeds and one breed possibly had a faster rate of development than the other. Most developing organs were visible and easy to distinguish from other parts of the embryo's body. Embryo organogenesis was in its later stages because basic organs had already formed. The embryo was very easy to see with the naked eye. Both embryos beating hearts were visible as well as most other anatomical features present in their stage of development. Studying chicken embryos was a good way of getting a generalized idea of what happens throughout the early development in all vertebrate species, especially since they are almost indistinguishable at such early stages of development, Figure 11.

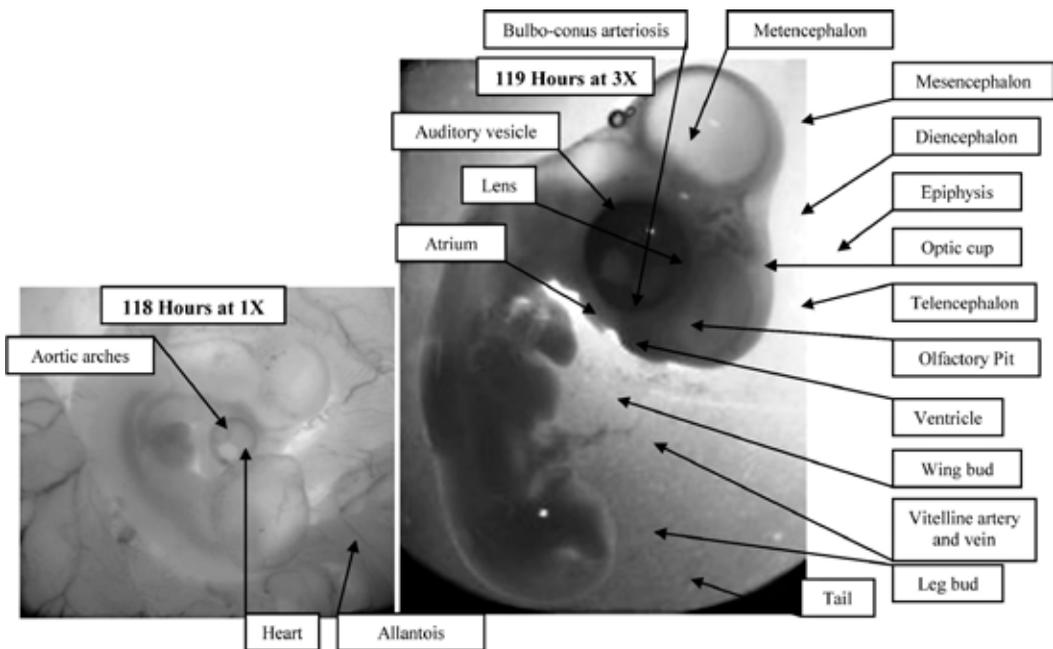


Figure 9

Figure 10

Figure 9 is an embryo just over 118 hours old that came from a green egg. It was slightly less developed than the embryo from the brown egg. Differences in development were visible by comparing the size of leg, wing, and tail buds of the two embryos.

Figure 10 is an embryo just shy of 119 hours old that came from a brown egg. It was much more developed and bigger than the embryo from the green egg.

As can be seen in Figure 11, many different species of vertebrate ranging from fish to humans are almost indistinguishable at the earliest stages of development (Gilbert, 2006). There are only slight differences in the development between different species of vertebrate and this is why chicken embryology is such a useful way of studying vertebrate embryology as a whole.

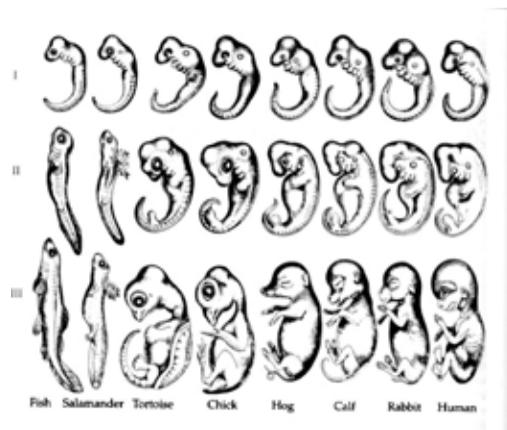


Figure 11

Discussion.

Before embryology can be studied, fertilization of an egg must occur. A rooster produces haploid sperm and a hen produces a haploid egg. When mated, their haploid gametes combine during fertilization to produce a diploid zygote, and “fertilization of the chick egg occurs in the oviduct, before the albumen and the shell are secreted upon it” (Gilbert, 2000). After fertilization is complete, embryonic development is triggered, which results in rapid cell division called cleavage. The large fertilized egg divides into many small cells, each with their own nucleus. The flat disc of small cells forms a blastoderm. “By the time a hen has laid an egg, the blastoderm [made up of an upper layer and a lower layer and that sits atop the yolk like a flat disk] contains some 20,000 cells” (Gilbert, 2000). Cell division slows down after cleavage is completed and the blastoderm is formed. Once the blastoderm is formed, the embryo is arrested in that state until the egg is placed in the incubator.

Once incubation occurs gastrulation begins, which is when groups of cells migrate or relocate to new locations in order to prepare for the formation of tissues and organs. The epiblast or upper layer of cells in the blastoderm begin to move inward toward the medial line that runs along the anterior-posterior axis of the gastrula. This cell movement in chicken embryos forms what is known as the primitive streak, and is made up of epiblast cells. Some epiblast cells move inward, toward the center of the blastoderm, to create a third layer of cells known as the mesoderm. Other cells travel laterally through the blastoderm to create the endoderm, which sits against the yolk. Once it contains three layers of completely formed cells, the mature gastrula can then undergo organogenesis to develop tissues and organs.

Organogenesis is the formation of tissues and organs from the three cell layers, the endoderm, mesoderm, and ectoderm of an embryo. The different layers can send molecular signals to other cell layers that affect gene expression within those other layers (Campbell & et al., 1030). Throughout organogenesis, the three layers continue to undergo cell differentiation that shapes the many different organs within the embryo.

There are only slight differences in the development between different species of vertebrate. Therefore, the chicken embryo made a sufficient model that could be studied in order to form a generalized picture of embryology. In this study, gastrulation was observed by a visible primitive streak along the anterior-posterior axis of the gastrula (WARD's, thick mount 12-16 hour chicken embryo) as well as different stages of organogenesis. Organogenesis was very apparent in most of the slides

viewed, as well as the live chicken embryos. Rudimentary organs were observed in different stages of development in the embryos undergoing organogenesis. The study of chicken embryology helped to develop an understanding of the different stages of development in most, if not all, vertebrate species.

References

- Abramoff, P., & Thomsom, R. (1996). *Laboratory outlines in biology sixth edition*. W.H. Freeman and Company.
- Campbell, N., Reece, J., Urry, L., Cain, M., Wasserman, S. Minorsky, P., et al. (2008). *Biology eighth edition*. San Fancisco, CA: Pearson Education, Inc.
- Gilbert, S. (2006). *Developmental biology eighth edition*. (Haeckel and the Vertebrate Archetype), Retrieved from http://images.google.com/imgres?imgurl=http://8e.devbio.com/images/ch23/Richardson1.gif&imgrefurl=http://8e.devbio.com/article.php%3Fch%3D23%26id%3D242&usq=__AFpSJJOt9rsee7NYIjhB0EtKBvo=&ch=416&cw=482&sz=102&chl=en&start=5&sig2=5zkTpF0poFXoS_rlGXEFa&um=1&itbs=1&tbnid=m5ESD2CiUZm5pM:&tbnh=111&tbnw=129&prev=/images%3Fq%3Dchicken%2Bembryo%2Bdevelopment%26um%3D1%26hl%3Den%26sa%3DX%26tbs%3Disch:1&ei=gi2US_mgEKH2tAP20qGpCA
- Gilbert, S. (2000). *Developmental biology sixth edition*. (Early Development in Birds), Retrieved from <http://www.ncbi.nlm.nih.gov/bookshelf/br.fcgi?book=dbio&id=A2581>
- Lewis, R. (1998). *Laboratory Manual: Life Third Edition*. WCB McGraw-Hill Companies, Inc.
- Turtox class-room chart: chick development. (1977). Macmillan Science Co., Inc.
- Vodopich, D., Moore, R., Lewis, R., & Mader, S. (1999). *Biology Laboratory Manual Fifth Edition*. Primis Custom Publishing.
- Wachtmeister, H., & Scott, L. (2006). *General Biology Laboratory Manual: Encounters, Seventh Edition*. Englewood, CO: Morton Publishing Company.



Alexander H. Valverde of Winthrop is majoring in computer and systems engineering. He says that he learned “a great deal about the use of conscripted militaries throughout history and the reasons why the United States shifted away from that model after the Vietnam War” through his work on this paper.

He advises other writers: “It is important to put into action the lessons your English teachers provide. I have seen many students often fight or argue about grades thinking their papers are flawless. What these students often fail to realize is that many times they have ignored grading criteria and the course teachings, continuing to write as they did before taking the class.”

The Ramifications of Implementing a Foolish Universal Military Service Plan

By Alex Valverde

ENGLISH 95

Reform of military recruiting practices has been argued for many years now. Opponents to the current all-volunteer model usually suggest a mandatory one- or two-year service from all United States citizens upon reaching their 18th birthday. Many feel that the current all-volunteer force is not able to perform adequately; however, according to author Beth Bailey, “In practical terms, a volunteer force provides best for the defense of the nation. An institution that once seemed mired in crisis has achieved remarkable successes, both as purveyor of military force and provider of social good” (qtd. in Bandow). Because historically and currently the makeup of the military consists of mostly poor descendants from blue collar families, it is argued that the burden of America’s defense unfairly rests upon the shoulders of the impoverished. New York Congressman Charlie Rangel stated in 2002, “Service in our nation’s armed forces is no longer a common experience. A disproportionate number of the poor and members of minority groups make up the enlisted ranks of the military, while the most privileged Americans are underrepresented or absent” (Rangel). What many forget is that the current system provides the lower class with training and benefits as well as the pursuit of a better life that is otherwise unobtainable. Moreover, while it is certainly upsetting that the more privileged portion of the youth typically avoid serving America in this capacity, creating a universal military service plan would degrade troop quality, increase taxes and government spending, cause civil unrest, and encroach on civil rights and American liberties.

On the modern battlefield wars are won and lost based upon the quality of weapons systems and the operators that utilize them. The influx of personnel caused by mandatory military service would directly degrade the effectiveness of our nation's war-fighting capabilities. Service-members forced to work against their will have no incentive to perform assigned tasks in satisfactory fashion. This is especially dangerous considering the critical requirement of teamwork in the military. As a former sailor, I have experienced this personally aboard the USS Kitty-Hawk and John C. Stennis aircraft carriers. In both instances fellow sailors of mine refused to work for morale reasons, which in turn slowed maintenance production causing fewer sorties of aircraft to be flown and some without the protection of essential electronic countermeasures. Such infractions can escalate into outright mutiny as was the case in the 1944 Terrace Mutiny of Canada which took place in response to Prime Minister MacKenzie King's reversal of policy and decision to conscript men for overseas service (Industry Canada). Furthermore, re-instituting a draft would hinder the success of current military strategy because "the United States has developed the most sophisticated and effective armed forces on Earth. The key is reliance on volunteers — who choose to join, serve for longer terms and are more intelligent, better trained and more positively motivated than were their conscripted forebears" (qtd. in Badow).

Unnecessarily increasing troop levels is fiscally irresponsible and would place a greater burden on tax payers during an era of economic recession and government overspending. Due to legislation passed after the closing days of WWII, all members of the military are entitled to education benefits totaling in thousands of dollars. Because of this, universal military service would provide monetary entitlement to every American citizen after they turn 18 years old. Currently four million people turn 18 every year, while in 2009 the Department of Defense achieved its goal by recruiting 168,900 people (Tyson). Therefore we can see that universal military service would create 23 times as many new service members as required while the cost of the post 9/11 G.I. Bill, which is already projected to cost 63 billion dollars over next ten years (Hulse) would skyrocket. In addition to education benefits, the cost of training, feeding, paying, and transporting service-members would increase from the growth in military population. Consequently, the only solution to this problem would be cutting the education programs all together. Such measures would incite anger and further discontent in the military and amongst veterans groups.

Imposition of military service obligations upon the youth goes against fundamental human rights and the American ideology in which one is a master of his or her destiny. It is clearly stated in the 13th Amendment that compulsory service is illegal, "Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction" ("13th Amendment"). Infringement upon civil rights will result in an insurgency of unrest amongst the people. To illustrate this point, we can see that throughout American history there has been severe backlash from citizens opposed to conscription into the armed forces. For example, during the Civil War Abraham Lincoln attempted to draft forces into the Union Army in order to save the union. As a result in New York City, riots broke out amongst citizens unwilling to serve, and they began a crime spree of arson and the murder of African

Americans (Harris 289). Another example is the riots that took place at the 1968 Democratic National Convention in Chicago. In conclusion, given the level of tension regarding the Iraq and Afghanistan theatres, we should not pursue a doctrine of compulsory service in order to avoid riots the likes of those mentioned previously and to protect American freedoms.

It is easy to see now the faults of universal military service in America. Since Richard Nixon abolished the draft, our military has become more efficient and effective because of the lesser number of service members required to complete assigned missions. This has also created general satisfaction amongst the population. While there may be some benefits to a draft, the misfortune that accompanies one is something we cannot afford.

Works Cited

- Bandow, Doug. "Tracing Voluntary Military Service." *Washington Times*. Washington Times, 23 Dec. 2009. Web. 23 Feb. 2010.
- Industry Canada. *UVIC Archives and Special Collections*. Web. 24 Feb. 2010.
- Harris, Leslie M. *In the Shadow of Slavery: African Americans in New York City*. Chicago: University of Chicago, 2003. Print.
- Hulse, Carl. "House Approves Veterans' Education Aid In A Deal On War Spending." *The New York Times*. The New York Times, 20 Jun. 2008. Web. 22 Feb. 2010.
- Rangel, Charlie. "Bring Back the Draft." *The New York Times*. New York Times, 31 Dec. 2002. Web. 3 Mar. 2010.
- Scott Tyson, Ann. "A Historic Success In Military Recruiting." *The Washington Post*. The Washington Post Company, 14 Oct. 2009. Web. 24 Feb. 2010.
- "Thirteenth Amendment." Encyclopædia Britannica Online. 2010. Web. 25 Feb. 2010.



Believe in Second Chances

By Ann Williams

ENGLISH 101

Ann was born and raised in Tacoma and hopes to major in psychology and English. She shares that “when writing, one of the hardest things is dealing with the emotional release you achieve from writing a piece that is such a part of you.” Ann chose this topic because “it is the raw and ugliness in life that one must own up to and go through, which in turn teaches us valuable life lessons. I am alive because of being given a second chance; everyone should be given that same opportunity. Just because you once did something does not mean you should be defined by that action.”

Ann advises other writers to “write from your heart. Share your experiences and all that you know. Write about what and who inspires you. Thank you, Tony McCane – you will forever be an inspiration to me!”

I believe in being given second chances. I was “chasing the dragon,” as the junkies walking the concrete jungle call it, meaning that I was shooting up or smoking heroin. My choice was the hypodermic needle method, piercing my skin, waiting to see if I hit a good vein. In a flash the heroin in the needle mixed with my blood, and began rushing through my veins. Within seconds, I was blasting off to another plane; so I could numb myself from life, from the pain, from my mere existence. I was plummeting downward into a vast terrain which was riddled with corpses; junkies getting so high it was better than being dead and it did not even care. A train wreck was coming fast. “God help me,” I yelled at the top of my lungs, so loud that my voice erupted like a volcano, but no one seemed to hear anything. “Please, it’s not my turn. I have more to do here on earth. I’m not ready.” I made a grave mistake, one which changed my life forever. I overdosed, but was given a second chance.

I was sitting on a grungy bathroom floor, dirty and yellow in color. I remember the disheveled man saying, “Can you feel it?” as the needle pierced my skin. I responded in a slow drawn out “Yeah,” as the heroin had hit my bloodstream. “Poof,” as if in an instant, I was in the living room, sitting in a chair nodding off. I was trying to figure out why my clothes were wet. What had transpired from the bathroom floor to sitting in chair in the living room was a mystery to me.

Three weeks later my friend told me a story: my story. I had overdosed. I was either going to be revived or tossed into the alley like I was a dirty, rotten bag of trash; left for vermin

to devour away at my rotting corpse. I was twenty three at the time, clean for one year; but slammed head first into a concrete a wall. I had hit rock bottom so fast I didn't even know it. I can only account for the things I had remembered from that night.

Luckily, I have been given a second chance in life; a personal chance to make a change, and to do something worthwhile for others. I help my mother take care of my father, who had a massive heart attack and doesn't remember anything. I spend time with my family and close friends. I started Tacoma Community College in the winter of 2009, which makes me feel positive and useful. I now crave information, and love to learn. It's given me a new direction in life. I have met some very special teachers here at Tacoma Community College. I would certainly call them my mentors: People whom I look up to. I have the chance to be helpful to other students, which makes me feel proud. All these important and positive situations would never exist if I hadn't been given a second chance at life.



