St. Edward's University

PANGAEA
GLOBAL CONNECTIONS

STUDENT VIEWS ON GLOBALIZATION

volume 4   **summer 2012**

PANGAEA : GLOBAL CONNECTIONS
VOLUME 4 SPRING/SUMMER 2012

St. Edward's University

Student Views On Globalization

TABLE OF CONTENTS

I am pleased to introduce you to the fourth volume of *Pangaea: Global Connections*, published by University Programs at St. Edward's University. This faculty-mentored student journal publishes outstanding student work on global issues.

EDITOR'S NOTE

DR. LAURA HERNANDEZ-EHRISMAN

FALL 2012

I write this note during London's 2012 Olympic Games. As a spectacular international event, the Olympics is always a time to reflect on our global connections. Consumption is a key theme for understanding these events as well, as the games are spectacles of the commercialization of sport and culture. As Professor Alan Tomlinson once noted, "the Olympics has endorsed a global consumer culture quite as much as any noble historical ideal of international cooperation and universal peace." At the same time, London organizers have promoted the games as the "greenest Olympics ever," and have featured new sustainability projects, demonstrating a new awareness of the costs of the overconsumption of environmental resources.

In this volume, many of the student essays and articles focus on consumption as well, particularly the food that we eat. This theme was not a deliberate choice of the editorial board, but seems to reflect our students' greater awareness of the significance of their individual choices. Ruoyun Xu examines the historic background of some restaurants in London's Chinatown. Leigh-Anne Barnes and Bibiana Cantua reflect on both the personal meanings and the global connections of their favorite staple foods, and Emily Dunn writes about her choice to become a vegetarian after her research into the meat industry. Nayeli Garza continues this theme as she explores the rise of non-communicable diseases in the developing world. Other essays explore the consumption of other resources. John Langston looks at the benefits and the burdens of nuclear power in Japan, and Samuel Farias discusses the way that oil consumption is tied to just about every aspect of our daily lives.

Some other pieces in this journal focus on the struggles to improve education, global health and economic development in Africa. Collin Phillips discusses an innovative approach to educating South African street children through the Zip Zap Circus. Goldie da Costa analyzes the struggle to eradicate HIV/AIDS in Uganda, and Nicole Mejia reflects on the controversial CAMPFIRE development program in Zimbabwe. Two other students focus on Europe. Samantha Cook's article discusses the political and economic integration of the EU through an analysis of changing immigration laws.

This summer, Professor Joe Vitone's students studied at Asia Pacific University, and a sampling of their work is in this volume. Each of his students created visual narratives of their experiences in Beppu and other parts of Japan. Hunter Lawrence photographed his impressions of Moroccan culture, and Margo Sivin created a book of her visual impressions of Europe. Finally, Monica Acosta's poem reflects on the process of cultural immersion while studying abroad, a sensibility probably shared by many of these journal contributors, whose writings and images often emerge from meaningful international experiences. All of these contributors' works demonstrate a clear awareness of our many global connections.
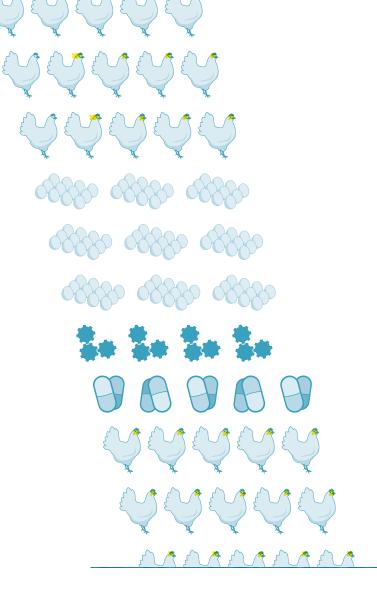
food and
who we are

Think Twice About that McRib

EMILY DUNN

I love meat. I ate Chick-fil-A's signature sandwich every Tuesday, Thursday and Saturday the majority of my high school career; I would do product endorsements for Whataburger in a heartbeat if asked. But this past semester I dropped meat altogether, and I have to say it's probably been one of the easiest life decisions to both make and stick to in my twenty years of existence. This is partly due to the fact that Austin is decidedly vegetarian-friendly, but I also like to think that this dietary choice has actualized one of my greater life dreams: to consume a carb- and chocolate-centric diet.

Baguettes and nutella aside, going vegetarian has also been a more conscience-friendly decision. Once I started looking into what modern Americans deem the "factory farm", my personal morality dictated a change of habit. I am sympathetic with meat-lovers, but I believe that if more Americans explored the modern factory farm, we would understand the global repercussions behind every cheeseburger and chicken sandwich—something that, as you'll soon see, could potentially solve quite a few of our current environmental dilemmas.

In 1923, Celia Steele was just an ordinary housewife. Allegedly, she was tending to her family's chickens in Oceanview, Delaware, when she received five hundred chicks instead of the order of fifty she had been expecting. Rather than forfeit the investment as a lost cause, she chose to experiment with keeping the chicks indoors in order to keep as many alive as possible throughout the winter. Overcrowded and deprived of both sunlight and exercise for months, Steele's birds never would have survived if not for the newly-discovered benefits of adding Vitamins A and D to the birds' feed. Recently-invented artificial incubators also ensured Steele could continue to order more eggs and keep them alive and hatching (Stull). Essentially, years of research were converging and amplifying one another in unexpected ways, and it was all happening with Celia Steele's chickens. Just ten years after her breakthrough, the Delaware-Maryland-Virginia peninsula Steele called home was the chicken capital of the world (Striffler). Her home county of Sussex in Delaware currently produces upwards of 250 million "broiler"

4

chickens - as opposed to "laying" chickens - a year; poultry production is the primary economic activity in the region, and the primary source of its pollution (one-third of all of the groundwater in the peninsula's agricultural regions is contaminated with nitrates from the poultry industry) (Ward; Hamilton).

Herbert Hoover was promising "a chicken in every pot" by 1928, and though that slogan would be actualized, no one could have guessed how. As American industry increased in the United States in the twenties and thirties, a new hybrid emerged which straddled the line between industry and agriculture: the factory farm. The early 1930's marked the entrance of some big players, Arthur Perdue and John Tyson, who would alter how animals were farmed forever. By underwriting new "innovations" in poultry production - hybrid corn (which provided cheap feed with the help of government subsidies), "debeaking" (the process of searing off a chicken's beak to ensure fewer chickens can harm other chickens or themselves), and automated lights and fans (which simulate longer, more frequent daytimes to trick chickens' bodies into quicker development or more frequent laying) - Perdue and Tyson ensured maximum

"bang for your buck", engineering all details of chickens' lives to produce more meat for less money. By the mid-40's, the industry could find no obvious ways to further streamline the operation. In 1946, it turned its gaze towards genetic engineering (Mason).

"CHICKENS OF TOMORROW"

With the aid of the USDA, the poultry industry of America launched a "Chicken of Tomorrow" contest in 1948 to create a chicken with maximum breast meat for the least amount of feed. The winner, Charles Vantress' scarlet-feathered Cornish-New Hampshire hybrid, was a broad-breasted bird used to living on a modest diet. This new attention to the chickens' genetics was also fueled by the recent introduction of sulfas and antibiotics to chicken feed. Both drugs encouraged growth in the birds while keeping the diseases induced by their poor environments at bay. Industry engineers were quick to develop food and drug regimens that catered to the specific needs of the "Chickens of Tomorrow", and by the 1950's there weren't just "chickens" anymore, but two distinct types of chickens - one for eggs, one for meat (Mason).

Factory-farmed chickens were, by the 1950's, intensively manipulated to manufacture either excessive amounts of eggs (layers) or excessive amounts of meat, particularly breast meat (broilers). Genetic alteration and drug administration made possible the dramatic increase in the weight of broilers - 65 percent, from 1935 to 1995 - while minimizing their feed requirements (which dropped 57 percent) and time-to-market (which dropped 60 percent). To really appreciate this change, imagine a human child growing to be three hundred pounds in ten years while only eating power bars and vitamins (Boyd). And not only did drug administration and genetic alteration make such growth possible, they also dictated the lives of the chickens themselves: chickens born from such conditions could no longer live without drug administration, or in any sort of natural environment, without experiencing extreme pain, limited to no mobility, and ultimately death.

By the late 1950's and the early 1960's, poultry companies started to buy up all levels of the poultry industry - what industrialists would call "vertical integration". From the genetic pool and the birds themselves to the drugs and the feed, all components from start to finish were soon to be united under a meager handful of brands. Today, two companies own three-fourths of the genetics for all broiler birds in the world. (Aho). Not only were techniques changing, genetic uniformity replaced chicken biodiversity; a business once commanded by women was flooded with men, and independent farmers were replaced with low-wage laborers. Universities changed "Departments of Animal Husbandry" to "Departments of Animal Science". Able to tolerate inhumane conditions, chickens were crammed into what we now call "factory farms": multi-tiered intensive confinement systems erected where barns once stood, capable of holding thousands of animals. Once the genetic concepts were applied to cows, pigs and turkeys, the transformation of the agricultural industry was complete. According to a 2007 census inventory, 99.9 percent of chickens, 99 percent of turkeys, 95 percent of pigs, and 78 percent of cattle consumed in the United States originated on a factory farm.

THE OMNIVORE ENVIRONMENTALIST

With developments so recent and so colossal, the public eye has only recently turned towards factory farming and its potential effects on the environment. In 2006, a University of Chicago Study found that our choices in diet contribute as much to greenhouse gases as do our choices in transportation (Eschel). Mere months later, the United Nations conducted more authoritative studies on the matter, and concluded that, when comparing dietary choices to transportation choices, what we choose to eat actually has more effect on our climate. According to the United

Nations, the livestock sector is responsible for about 18 percent of greenhouse gas emissions, which is about 40 percent more than the entire transportation sector (cars, eighteen-wheelers, trains, planes, and ships) combined ("Food"). The most current data even goes one step further: AFP recently authored and published a study stating that omnivores contribute seven times the amount of greenhouse gases that vegans do ("AFP"). The UN summarized the meat industry's environmental effects as such: raising animals for food (whether on traditional or in factory farms)

...is one of the top two or three most significant contributors to the most serious environmental problems, at every scale from local to global...[animal agriculture] should be a major policy focus when dealing with problems of land degradation, climate change and air pollution, water shortage and water pollution and loss of biodiversity. Livestock's contribution to environmental problems is on a massive scale.

One can no longer call oneself an environmentalist while continuing to eat meat without falsely defining the term "environmentalist" ("Food").

Regardless of whether or not you would apply the term "environmentalist" to yourself, America's attitude toward Mother Earth has proven especially poor when compared to other developed countries. While European nations are starting to implement programs and financial incentives to aid in environmental protection - essentially responding to the problem of a collapsing global environment - Americans are still debating whether or not there is a problem with the environment. The United States is setting an abysmal example for the rest of the world.

EVEN THE POOR ARE RICH

As Steger notes in Globalization: A Very Short Introduction, the cultural aspect of globalization is a poignant one, especially within the last decade or so. The worldwide web has connected an unprecedented amount of people; theoretically, anyone with access to a computer can now connect to an Internet source and view the content of, chat with, and transfer money to any computer, anywhere else on the globe. "Individualism, consumerism, and various religious discourses" are now "circulated more freely and widely than ever before" (72). For proof of this, personal experience: my recent travels took me to Karakol, Kyrgyzstan. I lived at the base of the Celestial Mountains, in a host family's home right at the foothills. Their society was rural and their village was small, maybe eleven or twelve families; my "sister", Farida, attended the local university - a half-hour bus trip away. On the last day of my thirty-day stay with them, I asked them to teach me to cook a special

kind of dumplings that they had made for me - they were so delicious, I wanted to make them back in America. They agreed, but on one condition: "You teach us to make pizza." In case you didn't notice, not only did they want to learn to make pizza - Western food, thanks to Italy - but Farida also spoke fluent English. That was actually why she was attending the local university: her family was paying for her to go and learn English so that she could move to Bishkek, Kyrgyzstan's capital city, and either make a better living teaching English, or - hopefully - move to America. "We all want to move to America," Farida said and her two sisters

because it tastes good. We are consumers, just as all living things are, but never before in our planet's history have an animal's consumptive patterns been so catastrophically high. Steger outlines the "Major Manifestations of Global Environmental Degradation" to include the following: genetically modified organisms (GMOs), global warming/climate change, food insecurity/diseases, trans-boundary pollution, patterns of consumption, population growth, loss of biodiversity, And hazardous waste/industrial accidents/warfare (90). As the leading consumer of meat, paper, fossil fuels and passenger cars (according to a 2001

For every calorie of processed meat you chew, it took about 1,000 calories to process it and far more than that to keep the animal alive until slaughter. In fact, the industry holds a rough 1:7 ratio: for every one calorie of beef produced, it took seven calories of grain energy to keep that cow fed (the ratio is 1:4 for pork and 1:2 for poultry).

once told me. "You can be rich there." Perhaps there was some truth to that statement for three sisters, aged sixteen to twenty-four, whose primary toilet was a well-dug hole in the dirt. The indoor plumbing and clean water Americans take for granted would have seemed luxurious to them, as it would to most of the world. Who wouldn't want to live where there are huge selections in grocery stores year-round, accessible transportation, toilets that flush, and clean water to drink? Even America's most impoverished populations often enjoy more commodities than the rest of the world - meaning that, if given the chance, a lot of the rest of the world would take an opportunity to come to America, or, at least, to live with the luxuries Americans do. And therein lies a massive problem.

THE ECOLOGICAL DIMENSION OF GLOBALIZATION

As mentioned, America is not doing the greatest job of protecting the environment. In fact, according to Steger, Americans have actually bought into - quite literally - the idea that "the meaning and chief value of life can be found in the limitless accumulation of material possessions" (85). We buy and buy, living the most historically wasteful lifestyles planet earth has ever seen, because we believe it makes us more beautiful, or more successful, or happier - or

study by US Public Broadcasting Service), we can assume that America contributes, in some way, to all-aforementioned categories of global environmental degradation. Perhaps our technologically advanced water treatment plants spare us from being as hazardous to our neighbors as other neighboring countries, giving us less of an impact in the "trans-boundary pollution" category, and maybe more electric cars on the road in America has meant, since 2001, our contributions to the "global warming/climate change" category have been ever-so-slightly less significant. But America is still ignoring what the United Nations cannot: if you consume factory-farmed meat, you are contributing to every single one of the aforementioned categories.

Let's take a closer look at that statement. How does the factory-farmed chicken contribute, in any way, to population growth? Simply put, factory-farmed meat "sustains" population growth. The practice itself, however - though the industry would tell you otherwise - proves vastly unsustainable. For every calorie of processed meat you chew, it took about 1,000 calories to process it and far more than that to keep the animal alive until slaughter ("Cornucopia"). In fact, the industry holds a rough 1:7 ratio: for every one calorie of beef produced, it took seven calories of grain energy to keep that cow fed (the ratio is 1:4 for pork

and 1:2 for poultry ["Worldwatch"]). However, that ratio does not take into account fossil fuel energy, for which the typical lot-fed cow packs a whopping 1:35 ratio - thirty-five calories of fossil fuel energy to create one calorie of beef (Pimentel). Without taking into account any other environmental harms (water consumption, land occupation, soil pollution, fertilizer and pesticide pollution, etc.),

reasons, industrial agriculture could also readily contribute to increased "trans-boundary pollution", as CO_2 pollution knows no bounds. According to an article in the Washington Post, slaughterhouse workers also have the highest injury rate of any job - 27 percent annually, most certainly contributing to the "industrial accidents" component of the "hazardous waste/industrial accidents/warfare"

Americans need to ==stop pretending we do not know where our cheeseburgers and chicken sandwiches are coming from==, *and recognize that our culture's comfort with little to no accountability affects more than just our own nation.*

---

factory-farmed meat is easily the least efficient and least sustainable way to consume calories. But if one only takes into account farm-raised animals, then animal agriculture could certainly appear sustainable. Considering most scientists predict the total collapse of all wild fish species within the next fifty years (yes, if you're below thirty or perhaps even forty, all marine ecosystems are predicted to collapse within your lifetime), factory-farmed meat, which presumably produces animals at the same rate that it ships them off for consumption, could seem like a practical alternative (Worm). Only, as we just discussed, factory farmed meat is not sustainable. It consumes fossil fuels at an unsustainable rate and produces food in the most environmentally costly way possible. If anyone tries to tell you that factory farmed meat is a practical way to feed the world's growing population, hopefully you now know that feeding the world via industrial agriculture is possibly the least practical and most harmful solution to such a problem.

The effects of American factory farms don't end with concerns about population growth. As mentioned previously, all species of animals born and raised on factory farms would fall under the category of "genetically modified organisms" due to their diet of genetically modified feed. (To avoid this, look for key labels such as "100% grass-fed", though finding non-GMO chicken is next to impossible, unless you know someone who raises chickens.) Because so many fossil fuels go into both the production and distribution of factory-farmed meat, the industry contributes to global warming and climate change. For similar

category (Warrick). And the continuous consumption of factory-farmed meat ensures that the affects are far from transitory; rather, its poor effects will only continue to flourish as other nations adopt our consumption habits.

And what of the last category, "food insecurity/diseases"? Viruses such as the recent Swine Flu, H1N1, and the less recent Bird Flu, which caused the major epidemic deemed "Spanish Flu" of 1918, are both based on zoonotic (animal-to-human or vice versa) pathogens. The Director of the World Health Organization stated recently that "We know another pandemic is inevitable...it is coming." Such epidemics originate when a human comes into contact with a diseased animal and contracts a rare strain of virus that is capable of adapting to the human body. The conditions in which factory-farmed animals are kept are more than conducive to such diseases. For example, the average layer hen, cage free or not, has approximately 67 square inches in which to live its entire life - about half of the size of this page ("Cage Free"). Scientific studies and government records suggest that virtually all (upwards of 95 percent of) chickens are contaminated with E. Coli (which indicates fecal contamination) and between 39 and 75 percent of chickens in retail stores are still infected. Chicken parts are commonly dragged through chlorine baths prior to packaging to remove slime, odor and bacteria. Around eight percent of birds are infected with salmonella at the time of sale; 70 to 90 percent are infected with campylobacter, another extremely deadly but less-known pathogen (Zhao; "Nationwide"). The National Academy of Sciences

Institute of Medicine summed up all of this data quite nicely: a zoonotic pandemic in humans is "not only inevitable, but overdue." (Smolinski)

MOVING FORWARD

If Steger's "McDonaldization" theory is any indicator, the global demand for factory-farmed meat is only going to continue to grow. Other nations have proven all-too quick to adopt American ideals; just as McDonald's has grown and flourished abroad, so do the values it represents. On the surface, this translates into a value of predictable, customer-centric service; in practice, this translates to the dehumanization of social relationships and a willingness to be far-separated from the origin of the foods one eats. And, as we just explored, this separation, this ignorance, is not without its environmental impact. "For better or worse, human-made environmental degradation has emerged as both a powerful cause and effect of globalization," notes Steger (97). Can America afford to continue to endorse large-scale environmental destruction as we simultaneously realize our role as global leaders? Is this truly the legacy we hope to leave? Americans need to stop pretending we do not know where our cheeseburgers and chicken sandwiches are coming from, and recognize that our culture's comfort with little to no accountability affects more than just our own nation. You can eat one less McRib a week, or join my grilled cheese and flourless chocolate cake diet plan. All of our dietary decisions have consequences, and we can't afford to continue making the wrong ones.

WORKS CITED

AFP, "Going veggie can slash your carbon footprint: Study," AFP. 26 August 2008. Web. 15 December 2011.

Aho, Paul, "Feather Success," Watt Poultry USA. Web. February 2002.

Boyd, William, "Making Meat: Science, Technology, and American Poultry Production," Technology and Culture 42.4 (2001): 631-664. Project MUSE. Web. 15 December 2011.

"Cage-Free Egg Production vs. Battery-Cage Egg Production," Humane Society of the United States. 23 June 2009. Web. 15 December 2011.

The Cornucopia Project. Empty Breadbasket? The Coming Challenge to America's Food Supply and What We Can Do About It. Emmaus, PA: Rodale Press, 1981. Print.

Eschel, G. and P. A. Martin, "Diet, Energy and Global Warming," Earth Interactions 10.9 (2006): 1-17. Print.

Food and Agriculture Association of the United Nations. "Livestock's Long Shadow: environmental issues and options" Rome: fao.org. 2006. PDF file.

Hamilton, P.A., R J Shedlock, and P J Phillips. Water quality assessment of the Delmarva Peninsula, Delaware and Virginia. US Geological Survey, 1987. U.S. Geological Survey Water Supply Paper 2355. usgs. gov. Web. 15 December 2011.

Mason, Jim. Animal Factories. New York: Three Rivers Press, 1990. Print.

"Nationwide Young Chicken Microbiological Baseline Data Collection Program," Food Safety and Inspection Service, November 1999-October 2000. PDF file.

Pimentel D, J Houser, E Preiss, O White, H Fang, L Mesnick, T Barsky, S Tariche, J Schreck, S Alpert. "Water resources: agriculture, the environment, and society. BioScience 47.2 (1997):97–106. Print.

Smolinski, M. S. et.al. Microbial Threats to Health: The Threat of Pandemic Influenza. Washington, D.C.: National Academies Press, 2005. Print.

Striffler, Steve, Chicken: The Dangerous Transformation of America's Favorite Food. New Haven, CT: Yale University Press, 2007. Print.

Stull, Donald and Michael Broadway. Slaughterhouse Blues: The Meat and Poultry Industry in North America. New York: Wadsworth, 2003. Print.

Ward, Lynette M., "Environmental Policies for a Sustainable Poultry Industry in Sussex County, Delaware," Ph.D. dissertation, Environmentaland Energy Policy, University of Delaware, 2003.

Warrick, Joby, "They Die Piece by Piece," Washington Post, April 10, 2001. Print.

World Health Organization, "World is ill-prepared for 'inevitable' flu pandemic," Bulletin of the World Health Organization, 2004. Web. 15 December 2011.

Worldwatch Institute. Vital Signs 1998. New York: W.W. Norton, 1998.

Worm, Boris, Edward B. Barbier, Nicola Beaumont, J. Emmett Duffy, Carl Folke, Benjamin S. Halpern, Jeremy B. C. Jackson, Heike K. Lotze, Fiorenza Micheli, Stephen R. Palumbi, Enric Sala, Kimberley A. Selkoe, John J. Stachowicz, and Reg Watson. "Impacts of Biodiversity Loss on Ocean Ecosystem Services." Science 314.5800 (2006),787-790. [DOI:10.1126/science.1132294] Web. PDF File.

Zhao, Cuiwei, Beilei Ge, Juan De Villena, Robert Sudler, Emily Yeh1, Shaohua Zhao, David G. White, David Wagner, and Jianghong Meng. "Prevalence of Campylobacter, Escherichia coli, and Salmonella Serovars in Retail Chicken, Turkey, Pork and Beef from the Greater Washington, D.C. Area," Applied and Environmental Microbiology 67.12, (2001). Aem.asm.org. Web. PDF File.

Exploration Chinatown
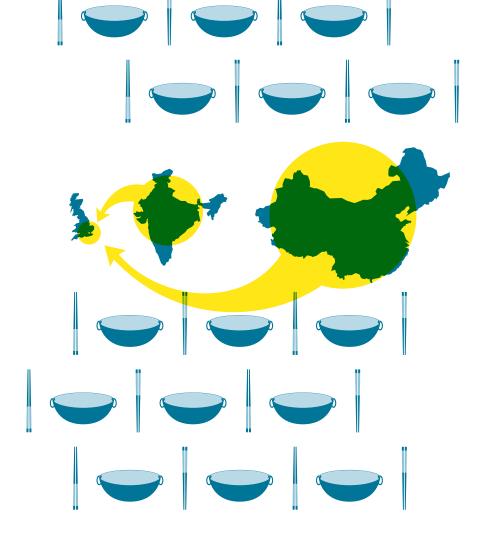
RUOYUN XU

For a part of my fall break I was able to visit London, and by that time of the semester I was craving traditional Asian food, so I sought out Chinatown. While I was there I noticed that the majority of Chinese cuisine offered was from Hong Kong, most notably the Hong Kong BBQ. This is understandable because China was not fully opened to foreign markets until after the Opium War and most of the contact was from the British colony of Hong Kong. We also had Indian food the night before because we were told that the best Indian food can be found in London. Since India was one of the major British colonies for at least 400 years, it is logical that Indian food has had a huge impact in London, particularly curry. The popularity of both cuisines in London have been influenced by the rise in immigration from both countries that created communities in London, and the popularity of the food among British soldiers and officials who travelled extensively in these two countries from the colonial era to after World War II.

The first wave of immigrants from China came from Hong Kong after the Opium War and were mainly sailors who worked for the East India Company. These sailors abandoned ship once they reached London because they wanted a better life than the corrupt life in China that they had left behind. By 1908 the first restaurants were opened for the Chinese community that grew with the rise of trade between China and England, mainly through the East India Trading Company. The original Chinatown was first established on the East side of London where many seamen who worked for the East India Trading Company lived. During World War I, Chinatown was destroyed by the Blitz and the Great Depression in the 1930s that followed caused immigration to slow down to practically nothing. Trade was down and many restaurants closed because there was no staff or supply of spices. At the end of WWII, many British soldiers who came back from China had acquired a preference for the taste of Chinese food, which created a sudden rise of popularity for this cuisine in London. In 1958 the restaurant Lotus House came up with the idea of takeout in order to keep up with the popular demand, because during that time the middle class was willing to go out to eat more. Chinese cuisine was first introduced because of British imperialism, and grew in popularity because of the experiences of soldiers stationed abroad and the growing wealth of the middle class. When I ate in contemporary Chinatown, I felt that it was very similar to restaurants back in Hong Kong, as if I had walked through a portal that led me back to Hong Kong. This proved me that

although Chinese cuisine did adapt to the British culture, it was still true to its traditional roots.

Indian cuisine has had a longer history in London. For at least 400 years, starting in 1608, the East India Company began to trade in India. Just like Chinese immigrants, many of the first Indian immigrants were sailors called "lascars" associated with the East India Company. In 1773 the famous curry was introduced and by 1780 it was commercialized and recipe books were written for the British public. Curry became such a popular trade product—like tea, china and cinnamon—that it became an essential part of British culture. In 1809 the first Indian restaurant called the Hindostanee Coffee House opened, which was mainly an Indian community center, just as the first Chinese restaurants were for the Chinese immigrant community. This continued through the early 20th century with the Shafi, one of the most popular restaurants that opened in Chinatown when the current Chinatown was established on Gerrard Street. It wasn't until 1927 that the first fashionable Indian restaurant opened to the wider public called Veraswamy's on Regent's Street because of growing interest from the British public. Just like Chinese restaurants, Indian restaurants gained popularity after WWII and spread throughout England depending on the size of the immigrant community in towns. With the 1960's introduction of tandoor baking, Indian cuisine took off and now almost every Indian restaurant offers a dish made in a tandoor oven.

The most iconic image of the popularity of Indian and Chinese food is Chinatown itself. The Chinatown originally was located on the East side with the East India Company but due to the blitz attacks during WWII it moved to Gerrard , a street that is known for housing many waves of immigrants, artists, and writers. The establishment of Chinatown shows the establishment of the Asian communities in London.

For more information on restaurants to try in London visit:
WWW.CHINATOWNLONDON.ORG/INDEX.PHP

For more information on the evolution of Asian cuisine in London visit:
WWW.MENUMAGAZINE.CO.UK/BOOK/RESTAURANTHISTORY.HTML

ORIGINALLY WRITTEN FOR
DR. MITY MYHR
CULF 3330 | FALL 2011

A Spoonful of Tomato Basil Soup

LEIGH-ANNE BARNES

Food can elicit behaviors, emotions, and feelings when consumed. It is a profound subject that allows people to link themselves to others across the planet and explore the meaning of their choices. Therefore food has been extensively studied and discussed in the field of anthropology. Food anthropologists examine cultures' food practices and compare them to the global population. Anthropologists also observe their own food practices to enhance their comprehension of their individual community. They narrow their food practices down to a staple and investigate the food's physical and associated boundaries to understand their own connections they have with the food. After deep observation of eating the staple the anthropologist will generate a question involving their relationship to the food. I began the journey of investigating my staple food, tomato basil soup, in the spring of 2011. The question I generated concerning my staple was: why does my mom send the soup to my sister and I while we are in college?

I used concerns I had with the soup: personal memories and Lenten traditions to guide me in creating the question.

The project is based on my connection and relationship to tomato basil soup, my staple food. The places I savored the soup and experienced turmoil and enlightenment were in three small communities: my dorm room, my home in Houston, and my boyfriend's apartment. In all of these places I had an experience that was distinct to each location. To acquire data about the soup's significance for me, I would take field notes in a journal and then write them on my computer. The time from taking notes and writing them on the computer gave me a moment to reflect on what I sensed during my meals. I also used a video recorder and a camera to capture the moments I could not write down, like my mom explaining my Polish heritage. Through this entire process of more deeply connecting with my food, I want to celebrate how food is able to repair broken relationships because it elicits behaviors, feelings, and memories.

The soup entered my life through my grandmother's Polish heritage on her mother's side. My grandmother grew up having the soup during Lent because the consumption mato to the Europeans was slow because they associated the fruit with poison and wayward behavior. Over time the fruit was employed in many meals and eventually it made its way to the United States. Two important men in the United States, Thomas Jefferson and George Washington, advocated cooking with the fruit to improve diets and thus it spread westward (Cox). The other ingredient, basil, originated in India and later spread to Egypt by winds that carried the seeds. Many cultures believed that basil had supernatural powers; for instance, in Hinduism the God Tulasi forgives an individual if they eat the herb (Filippone). The herb spread globally, and eventually Europeans brought the plant to the Massachusetts Bay Colony and it mushroomed among colonies, spreading rapidly across the Americas.

Today, the soup can be bought in cafés or in grocery stores in twelve-ounce jars for $8.50. I get the La Madeline version of the soup both from my own purchases, and from my mom sending it from Houston Texas. Before the soup can be bought in cafés or in stores, it is manufactured and distributed by Gourmet Cuisine, a parent company of La Madeline located in Mesquite, Texas. Gourmet Cuisine creates La Madeline's signature Tomato Basil soup, Country Potato soup, Mushroom soup, and French Onion soup (Gourmet Cuisine). The company receives their tomatoes from a California tomato farm, which have no reports of mistreatment of their workers. Globally, however, tomato farms are notorious for the abuse of their workers. For example, generally companies employ young women as low paid unskilled workers. The workers are only hired on an hourly basis; so if the company does not need them, the workers would be sent home with no pay (Barndt). In addition, tomato farms have ecological implications—pesticide usage. Pesticides protect the plants and allow the produce to grow rapidly, however the pesticides also kill birds, terminate the pollination of bees, contaminate the aquatic environment, and harm the human body (Kahn). Paradoxically, pesticides help produce tomatoes that look very healthy, and the luscious appearance of the tomatoes encourages stores to purchase these tomatoes, and the tomato farms to continue to use pesticides.

Beyond my bowl, my soup is linked to the first grown tomatoes in South America and the herb basil from India. Also, it connects me to the mistreated workers of the global tomato farms and those humans and animals that have been harmed from the pesticides used on the farms. Finally, the soup associates me to the bottling machines in Mesquite, Texas, the company La Madeline, and all the people in the world who buy the soup.

I consume the tomato basil soup as a teenage college student in Austin, Texas. It is my staple food that has brought me comfort while being in a new place away from home. I purchase it from a chain café, La Madeline, because I am unable to prepare the meal in my dorm from scratch. Before my consumption of this staple in college I would occasionally eat it when my mom prepared the meal as a Polish tradition. The ability I have to purchase the food from a grocery store or a café is consistent with the food consumption practices of this part of the world. The global north's practices are rooted in the idea that food should be an instant gratification; it should be from the grocery store, fast food restaurants, and manufacturers (Hyland). My situated food consumption in the global north enables the manufacturing companies and groceries stores to continue their practices.

My relationship to the soup is also connected to personal memories and Lenten traditions. The soup fosters an emotional connection to my family while I am away at college. In one of my field notes I state: "the flavors bring me to the table with my family and relieve the sorrow I have from being away from home." I ate the soup to be comforted from the stress that I was feeling from school and loneliness. Comfort is commonly associated with foods for lowering stress, producing memories, and soothing the human mind (Wasink). It is for those reasons that I ate the soup the most. A recent psychological study found that "women see comfort food as a way to relieve stress and often prefer foods that are sweet" This study applies to my staple food because the soup had a subtle sweet flavor that made it more attractive than cream of mushroom.

The soup not only comforted me but it is also a Polish tradition that has been passed down through the generations of women in my family; thus it is a matriarchal custom. In the interview with my mom she explained, "The soup ties you and me back to the real women of our family; it may be delicious, but it encompasses more than flavors." My mom explained that the soup is more than just a substance; it is a source for our family to be remembered, a tradition. The soup originated in Italy and was brought to Poland by the marriage of King Zygmunt to the Italian Princess Bona Sforza in the sixteenth century (Urban-Klaehn). After the marriage, soups became widespread in the Polish culture and became a custom to eat during Lent. Thus, my family's tradition is linked to a larger cultural practice. As I ate the soup one night I thought, " I am eating something that is greater than the bowl it is in, I am eating a tradition." When I ate the soup I felt empowered by this insight. When I eat the soup I am not just doing it for myself but for the continuation of a family tradition.

Even though the soup comforted me, at times I felt a

> *In each area where my staple is found there is a community history linked to its consumption. Eating in a community began after cooking with fire was invented. It is also linked to social stratification; those who hunted the best game and provided for their community the most food were considered elite.*

tension that was tied to my memories of my sister. I have had a difficult relationship with her. Because she also ate the soup in college, my consumption was a reminder of her as well. According to an article on early childhood memory, "trauma and maltreatment can affect memory as well as traumatic experiences" (Cordon, et al). And my trauma is connected to my reactions to eating the soup. Now, the soup has a sour taste after I swallow. In my field notes on March 23,2011, I wrote, " I am angry at the soup, I do not want to be reminded of my sister, I want to just be comforted by memories of being home." After this day, I stopped eating the soup because I detested these reminders, and those emotions overpowered my positive associations with the soup.

In each area where my staple is found there is a community history linked to its consumption. Eating in a community began after cooking with fire was invented (Robbins). It is also linked to social stratification; those who hunted the best game and provided for their community the most food were considered elite. The other people in the community would then assign roles for others: the gatherers, cooks, and cleaners (Robbins). My social identity is also linked to food consumption. I am a female, Catholic college student. I am part of both my home and college communities. It is in these places that when I eat the meal I negotiate my identity. When I eat the soup in the dorm room all of my identities intersect. In my room I eat the soup to be comforted from an overwhelming college experience and to continue a tradition that has been passed down through the women in my family. I also eat the soup to continue a Catholic matrilineal tradition, and this identity continues when I make the soup at home.

THE JOURNEY COMES TO AN END

The process of my staple research has transformed

significantly from the free write to the final draft. The free write was an immature paper that lacked the understanding of concepts within ethnographic research. For instance, at first, the paper was based on my own data and did not include interviews or observations from people within my community. Eventually I learned that for me to further understand my relationship to my staple I needed insight from others with whom I ate the soup. However, for my paper to be well-rounded I also needed expert information to support the areas of concern that were found in my relationship to my staple. Therefore, I needed reliable sources such as books, scholarly articles, and periodicals. By mid-paper I grasped the main source for my research, a psychological article that focused on comfort foods linked to certain ages and genders. With the article's aid my paper started to come together. If I were to continue my staple project I would like to discover sources that deal more on tension memories because I want to learn about the relationship I have with my sister and the soup.

The use of ethnographic research within my paper was crucial for my understanding of the relationship I have with the soup and for answering my research question. My own auto ethnographic methods consisted of me videotaping myself eating the soup and writing down what I was thinking; I was in deep hang out mode with only the soup on my mind. The time I had with the soup during this process became a ritual that I had to do every day so I could achieve knowledge about my relationship with the food. Nonetheless, the auto ethnography was not enough for me to understand my staple; I needed help from others. From the interview I had with my sister and my mom I discovered additional information that enhanced my connection to tomato basil soup and that answered my research question. I discussed the soup with my mom because I wanted to

learn about our traditions and why she sent the soup to my sister and I while we were in college. I interviewed my sister because I wanted to know why she ate the soup in college. Each interview was different; my mom's interview was taken while she was preparing the soup, and my sister's was through an email. Nevertheless, both interviews provided important information; my mom's told me about our family's traditions and my sister's explained that she was comforted by tomato basil soup as a freshman in college. When I interviewed my mom she told about the tradition of the soup being passed down from generations of women in our family. I asked her directly if she sent the soup to continue the tradition. She affirmed this to be true. This was my first rich point of the project. The interview with my sister was the other rich point of my project. She shared with me her insecurities when she went away for college and explained how the soup comforted her, as it is doing for me now. The soup has started to mend our broken relationship because it allowed me to connect to her in ways I have never done before. From this I was able to answer my research question on why my mom sends the soup to us. The answer was simple; she wanted my sister and I to feel comforted since we have never experienced leaving home before, but she also wanted to keep us tied to a family tradition. Despite, the rich point I had with my sister, I also had challenges along the way. For instance, after eating the soup every day the flavors started to dull and I got nauseous when the soup's aroma hit my nose. I questioned if I could continue the practice when it no longer was appealing to me, so I gave the soup a break. After a while I missed the feelings the soup produced and slowly started back to my everyday soup routine.

Ethnography allows an anthropologist to further understand a subject by the use of interviews. In self -video interviews I would use my computer's photo booth application to record myself eating the soup. The screen would go black and I would forget about being recorded. It was during this time while I ate the soup that I made facial expressions associated to how I was feeling. Through me video recording myself I was able to tell immediately if I was sad, happy, or upset by the face I was making. This video recording was not only helpful for a project but also for day-to-day venting. However, I learned a lesson about observant participation—one should only get involved in a task in the community one is observing if they are asked. This occurred when I was observing my mom cook and I assumed she needed my help. However, she just wanted to show me how she makes the meal.

Ethnography has daily practical uses. It allows one to think in someone else's shoes by observing their actions. From that we can understand why others act differently from ourselves, which then allows us to be more open to the world around us. Through this project I have learned how food can connect us to our feelings, and to a web of human cultural practices. I also discovered that food has the capability to mend relationships. My sister and I connected for the first time over why we both ate the soup in college. Now we are working through our issues, and I thank the project, and tomato basil soup for helping me begin this process.

WORKS CITED

"About Us | Gourmet Cuisine." Introducing Gourmet Cuisine | Gourmet Cuisine. http://www.gourmet-cuisine.com/about 2011. Web. 28 April 2011.

Barndt, Deborah. "Whose choice ? Flexible women workers in the Tomato Food Chain." In Tangled routes: women, work, and globalization on the tomato trail. 2nd ed. Lanham, Md.: Rowman & Littlefield Publishers, 2008: 453-461. Print.

Cordon , Ingrid , Margaret Pipe, Liat Sayfan , Annika Melinder, and Gail Goodman . "Memory for traumatic experiences in early childhood." Developmental Review 24 (2005): 101-132. Print.

Cox, Sam. "Tomato History." Landscape Imagery Nature Photography. http://www.landscapeimagery.com/tomato.html 2000. Web. 28 April 2011.

Filippone, Peggy Trowbridge. "Basil History." Recipes - Home Cooking recipes, cooking tips, and help for the home cook. About.com. 2008 . Web. 28 April 2011. http://homecooking.about.com/od/foodhistory/a/basilhistory.htm

Hyland, Robert . "Mind Control: Propaganda in the 21st Century." Food for Thought . wordpress.com. 2011. Web. 22 March 2011. https://mindcontrolandpropaganda.wordpress.com/2011/01/11/food-for-thought/

Khan , Zaheer. Adverse Effects of Pesticides. Columbia : Simon Fraser University, 2005. Print.

Robbins, Richard Howard. Cultural anthropology. Belmont, Calif.: Wadsworth, 2011. Print.

Urban-Klaehn , Jagoda . " Old Polish Cuisine: History of Food in Poland | Polish Culture Website - Polishsite." Polishsite. 2006. Web. 28 April 2011. http://www.polishsite.us/index.php/food-and-recipes/reviews-and-tips/223--old-polish-cuisine-history-of-food-in-poland.html .

Wansink, Brian. "Exploring comfort food preferences across age and gender." Physiology & Behavior 79 (2003): 4-5. Print.

Vegetarian Struggles:
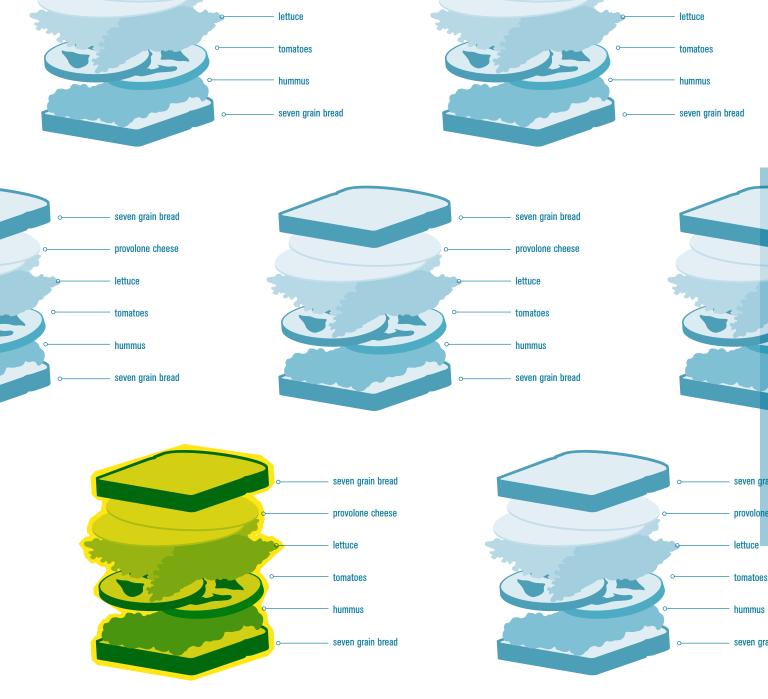## *through the lens of a Mexicana living in Austin Texas*

BIBIANA CANTUA

After spending countless hours thinking about serious topics like the Great Depression, the Peronista movement in Argentina and the overpopulation epidemic of dogs and cats, there is something very appealing about eating a delicious provolone cheese, lettuce, tomato, and hummus sandwich on seven grain bread. It is like a fresh break from the difficult social and historical issues that consume your college career. At least for me it is. As a history student in St Edwards University I have found that this personalized sandwich (which I will call "Hummus Melt") reflects various aspects of my life – the good and bad – while encompassing my vegetarian experience.

UNDERSTANDING THE PROJECT:

Throughout my life, I wanted to be a vegetarian – I can not describe the allure of such a lifestyle. One of the most influential historical figures in my life has been Mohandas K. Gandhi; learning about his practice of non-violence changed the way I viewed the world. I believe that non-violence must be directed to all, even non-human animals. However, I experienced resistance from my family, friends, and society as I gradually made such transition. For this reason, I feel that the Hummus Melt illustrates various aspects of my life; it also represents me as a college student. It is easy to prepare, requires very few ingredients and time to eat. At the same time, this simple meal embodies many of the struggles I have experienced as a vegetarian living among meat eaters. Therefore, the chronicle of these struggles and my own journey as a vegetarian will be subsequently revealed. My motivations stem from the

lettuce

tomatoes

hummus

seven grain bread

lettuce

tomatoes

hummus

seven grain bread

seven grain bread

provolone cheese

lettuce

tomatoes

hummus

seven grain bread

seven grain bread

provolone cheese

lettuce

tomatoes

hummus

seven grain bread

seven grain bread

provolone cheese

lettuce

tomatoes

hummus

seven grain bread

seven grain bread

provolone cheese

lettuce

tomatoes

hummus

seven grain bread

seven gra

provolone

lettuce

tomatoes

hummus

seven gra

realization that the shift of lifestyles (from a meat eater to a vegetarian) is a journey filled with frustrations, defeats and triumphs. For the most part, my fieldwork took place in the St Edwards University's cafeteria Hunt Hall Café, which is on the first floor of one of the residence halls and is the closest one to my dormitory Lady Bird Johnson Hall. Although for majority of the fieldwork, I ate with my friend Jacob, I would occasionally dine with my other best friends Amani and Reed (either at their apartment or in Hunt Café). However, my field community includes other students and staff of the cafeteria (primarily the ones who would prepare my sandwich). Regarding my fieldwork, I have a collection of field notes, a chart found in an internet blog and one of the comments responding to it, a letter to the university's Vice President and Provost

Sister Donna Jurick, and two email responses from her office and the Director of Auxiliary Services. Also included is a history of my family and my struggles, and an email from my mother stating her own issues regarding my vegetarianism. Most of my field notes are reflections on the days' conversations or my thoughts as I ordered, paid, and ate the meal. These were typed in my laptop computer. My main research question I asked as I engaged in fieldwork became "what kind of struggles/frustrations do student vegetarians experience living among meat eaters?" I quickly learned that living does not simply require sharing a specific living space (such as a house) but it also encompasses all areas of existing—such as school, travel, and family life. In addition to my research question, some of the best fitting theoretic frames explored during the

course of my project include gendered food politics, intercultural friendships and consumer power.

At the beginning of my sophomore year in college, the Hunt Café eliminated its vegetarian line, therefore decreasing my already limited meal options. Hunt Café is the most convenient cafeteria, close to my dorm and open at hours where I am not in classes (unlike Ragsdale's South Congress Central Market, which is closed by 2pm); thus, it is the best option for me. Because I quickly exploited the other options (quesadillas, veggie burgers, and grilled cheese sandwiches) I had to look for a different more custom made meal. This is where the Hummus Melt sandwich appeared in my life. I was attracted to the sandwich line because it offers options to personalize the meal. However, most of the options are various cuts of ham, or other meat sources like tuna and bacon. Therefore, I opted for the things that I could eat, like lettuce, tomatoes, and at one point cucumbers. I started requesting hummus because my best friend Amani introduced me to it my freshman year of college, and it absolutely made the taste of the sandwich more appealing. The freshness of the meal, combined with the toasted bread and melted cheese, the crisp and juicy tomatoes, and the creamy hummus and cool shredded lettuce are not only delicious but also nutritious. I enjoy the convenience of the meal, how quickly it is made, how the ingredients are fairly cheap, and I like how easily I can eat it. It fits my lifestyle seamlessly. I can request and eat the meal in less than twenty minutes. Therefore it allows me to continue my hectic schedule without much distraction.

As I continued to research, I discovered that I also enjoy the fact that it is a sandwich. My family enjoys eating sandwiches; in Mexico we call them "lonches" and they are sold everywhere in Torreon Coahuila (my hometown) the same way you would see tacos being sold in street corners. Consequently, the Hummus Melt reminds me of the freshness of the lonches that I grew up craving and enjoying—ultimately forming part of my identity as a Mexicana.

As I embarked on this journey, I needed to consider the various aspects of who I am that shape my research and my writing. For instance, I was born and raised in the northern part of Mexico. With the exception of my mother, I am the only female in a nuclear family of six. I have three brothers, Isaac, Alberto, and Oscar (I am the second born). We moved to the United States when I was about ten years old, because my father worked in McAllen Texas, and was tired of crossing the border every day. I lived in McAllen Texas until I graduated from high school and moved away to college. As previously stated I am a sophomore in college, pursuing a BA in History at St Edwards University. I currently live on campus, and I am twenty years old. In addition, it is important to point out that although I am an American citizen (naturalized) I do not consider myself one (on a social basis), even though because of my circumstances (being raised in Mexico and obtaining most of my education in the United States) at times I do feel like an outsider in my own culture. Lastly, I am a lacto-vegetarian, which means that I do not consume meat or eggs, but I do consume other dairy products.

My meal consists of seven grain bread (whole wheat bread, including sunflower kernels, rye flakes, soy grits, flaxseed, and oats), provolone cheese, lettuce, tomatoes, and hummus. In our modern era, it is easy to forget that the food in our plates have witnessed the effects of globalization. The ingredients of my meal all originate from various places. Ultimately, they have met through long historical processes that I will briefly describe here.
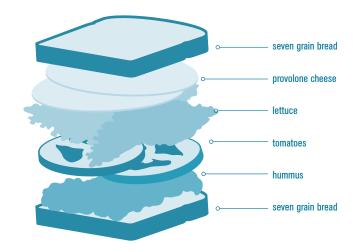
The exact origin of hummus is uncertain. It is estimated that because of the prevalence of hummus in the Arab world it originated somewhere in the Middle East. However, hummus is also popular in the Mediterranean region and in India (Amreen). Therefore, it becomes difficult to exactly point out where it originated. However, the origins of provolone cheese are identified by food historians more accurately. This is because authentic provolone cheese is produced in the southern regions of Italy, in provinces like Brescia, Piacenza, and Cremona ("Provolone"). The cultivation of lettuce began somewhere in Iran and Turkistan. Eventually lettuce found itself popular in Greece and the Roman Empire. It was ultimately introduced to Western Europe, specifically France, during the Middle Ages ("History of Lettuce"). Although the origin of tomatoes is also difficult to uncover, it is speculated to have originated somewhere on the western coast of South America. This speculation is grounded on the idea that the origins of a domesticated plant can be found around an area that has the highest diversity of a specific crop. Within the Andes Mountains, eight different species of tomatoes still grow in the wild (Cox).

Lastly, toasted bread experienced popularity in Britain during the Middle Ages, and eventually found its way to my taste buds because it was brought by the English settlers during the colonization of America ("History of Toast").

Although at certain times (especially near the end of the semester) I feel exhausted about constantly eating at the school's cafeteria, I have to recognize that I am lucky that I attend St Edwards, who has chosen to hire Bon Appétit Management Company as the school's food service

My meal consists of seven grain bread (whole wheat bread, including sunflower kernels, rye flakes, soy grits, flaxseed, and oats), provolone cheese, lettuce, tomatoes, and hummus.

seven grain bread

provolone cheese

lettuce

tomatoes

hummus

seven grain bread

provider. Nevertheless, this also means that I am shielded from the food production process, because the only view I have of the production of the meal is when I am requesting the ingredients by the sandwich line. However, according to the Bon Appétit's website (whose slogan is "food services for a sustainable future"), they purchase produce from local farms or otherwise create dishes from scratch. They claim that they buy local because: "locally grown food tastes better, local produce is better for you, local food preserves genetic diversity, local food is GMO-free, local food builds community, local food preserves open space, local food keeps your taxes in check, local food supports a clean environment and benefits wildlife, and local food is about the future" (Bon Apetit). Although they advertise certain local farmers, most of them are for Bon Appétit locations in California. I could not find any local farmers for the Austin area. If Bon Appétit buys their produce from local farms they are significantly reducing their carbon footprint – which is good news for the environment – while also ensuring that they pay fair prices, and it is likely that workers are also paid fair wages. However, without knowledge of specific local growers, it is hard to trust their rhetoric. If they only buy from local farmers in the California area, they are transporting their products across hundreds of miles, consuming gasoline and increasing their carbon footprint. Nevertheless, Bon Appétit is likely responding to consumer demands, and the current appeal of sustainability. I could not find information about the salary of Bon Appétit workers, restrictions, or the origin of this food company.

SITUATED KNOWLEDGE SURROUNDING MY PLATE:

As my meal contains various ingredients, the person that I am is composed of a vast array of meanings and situated knowledge. Firstly, I live during a time of fast flowing information and social networks. I can easily access information at the click of a button. However, I can also get easily distracted (by Facebook, advertising, or mundane information). This reflects the ease of accessing information that otherwise is kept unspoken in daily life, such as where my food comes from and how my consumerism is affecting farmers and ecosystems of various regions-especially of the Global South. For example, my demand of soy beans (as a vegetarian) is affecting the rates of deforestation in the northern Amazonian region (Greenpeace). According to M.R. Redcliff, "populations of all urban regions and many whole nations already exceeded their territorial carrying capacities and depend on trade for survival. Such regions are running on unaccounted ecological deficit—their populations are appropriating capacity elsewhere." More importantly, because "wealthy industrialized nations" are importing products from the Global South, the effects include "erosion, desertification, and deforestation in the countryside and debilitating social and environmental problems in burgeoning squatter settlements around many Third World cities are the frequent result."

Secondly, I come from a working class family. For me, this means an appreciation for food as a fundamental product of hard work. Although I know how to cook, I lack the facilities to make my own meals (since I live on a dormitory). Therefore, I have to buy food from the school cafeteria. The school has certain "meal plans" whose cost is included in the overall bill of each semester. My financial aid (loans, scholarships, grants) covers my semester's bill; therefore, I procure the money to pay for this meal through these resources. This also means that I have to be careful to maintain good grades, because my financial aid depends on them. Yet as a food consumer in the Global North, I have the privilege of having a plethora of choices whose food origins are from different parts of the world (including the

Whenever I pay for my sandwich the cashier asks 'one meat or two meats?' I routinely reply 'no meat.'

Global South). And again, the demand that I have for these foodstuff greatly affects individual people, societies, and ecosystems alike.

This sandwich reminds me of my best friend Amani. I have known her for about six years and she was the one who introduced me to hummus. She is half Hispanic (Mexican American) and half Arab (her family is from Kuwait). Besides introducing me to hummus, she has taught me basic Arabic, some customs, Islamic beliefs, and various other aspects of life that I feel have helped me develop to have a more accurate portrayal of the Arabic culture than what I had before I met her. She is also a writer, a poet, and a very good story teller and I am consequently delightfully bombarded by various poems, poetry readings, authors, books, and stories on an everyday basis. Accordingly, I feel that I am reminded of her and the growth she has propelled within me as I take bites of my sandwich. According to Kazuhiro Kudo and Keith A. Simkin's research on the intercultural formations of Japanese students at an Australian University, there is an importance of "intercultural contact experiences" on the future of "international relations and politics" (91). I feel that this supports my friendship with Amani, because (of her) I am more likely to be more compassionate and aware of Middle Eastern cultures.

As noted earlier, this sandwich is also relevant to my family history. My family has this tradition of eating sandwiches on Sundays with any leftovers we have from the week. My mom cooks the majority of our food, and by the end of the week she has mentioned how tired she gets. Therefore, we line up all the sandwich ingredients, and everyone makes their own sandwich to taste, relieving my mom of the duty of cooking. Although a specific memory does not reveal itself as I sit down to eat my meal, I am in a way comforted by picking something that I would eat if I was with them. As previously stated, I feel that it also symbolizes (for me) not just the way I was raised within my family, but also my hometown. Maybe it helps me relate to the younger me, as I walked by all the lonche stands eyeing my dad, in the hopes that he would understand my glance and buy me a cheese, tomato, and avocado one.

I feel that sandwiches signify convenience to Americans, since they are so easily prepared. I have also speculated that it represents the typical "lunch box" meal. It can wrapped, and stay fairly fresh throughout the day, it can be carried with little fear of the ingredients spilling out and making a mess and it is a meal that very few people would refuse (if offered to them). Yet in a single lunch box, there is room to relate personality, ideology or even ethnicity and culture. For example, Davia Nelson and Nikki Silva found that lunch boxes were able to reveal the nationality of a specific miner. Apparently, "conventional ham sandwiches, cake, fruit, and apple pie might compromise the contents of the American buckets. The Irish workmen might face the same array with one exception, the son of Erin would wash his food down not with coffee, but with strong, black tea fortified with stir about...(11)."

The Hummus Melt not only means convenience (which is really important to my current lifestyle) but also it represents my vegetarianism: In one of my field notes, I commented "It happens almost every single time. I took noticed of it today. Whenever I pay for my sandwich the cashier asks 'one meat or two meats?' I routinely reply 'no meat.' It makes me feel that every single time that I buy this sandwich I am making a stand against meat. 'No meat'

becomes a rejection of meat all together in my mind. I must confess I get frustrated by it, yet at the same time I enjoy my response." (March 24th 2011) This simple statement reveals two things—that I wish to celebrate of my vegetarianism, but also that consuming meat is a social norm. The idea that they would leave me only two options, either "one meat" or "two meats" at various times frustrated me. However, this also illustrates how a vegetarian can use simple methods/daily occurrences to convey a message—"not everyone eats meat."

As the most common food staple that I consume, the Hummus Melt allows me to navigate the various global connections which are the most prevalent in my life. These three intersecting identities include: female college student, daughter, and friend. Because I live on my college campus (and do not own a car), I am at the mercy of the school's cafés in case I want to eat. There are times that I am so busy with schoolwork that I forget to go to Hunt Café before they close at 8pm. When this occurs, I hesitate to walk to a nearby restaurant. There have been times that I do venture out, but as a woman I do not feel free to walk alone in the dark. This is a fear that my male colleagues do not seem to understand. Reflecting on my food choices and limitations is connected to gender inequality, because I am more aware of the dangers associated if I forget to eat dinner before 8 pm.

As a daughter from a very traditional Mexican family, I lack a true sense of belonging (between being Mexican or American) while I also struggle with the expectations of my family (as the only daughter) and the expectations of American society. For example my mother always told me to learn to be a good housewife, and constantly points out how life would be once I get married and have children. Although my mother wants me to get a career, she constantly points out that I should be a teacher, because I get vacations during the summer and I can stay at home with my kids. I have always felt a certain uneasiness about this, since I am not sure if I would even want to get married. I do not reject the institution of marriage or the concept of building a family but it is not a high priority in my life. And this way of thinking seems to me to be a rejection of my culture's expectations and norms. Within Mexican culture, the importance of family prevails over almost any other priority, and although I do not reject my family, I am hesitant to create my own, because of the obligations that this would entail. The Hummus Melt also reflects this rejection, because it is a sandwich (lonche) yet it is composed of ingredients that are not in origin Mexican, reflecting how both my taste buds and ideologies have expanded through the influence of others.

Regarding my identity as a friend, I feel that this is the place where I am allowed to express myself as freely. I feel both a sense of belonging, and personal individualism. My friends and I are very similar (in music taste, interests) yet we all retain our own personalities and cultural heritage that makes us who we are. Therefore, as I am allowed the freedom to individualize (within my identity as a friend), I am free to personalize my sandwich into the Hummus Melt – my own individual creation.

As I continued my research, one of the main modifications I had to make was to establish the concept of projecting this project to a specific audience. For the majority of the process, I worked alone—sharing only small pieces to others. In order to grasp a sense of audience, I tried to comprehend the purpose of my project, and I noticed that I arrived back to my research question, asking myself: "why would I want to chronicle these struggles?" I realized that the answer to my research question would not be directed me or other vegetarians, but instead to non-vegetarians like my parents and my brothers, who might be able to become aware of something they had not realized. If I were to continue this research, I would take advantage of the fact that I will be spending the summer at my parent's house (in McAllen Texas-a city not famous for its vegetarian population), and focus more on the issues that such a change would bring. My fieldwork helped me gain a valuable insight into the struggles I have faced during my journey as a vegetarian –especially regarding the issues within my family. Accordingly, I feel that the main contribution of my research/project is that it can function as a tool for others to understand a part of a Mexican vegetarian's experience.

Role My Family Played Regarding My Vegetarianism

A critical lesson taught by my ethnographic fieldwork is that I was able to understand some of the reasons I had struggled to be accepted within my family as a vegetarian throughout my life. As previously mentioned, I come from a very traditional Mexican family – one that consumes various traditional meals. These dishes include barbacoa, mole, and menudo—all of which contain meat. As I started to refuse to eat these dishes, my family started to criticize me for it. They would tease me, poke fun, and constantly harass my food choices. I remember the first thing I ever stopped eating—fish. I can still see the fish laid out in front of me: dead, missing a head, and grilled. As I sat there cutting him in pieces, I felt that I contributed to his death. Although forced myself to take some bites, I noticed he tasted like sea (not even the vegetable oil or parsley took his wildness away). I concluded (I must have been in pre-kindergarten) that he simply belonged to the ocean, not in my stomach. Yet to my parents, I was merely being picky. I must confess

*As the most common food staple that
I consume, the Hummus Melt allows
me to navigate the various global connections
which are the most prevalent in my life.*

that I did not stop eating meat all together; it took years for this outcome to occur. During my last two years of high school, I only ate poultry (chicken and turkey); by this point I had ceased to eat any other source of meat. I held on to eating poultry, because I didn't want to disappoint my parents. But I really wanted to be a vegetarian. I had friends that started being vegetarians, and there was nothing more than I wanted but to join them in that lifestyle. But I felt that I wouldn't have the support of my parents.

Looking back on it now, I feel that I slowly gave away various sources of meat, in order to make a compromise with what I wanted, and what my family expected. Although, I eventually rejected all meat (and I feel guilty about not doing it sooner), I still felt alienated from my family. During my research I finally understood my parent's unwillingness to accept my diet choices; by rejecting some traditional Mexican dishes they felt that I was rejecting my culture. My dad always struggled with the decision to move to the United States, he has a loyal love for Mexico, and has always been a critic of American culture. He constantly requires us to read books in Spanish (so we do not forget our native language). And he criticizes our iTunes music library if there are not enough Mexican artists. Therefore, he felt an understandable fear that I was also rejecting Mexican cuisine.

THE SIGNIFICANCE OF MY FATHER'S ACCEPTANCE:
Although it took a couple of months, after I graduated high school and embarked on my college journey, I beaome a vegetarian. However, my fiather did not accept my change in lifestyle until until the beginning of this academic school year. I went home mid October 2010, and I showed him the documentary called Food Inc. Afterwards, I told him that subject matter of the documentary (the cruelty involved in factory farming) was a significant reason why I had made the switch to a vegetarian diet. He agreed with my point of view, and even declared that he would try to not eat fast food (my family does not typically eat out anyway). Once my father accepted, I got the support of my whole family.

My brothers even stopped teasing me. Now, whenever I go home to visit, they ask me questions about my vegetarianism. Finally my interests have landed a place in the conversation at the table. All of my brothers play sports, and they all love soccer the most. I always felt that if I wanted to be part of the conversation, all I had to do was talk about soccer. Nevertheless, my vegetarianism has given me voice— something I craved to have with my family.

Carole Counihan asserts that "food is a significant voice of self expression. In the meals they cook, the rituals they observe, and the memories they preserve, women communicate powerful meanings and emotions." Counihan describes how women challenge subordination through food within the context of a process called "differential consciousness." This is a strategy "used by dominated peoples to survive demeaning and disempowering structures and ideologies." In a way, I use my vegetarianism as a differential consciousness, having a different ideology than the family and culture that raised me.

AND THE FRUSTRATIONS CONTINUE:
During my ethnographic fieldwork, I would find myself engaged in conversations absolutely forgetting to be conscious of the work that I was doing. This inability to focus became my biggest challenge. I regret not using a tape recorder, because most of the conversations I engaged in had valuable material. Furthermore, the biggest frustrations I experienced were those associated with being a student vegetarian, a lack of food choices and diversity. In addition to those frustrations, I also was confronted with the idea that vegetarianism is "self righteousness" making vegetarians "annoying." My friend Jacob confessed me that he thinks the vegetarians he has in class are annoying. I am still waiting for him to give me some reasons. I remember we had a discussion once regarding this issue: I was trying to describe to him a vegetarian restaurant I visited while I was vacationing in Colorado. I told him that the veggie burger I had was "sooo" good and this emphasis seem to irritate him. He chuckled and asked "do you have to say sooo good?"

Well because it was. Am I not allowed to mention how much I enjoyed eating something? (Field notes March 23 2011) In an average school day, I am constantly surrounded by meat eaters. There are a couple of times that my meat eater friends comment about how much they enjoyed the steak from the restaurant that they went to the night before. I do not think this makes me annoying. Thus, one of the biggest frustrations I encountered was discovering that there was a double standard for vegetarians.

POWER OF THE CONSUMER:

As I noted earlier, the vegetarian line in Hunt Café was eliminated at the beginning of my sophomore year. However, this was not a permanent tragedy. With the collaboration of two of my closest friends, Amani and Reed, we managed to get the vegetarian line back in the cafeteria. We accomplished such occurrence by writing a letter to the university's vice president and provost, Sister Donna Jurick. In our letter we stated the importance vegetarianism has in our lives, and claimed that St Edwards University, as a liberal arts school located in Austin (which has one of the highest vegetarian populations in the country) should reflect the demands of its populace. We quickly got a response, and eventually had the opportunity to talk to Michael Smith – the manager of Bon Appétit in St Edwards – eventually coming to the conclusion that a vegetarian line was essential in the school campus. This reflects how each individual person has power as a consumer (Sassatelli).

CONCLUSION

My auto-ethnographic project on the Hummus Melt has allowed me to understand my social position, intersecting identities, and journey of vegetarianism. I have chosen to illustrate this project through various narratives of conflicts between myself, family and friends. I feel that personal narratives have a certain credibility that is lost when trying to relate the stories of others. Cultural anthropology poses this challenge, yet in the context of observant participation, ethnography claims human integrity in trying to describe the nature of those being studied. As a daily awareness practice, cultural anthropology can help one understand various aspects of human culture; it collects and critically analyzes knowledge that might be forgotten or ignored. In essence cultural anthropology has helped me gain knowledge of my own life; it has helped me create the lenses in which I view myself.

WORKS CITED

Amreen, Bi. "The History of Hummus." *Helium: Ethnic and International Foods*. Apr. 2011. Web. Apr. 2011.

Bon Appétit Management Company. "About Us." bamco.com. n.d. Web. Feb. 2011.

Counihan, Carole. "Mexicanas' Food Voice and Differential Consciousness in the San Luis Valley of Colorado." In C. Counihan and P. Van Esterick, eds. *Food and Culture: A Reader*. New York: Routledge, 2008. Print.

Cox, Sam. "I Say Tomato, You Say Tomahto." *landscapeimagery. com*. Dec. 2000. Web. Apr. 2011.

Greenpeace. "Slaughtering the Amazon." *greenpeace.org* 1 June 2009. Web. Mar. 2011.

"History of Lettuce." *Ifood.tv | Your Food Network* -Food Video Recipes Blog. 2009. Web. Apr. 2011.

"History of Toast." Food Timeline. *foodtimeline.org*. Web. Apr. 2011.

Kazuhiro Kudo and Keith A. Smikin. "Intercultural Friendship Formation: the Case of Japanese Students at an Australian University." *Journal of Intercultural Studies* 24.2: 91-114. EBSCOhost. Web. 2011.

"Provolone Cheese and Its Origins." MaltaToday. *Gourmet Today*, 5 Nov. 2010. Web. Apr. 2011.

Redcliff, R.M.. *Sustainability: Sustainability Indicators*. New York: Routledge, 2005. Google Books. Web. Apr. 2011.

Sassatelli, Roberta. "Virtue, Responsibility, and Consumer Choice-Framing Critical Consumerism." In J. Brewer and F. Trentmann, eds. *Consuming Cultures*. 219-50. Print.

Silva, Nikki. "America Eats A Hidden Archive." *Hidden Kitchens: Stories, Recipes, and More from NPR's the Kitchen Sisters*. Davia Nelson. Print.

Works Referenced

Deutsch, Sarah. "Women and Intercultural Relations: The Case of Hispanic New Mexico and Colorado." *Chicago Journals: Signs* 12.4 (1987): 719-39. J-STOR. Web. Feb. 2011

Greene-Finestone, Linda S., Karen Campbell, Iris A. Gutmanis, and Susan E. Evers. "Dietary Intake Among Young Adolescents in Ontario: Associations with Vegetarian Status and Attitude toward Health." *Preventive Medicine* 40.1 (2005): 105-11. Print.

Kinginger, Celeste, Allison Gourves-Hayward, and Vanessa Simpson. "A Tele-Collaborative Course on French-American Intercultural Communication." *The French Review* 72.5 (1999): 853-66. J-STOR. Web. Feb. 2011.

Lee, Pei-Wen. "Bridging Cultures: Understanding the Construction of Relational Identity in Intercultural Friendship." *Journal of Intercultural Communication Research* 35.1 (2006): 3-22. EBSCOhost. Web. Feb. 2011.

Mintz, Sidney W. and Christine M. Du Bois. "The Anthropology of Food and Eating." *Annual Review of Anthropology* 31 (2002): 99-119. J-STOR. Web. Feb. 2011.

Senauer, Bed. "The Food Consumer in the 21st Century, New Research Perspectives." Minnesota: Department of Applied Economics-University of Minnesota 2001. Print.
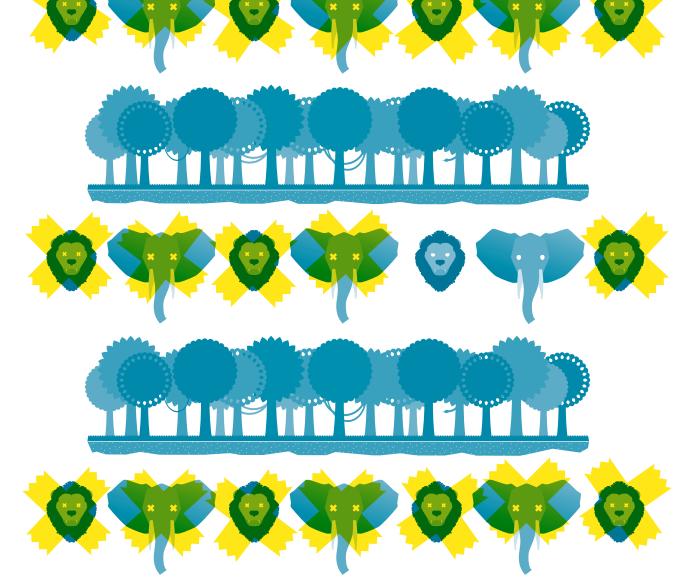
Protecting Human and Wildlife Interests:

CAMPFIRE Association Zimbabwe

NICOLE MEJIA

As Dr. Urs Kreuter notes, "biodiversity is the foundation of ecosystem services to which human well-being is intimately linked" (1). However, as the world's population has tripled in the last 50 years, humans have increasingly threatened this balance. Nowhere is this problem more evident than in the continent where human life is said to have begun, Africa. Africa has one of the fastest growing populations with an estimated 1,116,253 million in 2010, which is expected to reach 1,582,539 million in 2025 (Table 4). This growth not only creates social problems such as increased disease transmission and poverty, but it also creates ecological problems like increased habitat destruction and fragmentation, which is considered to be the biggest threat to biodiversity (Miller). Another difficulty Africa faces is the presence of non-governmental organizations (NGOs). While NGOs have provided African countries and communities with invaluable aid, whether to assist in economic, political, or social issues, they have also contributed to creating a dependency on foreign aid while also limiting control of natural resources like wildlife. However, a program created by the government of Zimbabwe has tried to remedy both the loss of biodiversity due

to habitat fragmentation and the dependency on foreign aid by creating a program that allows local communities to take control of their resources in order to improve their own lives. The Communal Areas Management Programme For Indigenous Resources (CAMPFIRE) was designed to empower rural communities in Zimbabwe by helping them see the benefits of sustainable use of biodiversity (Child). The CAMPFIRE association can be tied into many aspects of globalization, but particularly the ecological, economic and cultural dimensions. In this paper I will examine how biodiversity is maintained through CAMPFIRE communities in Zimbabwe.

In the early 1980s, the government of Zimbabwe recognized that biodiversity across the country was slowly dwindling due to a growing human population. Traditional conservation approaches that merely separated wildlife and humans were simply not an effective method in light of the growing human population. The government also found that conservation effectiveness in areas where national parks are present directly depends on the cooperation of adjacent rural communities, who traditionally are ignored or viewed as a nuisance by national park officials (Kreuter

2). These adjacent communities often times faced the burden of cost caused by the wildlife such as crop raiding/stomping or livestock predation. These incidents fueled human and wildlife conflicts and negative attitudes towards conserving wildlife (2). However, a relatively new conservation approach was emerging throughout Africa, one where local communities are given the right to use wildlife for consumptive purposes, giving them an economic incentive to conserve the wildlife. This approach unites once separate practices of conservation and rural development (Africa Resources Trust 3). In 1989, the CAMPFIRE Association was officially introduced as a joint effort between the Zimbabwe Department of National Parks and Wildlife Management (DNPWLM), the Zimbabwe Trust, and the University of Zimbabwe Center for Applied Social Science (Ikubolajeh 1). These organization were instrumental in making two legislative changes which allowed for the formation of CAMPFIRE, the amendment of the 1975 Parks and Wildlife Act in 1982, which gives communities the rights to use wildlife with minimal government interference, and the passage of the Rural District Council Act of 1982, which established and defined the structure of democracy in CAMPFIRE communities (Africa Resources Trust 3). Two Rural District Councils (RDC) – a group of local elected officials – were formed in the Zambezi Valley, Guruve and Nyaminyami in 1989 (Suich 205). Nyaminyami was specifically picked to be part of the CAMPFIRE program because it had some of the richest biodiversity in Northern Zimbabwe, severe poverty, and a long history of conflict between wildlife and wildlife authorities (Balint). Nyaminyami immediately took to the programme and established strong RDC control. With help from of the CAMPFIRE Association they were able to establish connections with trophy hunting operators who were interested in wildlife in Zambezi Valley. News of the opportunities the CAMPFIRE programme provided for the two communities in the Zambezi Valley to spread to other communities and the CAMPFIRE spread like wild fire, no pun intended. In 1992, 19 communities had become CAMPFIRE communities and were operating under the RDC. By 1996, the CAMPFIRE model had attracted 19 more communities across the country, all committed to improve their lives through sustainable means.

As the programme continued to spread through

Zimbabwe, in 2000, an additional 37 communities had successfully established wildlife operations, 19 of these received benefits through sustainable management of natural resources and not the use of wildlife. The Nyaminyami CAMPFIRE flagship community remains the most successful and well-studied community (Suich 206). In terms of conserving the biodiversity of the region, wildlife populations have been growing since the mid-1990s and the rate of poaching from hunters or locals has been nearly eradicated. For example, the endangered African elephant populations have dramatically increased in the Zambezi Valley, largely due to CAMPFIRE communities. Approximately 90 percent of the elephant populations found in Zimbabwe are found in national parks or other protected areas. A third of populations found outside of protected areas are found in Nyaminyami and the population density is close to double than in other CAMPFIRE areas nationwide (Balint). Part of this success has been that Nyaminyami's RDC has set strict regulations on wildlife harvesting, as it will only allow for consumptive use of wildlife if the numbers of a particular wildlife species permit. Not only does Nyaminyami set the standard for wildlife conservation, but also the ability to generate revenue. Over the years, the community has consistently produced the most amount per capita across the nation. In 2001, an independent study was conducted to evaluate earnings. The district earned $ US 675,000 in wildlife consumptive uses; this accounted for 30 percent of the total revenue for CAMPFIRE communities (Balint). The total revenue was then distributed for district council levies and other fees (15%), wildlife management (35%), and to households, wards projects, and ward management costs (50%) (Suich 207). Of course, CAMPFIRE has had some limitations and setbacks due to political and social problems in the country. Nonetheless, it has proven to be one of the best innovations Zimbabwe has taken to empower its people while preserving their natural heritage.

Every country around the world is connected globally through economic, political, cultural, and ecological forces. As local economies expand into the global market, demands for goods and services increase. These demands are often met through environmentally unsustainable means (Miller). The health of the economy is a priority in both global and local politics, which can lead to the creation of unfavorable policies that excluded the well-being of the global environment (Steger 64). And finally the American way of life has spread to all parts of the world (74-75). Americanization is often tied to a greater emphasis on consumerism and capitalism, and global consumer culture creates patterns of unavoidable environmental degradation and ultimately to the loss of natural resources (74-75).

CAMPFIRE communities seek to reconcile some of the conflicts between economic development and the environment, and the programme has been praised and recognized for its success in meeting community needs while successfully allowing the conservation of endemic biodiversity. The world is currently experiencing the fastest mass extinction of living species of our planet's history—some estimates suggest that by the end of the century about 50 percent of plant and animal species will be lost (Steger 87). In light of this crisis, CAMPFIRE offers a compelling model to follow. The CAMPFIRE programme has not only created interest within the Southern countries of Africa, but also with international agencies that have done extensive research on the programmes. In this way CAMPFIRE could be seen as an answer to global ecological concerns of biodiversity reduction, especially in areas where poor human populations live in direct contact with wildlife. The CAMPFIRE model has proven that it can generate benefits for both people and wildlife through the "agricultural" use of wildlife. Even areas that do not have access to wildlife can benefit from the CAMPFIRE model as they can preserve the ecosystem and can promote scenic tourism or ecotourism. One of the biggest lessons a country can take from the experiences of CAMPFIRE is that including indigenous communities in environmental conservation can lead to both effective natural resource management and the ability to improve the quality of human life.

However, the global acceptance of the CAMPFIRE model will be extremely difficult to implement because it supports the controversial practice of trophy hunting—a sport that

includes keeping parts of the slain animal as a prize or souvenir. One of the ways local communities generate revenue is through the harvesting of wildlife meat and the sale of trophy/safari hunting concessions (Africa Resources Trust 23). Opponents find a great contradiction between the practice of trophy hunting and the goal of wildlife conservation. Admittedly, it is difficult to contemplate animals like the majestic elephant or the graceful cheetah being killed for sport, but the sad reality is that CAMPFIRE communities are not doing anything different from U.S. farmers who slaughter their cattle for a profit. In this way CAMPFIRE is providing a means to alleviate poverty and a means to conserve biodiversity, which both share a close relationship because the poor usually rely on biodiversity to survive (Life on Earth). The protection of biodiversity links everyone together because by even losing one ecosystem or one species of a plant or animal means the loss of a potential source of medicine, food, or shelter for other living things.

The CAMPFIRE programme is also using its biodiversity as a means to cash in on the global demand for trophy/safari hunting and viewing wild game. Opponents consider this a form of exploitation, but supporters argue that the industry allows for international tourists to come to their country and villages, eat, drink, and spend their money not only on the wildlife, but other sources like restaurants, hotels, transportation serves, and other institutions. People from all over the world will pay thousands and thousands of dollars to say that have killed a lion or an elephant (killing an elephant is allowed in Zimbabwe because they have stable populations there). Even at St. Edward's University, I have met and talked to five different people who have gone on safaris; one person actually went to one of Zimbabwe's trophy hunting ranches that works with a CAMPFIRE community. Though this enterprise is limited, as the industry's expansion would create a problem with sustainable use of the wildlife and conflict with CAMPFIRE's conservation objectives, this high revenue, low environmental impact activity has a clear international demand. In addition, Zimbabwe's Department of National Parks and Wildlife Management determines annual hunting quotas, in order to prevent overhunting of certain animals. (Butler) However, one of the downsides to this demand is that CAMPFIRE communities become reliant on revenue generated from the trophy/safari hunting industries. About 90 percent of their total revenue comes from the trophy hunting industry, which is not a cheap sport (Suich 237). So if the global economy crashes, and fewer hunters can afford to go on expensive safari expeditions, CAMPFIRE may lose a substantial amount of potential revenue. While CAMPFIRE greatly reduces local communities' dependence on foreign aid through NGOs, it more closely integrates these communities with a global sports hunting industry,

and thus is vulnerable to expansion or reduction of this form of consumption. On the other hand, the programme has largely been a successful effort to educate communities about sustainable ways to co-exist with our environment. And sooner or later we will all have to make greater efforts to protect our natural resources for future generations, like the communities of CAMPFIRE.

WORKS CITIED

Africa Resources Trust (ART). CAMPFIRE - A Strategy To Biodiversity Conservation in Arid and Semi-Arid Areas of Zimbabwe. Rep. Africa Resources Trust (ART), 2002. Print.

Balint, Peter J., and Judith Mashinya. "CAMPFIRE through the Lens of the 'Commons' Literature: Nyaminyami Rural District in Post-2000 Zimbabwe." Journal of Southern African Studies 34.1 (2008). Print.

Butler, Victoria. "Is this the Way to Save Africa's Wildlife?" International Wildlife. National Wildlife Federation: March-April 1995. Web. 15 December 2011.

Child, Graham. Campfire Association Zimbabwe. Web. 13 Dec. 2011. <http://www.campfirezimbabwe.org/>.

Ikubolajeh Logan, B. "The Political Ecology of Poverty Alleviation in Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE)." ScienceDirect. ScienceDirect. Web. 14 Dec. 2011.

Kreuter, Urs. "Wildlife Conservation and Community-based Natural Resource Managment in Southern Africa's Private Nature Reserves." Society and Natural Resources (2010). Print.

"Life on Earth—The Importance of Biodiversity | Youthink!" Youthink! | Ready to Act? Set to Learn More? 10 Apr. 2010. Web. 15 Dec. 2011. <http://youthink.worldbank.org/issues/environment/life-earth-importance-biodiversity>.

Miller, G. Tyler, Scott Spoolman, and G. Tyler Miller. Living in the Environment. [Belmont, CA]: Brooks/Cole Publishing, 2012. Print.

Steger, Manfred. Globalization: A Very Short Introduction. 2nd ed. New York: Oxford UP, 2009. Print.

Suich, Helen, B. Child, and Anna Spenceley. Evolution and Innovation in Wildlife Conservation: Parks and Game Ranches to Transfrontier Conservation Areas. London: Earthscan, 2009. Print.

"Table 4 The Population of Southern Africa (Countries That Could Share the Same Physical Infrastructure), 1960 - 2025." ISS. Web. 13 Dec. 2011. <http://www.iss.co.za/Pubs/ASR/ADR20/Table4.html>.

The World is Fat

NAYELI GARZA

The World is Fat ... begins host Steve Mirsky in an installment of Scientific American's weekly podcast, "Science Talk". His guest is Professor Barry Popkin, Director of the Interdisciplinary Center for Obesity at the University of North Carolina and author of a book and article by the same name as Mirsky's opening line. "There is an amazing fact right in the beginning of your article," Mirsky continues, "and that is... 'There are actually more obese people in developing countries than there are hungry people in developing countries.'" The claim is stunning, but Professor Popkin affirms it by discussing a quickly-occurring collision of changing social, agricultural and economic forces he examines more closely in his publications.
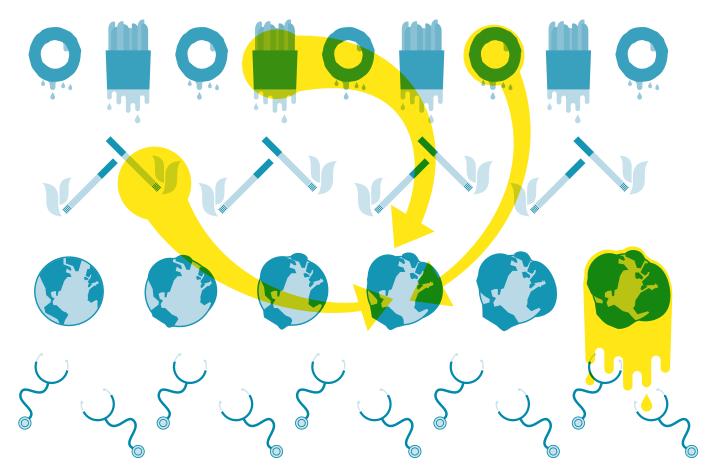
Truly, the claim is stunning. It undermines common assumptions about the developing world long-held in places like the United States. For many Americans, depictions of the developing world remain shrouded by a general tone of muted horror. Politicians reinforce this image; their rhetoric sometimes brimming with the urgent needs of low-income countries for military intervention. Popular celebrities crusade campaigns that urge viewers to consider the dehydrated masses of the world or entire villages of malnourished children. These representations, while effective in serving certain causes, obscure the persistent truth that, even as the western world reaps the benefits of progress, so too the populations of developing countries are changing as well.

The conditions between "here" and "there" are not as markedly different as they once were; as a whole the human population is moving into the cities, and subsisting from an increasingly similar diet (the results of agricultural advances and corporate food distribution). One current outcome of this particular configuration of trends is obesity, illustrated by Popkin as a global pandemic. It can also be interpreted as a probable precursor to a series of medical conditions known as non-communicable diseases, which the World Health Organization (WHO) identifies as the conditions accounting for 63% of global death (WHO.int). A fundamental similarity in the human experience is emerging: the same diseases, their incidence rates inching upwards, cause the bulk of human deaths.

Non-communicable diseases (NCDs) are chronic conditions that are not transmitted via an infectious process; rather, they result from "prolonged exposure to causative agents, many associated with personal behaviors and environmental factors" (E Notes).

The WHO identifies four major NCDs: cardiovascular disease, cancer, diabetes, and chronic lung disease (WHO.int). Statistics and data pertaining to these diseases will be referenced for the purposes of this paper. The Global Health Observatory, a subsidiary of the WHO which aims to analyze risk and environmental factors associated with the spread of diseases, has identified "common, preventable risk factors" that "underlie most non-communicable diseases" (WHO.int). According to the site, "four particular

behaviors (tobacco use, physical inactivity, unhealthy diet, and the harmful use of alcohol)" lead to "four key metabolic/physiological changes (raised blood pressure, overweight/obesity, raised blood glucose, and raised cholesterol)" which consistently result in the development of a non-communicable disease (WHO.int). The four behaviors identified by the GHO are widely observed in both developed and developing societies.

Media campaigns for disease prevention have perpetuated the misconception that the developing world is plagued primarily by infectious diseases, such as malaria and HIV. Although incidence and death rates associated with infectious diseases are high in the developing world (especially when comparing similar figures for industrialized nations), it is actually NCDs that "are emerging as a leading cause of death in low-to middle-income countries" (E Notes). The same article notes that "these conditions have been the leading cause of death in the United States and other high-income countries over the last fifty years."

The last fifty years have seen a combination of factors that contribute to the lessening of physical activity, such as urbanization, reduced manual labor, and more motorization of transportation, all of which contribute greatly to the resulting "metabolic changes" that lead to NCDs (Nugent).

Prevention of NCDs is crucial and highly possible. Particularly, this effort is receiving attention in the context of the developing world as it has pronounced effects in those countries, whose burgeoning medical infrastructures often suffer from the double and costly burden of dealing with high rates of infectious diseases and patients suffering from chronic NCDs. Furthermore, according to a Guardian article, "According to the WHO, 30% of people dying from NCDs in low- and middle- income countries are under 60 years old and are in their most productive period of life" (French). Prevention is rooted in identifying risk factors and minimizing them. This loosely takes the form of education: distributing information as to the detriments of heavy tobacco use; educating populations on nutrition and the importance of maintaining a healthy, balanced diet; and preaching the many virtues of exercise. Moreover, increasing accessibility to reliable health care in regions where medical care is lacking or insufficient is also necessary to curb or reverse the impacts of NCDs when they are diagnosed.

The ubiquity of non-communicable diseases is rooted in economic and cultural globalization. A trend observable in developing countries is the shift in diets of staples and traditional intake to include the fried and processed foods typical of the developed world. This shift represents a change in economic status of these developing countries, illustrated by their ability to participate in the global market and access processed goods distributed by international corporations. The shift is also cultural, however. The emergences of behavioral patterns associated with the increased

The ubiquity of non-communicable diseases is rooted in economic and cultural globalization. A trend observable in developing countries is the shift in diets of staples and traditional intake to include the fried and processed foods typical of the developed world

incidence of NCDs in developing countries are indicative of changing cultural practice, and this includes the increasing prevalence of a sedentary lifestyle and higher rates of tobacco use. Where previously the bulk of the population in developing countries contributed to the national economy through rural, agricultural work, now massive migrations into cities are changing the patterns of daily life and income. Members of developing societies have the luxury of becoming less mobile and consuming more.

A seemingly paradoxical fact is illustrated by WHO data. Not only does economic development facilitate several factors which lead to an increase in the rate of NCDs, but low national income increases the likelihood that incidence will result in death. A report entitled Noncommunicable Diseases Country Profiles 2011 aims to ascertain causes of death and their associated risk factors around the globe. This analysis found that "it is clear that death rates due to NCDs are closely related to country income. Age-standardized death rates were highest in countries with low incomes." (Alwan).

The rise of NCDs is also connected to global urbanization. In her article on global cities, Michele Acuto discusses the human "move to the city" in terms of "its contemporary ecumenical scale and staggering pace, its varied mobility and social complexity" and indeed, the rapid migration occurring to fortify the world's cities has resulted in centers that are subject to unique and highly complicated compilations of changing social dynamics, economic conditions and cultural changes. Although cities in the developing world function increasingly as collectives of resources and ideas, their infrastructure is still undergoing the transformation necessary to adequately serve their growing numbers of constituents. Medical infrastructure in particular is still reliant on efforts by international organizations and NGOs, which traditionally provided care to suit the high rates of infectious diseases. For these cities to properly increase the quality of medical care provided to citizens, they must concentrate efforts on addressing growing health concerns. Additionally, educational initiatives throughout the world

are crucial to informing populations as to the relationship between certain lifestyle practices and the occurrence of NCD's. Hopefully, the increase of wealth and resources that occurs alongside the process of urbanization will provide the means to combat the prevalence of the diseases which are responsible for the majority of human deaths.

WORKS CITED

Acuto, Michele. "Global Cities: Gorillas in Our Midst." Alternatives: Global, Local, Political. 35.4 (2010): 425-448. SAGE Journals. Web. 10 Dec. 2011.

Alwan, Ala. "Noncommunicable Diseases Country Profiles 2011." WHO.int. World Health Organization, 2011. Web. 10 Dec. 2011.

French, Maddy. "International Development Journalism Competition: Why Non-communicable Diseases Hit the Developing World so Hard. International Development Journalism Competition. The Guardian. Guardian.co.uk. 13 June 2011. Web. 10 Dec. 2011.

"Noncommunicable Disease Control - ENotes.com." ENotes - Literature Study Guides, Lesson Plans, and More. E Notes. Web. 10 Dec. 2011.

Nugent, Rachel. "Obesity Creeping Up on Less Developed Countries - Population Reference Bureau." Home - Population Reference Bureau. Population Reference Bureau, 2011. Web. 15 Dec. 2011.

Steve Mirsky. "The World is Fat: Obesity Now Outweighs Hunger Worldwide." Science Talk. 22 Aug. 2007. Scientific American. 10 Dec. 2011.

"WHO | NCD Mortality and Morbidity." WHO.int. World Health Organization. Web. 10 Dec. 2011.

"WHO | Risk Factors." World Health Organization. Global Health Observatory (GHO). Web. 10 Dec. 2011.

MARGO SIVIN

猛犬に

→ 駐車お断り

猛犬に

energy,
migration,
health,
empowerment

An Assessment on HIV Prevention Programs in Uganda

GOLDIE DA COSTA

It is my firm belief that every woman has the right and dignity to a safe pregnancy, no matter what her pre-existing or current circumstances may be. This paper is a dedication to my mother, women who have inspired me throughout my life, and lastly, women everywhere who choose to bring life into a world where they must also fight against death.

Pregnancy and childbearing are the most significant factors leading to death and disability among women throughout the world. Although pregnancy is not a disease itself, without adequate prenatal and antenatal care, many expectant mothers' lives are at great risk. In particular, the risk of a woman dying due to a preventable complication with pregnancy in Sub-Saharan Africa is 1 out of 31 cases versus nearly 1 out of 4300 in other developed regions (United Nations). In the special case of Uganda, high rates of fertility in areas lacking access to adequate maternal and neonatal care pose a great risk to pregnant mothers, with an estimated 1 in 35 women dying from maternal complications (Ssengooba et al). With the technology and vast resources available in the 21st century, this anomaly in maternal services is no longer acceptable.

In 2000, the United Nations expressed a commitment to improving maternal health, as witnessed by the adoption of the Millennium Development Goals. The international community pledged to improve maternal health and combat Human Immunodeficiency Virus (HIV)/ Acquired Immune Deficiency Virus (AIDS) and other diseases by the year 2015 (Tim and Mafubelu). Curbing high maternal mortality rates continues to be a challenge today, intertwined with several variables, like economic development, social interactions, HIV preventative programs, family planning, and health care infrastructure (UNFPA). All of these factors increase causes for concern during pregnancy and childbirth.

In 2007, UNAIDS estimated 33.2 million people worldwide suffered from AIDS, killing nearly 2.1 million people in the course of a year, with 76% of these deaths attributed to Sub-Saharan Africa (Avert). In comparison to the rest of the world, the Sub-Saharan HIV/AIDS crisis is on a completely different scale and must be dealt with accordingly. Uganda is at a significant crossroads in the history of the AIDS epidemic. The effects of AIDS on Uganda has been far-reaching, killing more than one million people, reducing the country's main labor force, lowering agricultural output and food security, and generally destabilizing

Uganda's adult HIV prevention campaigns are linked to lowering HIV infection rates from
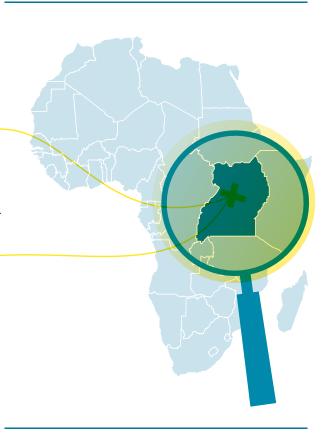
15% to 5%

in the 1990s   in 2001

However, roughly

18%

of new HIV infections in Uganda take place through mother-to-child transmission

both educational and health services. However, as one of the first countries affected so detrimentally by the disease, it has also been acclaimed as a rare instance of success in a continent otherwise facing calamity in the HIV/AIDS battle. It is recognized for its timely and successful adult HIV prevention campaigns, linked to lowering HIV infection rates from 15% in the early 1990s to 5% in 2001 (Avert). Although numbers are declining for adult HIV prevalence, roughly 18% of new HIV infections in Uganda take place through mother-to-child transmission (Avert). After such a drastic reduction in HIV incidence, there are telling signs that this number may be on the rise again. From serving in Fort Portal, Uganda in January 2011, I was able to see first-hand the effects HIV/AIDS held not only on the country but on its people as well. It was there that my passion for maternal health has led me to research this topic. This thesis is an assessment of the maternal health efforts in Uganda, with a specific focus on the Prevention of Mother-to-Child Transmission program (PMTCT) and examination on the factors affecting its success in the region.

PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT)

Approximately 90% of HIV transmission to infants takes place through vertical transmission, otherwise known as

mother-to-child transmission (Alando). Mother-to-child transmission (MTCT) occurs when an HIV-positive woman passes the virus to her child via pregnancy, labor and delivery, or through breastfeeding. In many developed countries, pediatric HIV has been virtually eliminated, demonstrating the great difference between levels of income and treatments offered internationally. Within Sub-Saharan Africa, MTCT causes a great threat to the lives of women. Factors such as the high birth rates seen with an annual 23 million births in Africa, an extensively large total population of women within their reproductive age, and a well-established HIV epidemic within the local region all effectively increase the HIV prevalence rates (Avert). With that being stated, the prevention of mother-to-child transmission (PMTCT) is the best key to containing the future spread of HIV and maintaining a healthy status for Uganda's current and next generation.

HISTORY OF AIDS IN UGANDA

As evidenced through countries like Sierra Leone, Angola, and Bosnia, conflict can contribute to a range of factors that increase the risk of HIV infection among women, which include rape, displacement, poverty, sexual commercialization, abuse and coercion (Ciantia). Periods of

political unrest bring women additional burdens such as violence, trauma, disruption of primary health services, and poor access to basic health necessities (Ssengooba et al). In terms of the AIDS epidemic, Uganda was not immune to these circumstances. The 1980s were considered to be a massive patashika—the word for confusion in Luganda, Uganda's national language. With the spread of AIDS in the late 1980s, the country was in an economic downfall due to decades of political turmoil. Due to twenty years of civil unrest, nearly 1.6 million people were left in internal displaced persons (IDP) camps, where HIV prevalence rates are as high as densely populated cities (Tim and Mafubelu). The country was divided into varying linguistic groups, held limited public health and education programs, and dealt with the highest levels of illiteracy combined with a fatally low life expectancy (Alando).

The cause and modes of transmission of AIDS at that time was still relatively unknown and thus, public fear was on the rise. The most significant questions, like what caused AIDS and its transmission remained unanswered, forming misconceptions and alarm within society. Fear quickly brought on stigma against those already infected with HIV, often times associating these victims with prostitution, promiscuity, and other risky lifestyle behaviors (Avert). By 1986, with the end of Ugandan civil unrest and President Museveni in political control, the country was forced to mandate a major stance on its HIV crisis. By this time, the country was at the peak of the epidemic, with prevalence rates up to 29% in heavily populated urban areas like Kampala (Avert). President Museveni declared that although political unrest was no longer present, Uganda was a still a nation at war, but its enemy was AIDS (Murphy). In 1987, Uganda formed a five-year plan to combat HIV/AIDS with the assistance of the World Health Organization (WHO). In the three year period between 1987 and 1990, while most AIDS prevention programs were progressing, Uganda was the first country with which the WHO worked successfully for a single national plan and budget (Slutkin et al). The annual expenditures for this program grew from a mere 1 million to 18 million dollars within the

first three years alone and credited funds to international non-governmental organizations (NGOs) (Slutkin et al). This plan became so successful that it was later implemented as a model for the entire African continent, basing its success on the principles of candidness and honesty.

Another factor leading to the declining rates of infection was the sheer visibility of the HIV epidemic in the 1990s. Its effects were noticeable within society, with 91% of Ugandan men and 86% of Ugandan women reporting knowing an individual who tested positive for the virus in 1991 (Avert). This personal attachment to the disease formed a sense of urgency not only within the Ugandan national government, but also altered the perception of the disease from within the culture. With antiretroviral treatments scarce at the time, AIDS was quickly associated with a premature death sentence, and it was this fear that drove an intensive change in overall public awareness.

FINANCIAL EXPENDITURE ON CURRENT AIDS PREVENTION PROGRAMS

Financial factors affecting PMTCT services include high medical fees, antiretroviral medication (ARVs), Caesarian section costs, and the price of alternate infant feeding products (Alando). Per capita growth in at least half of the Sub-Saharan countries affected by AIDS is falling annually by 0.5 – 1.2% as a direct result of HIV/ AIDS. It was estimated that in 2010 alone, the per capita GDP in the hardest hit countries dropped as much as 8% due to the international recession, making a great impact on the allocation of funds and revenues (Alando). Previous research has revealed that out-of-pocket expenses attribute 58-75% to the total health care fiscal costs in Uganda (Ssengooba et al). Projected costs for antiretroviral medication in the United States costs an annual $10,000 – $15,000 per person, a financial burden no Sub-Saharan country can face alone (Alando). The cost for a single HIV testing kit in Uganda is roughly $18.50 U.S. dollars, which includes two ELISA tests as well as manpower for pre and post counseling sessions (Bollinger and Stover). In terms of national government expenditure for health services, the average spent for a Sub-Saharan country is roughly 6% of

*Uganda was a still a nation at war,
but its enemy was AIDS.*

all government expenditure (Alando). With rising costs of medication and services, these figures urgently require a drastic reevaluation to better serve these nations. Given options to alleviate financial burdens, like incorporating low formula costs within local villages, providing group counseling, and subsidizing the cost of C-sections specifically for HIV positive mothers, countries like Uganda can afford to provide better services for their women (Alando).

AVERTING AND CONTAINING HIV PREVALENCE IN UGANDA TODAY

With Uganda's tumultuous and challenging background with the transmission of HIV/ AIDS, researchers, policy makers, and health workers alike have proposed several approaches to HIV prevention within the past twenty years for Uganda's sustainable future. From examining several factors and dynamics to the AIDS complex, the most prevalent PMTCT strategies are analyzed and discussed here: increased drug regimen programs, the ABC Approach, sterilization, national health services and programs, combating poverty through micro-crediting, better access to technology, and socio-cultural issues of stigma and the status of women.

ALLEVIATING ANTIRETROVIRAL (ARVS) PRODUCTION
AND DISTRIBUTION SHORTAGES

Uganda was among the first target countries for the mass distribution of antiretroviral medication (ARVs). At the AIDS 2010 conference, an updated regimen of ARV medication and breastfeeding techniques for pregnant mothers was issued (WHO). A few of these implementations included longer time frames for ARV prophylaxis treatment to women with generally stronger immune systems. The idea behind this strategy was that it would ultimately help boost the immune response to prevent the risk of MTCT. The level at which ARV medication is administered was also lifted from 200 to 350 cells/mm3 to ensure that the immune system has a better advantage of utilizing the medicine. The variability in recommended treatments allow countries like Uganda to pick and modify options that will best fit the needs for their people and the resources available.

One common concern among mothers with HIV is the choice between breastfeeding and other infant feeding options. Recent clinical trials have shown the efficiency of ARVs administered to mothers through breastfeeding, since innate immunity can be acquired through breastfeeding (WHO "New Guidance"). Often times mothers must face breastfeeding while on ARV medication or avoiding all breastfeeding through water-based feeding supplements. This carries the increased risk of exposing infants to extreme diarrhea and other water-borne contaminants.

Since June 2004, Uganda began promoting free ARV medication to people with HIV as part of their five year pilot program (Avert). However, Uganda is presently only able to provide drugs to roughly 57% of the nearly 240,000 patients who desperately require them (PlusNews "UGANDA: It takes money"). Instead, they are heavily supported by the World Bank and the United States. Due to bureaucratic issues and legal parameters, however, the delivery and distribution rollout of these drugs can be painstakingly slow. Places like Kampala experience frequent medication shortages, forcing health centers to stop entering new HIV patients altogether. While foreign government initiatives like The United States President's Emergency Plan (PEPFAR) currently support over 87% of patients in Uganda on ARV medication, it is becoming increasingly more challenging to maintain this level of financial support (PlusNews, "UGANDA" Optimism"). The allocation of funds has increased in recent years but many patients are still left to rely on waiting lists and may only have access to Septrin, an antibiotic offered as a prophylactic to prevent opportunistic infections, but not necessarily counter the HIV virus (Alando). More NGO's and countries need to step up to the AIDS challenge, realizing that this is not a concentrated dilemma, but an immediate threat and issue.

Presently, Uganda plans to relieve its drug shortage issues by producing its own generic drugs. In 2007, the Luzira factory opened in Kampala but was not permitted to manufacture and distribute ART medication until 2009. It is hoped that this factory may be the start of many effective

Abstinence is still the most controversial area of the program, especially with the recent questioning of allocation of funds for abstinence-only programs

means to reduce overall costs of medication with its ability to produce at least 2 million tablets a day (Avert). However initially, patent trade-related laws and strict intellectual property rights prevented Uganda from the ability to produce, gather, and export preventative HIV generic drugs. Several drug companies claim that their patents must be protected in order to comply with the research necessary to better develop their products. This notion has also been supported by many U.S. officials (Avert). Fortunately with the recent years, pharmaceutical companies have slowly begun to relieve some of these restrictions. In accordance with Bill Clinton's announcement that drug patenting would remain flexible in times of a public health crisis, five major pharmaceutical companies around the world have agreed to negotiate and relax current bans (Avert).

The newest approach, coined 'Treatment 2.0', aims at two key aspects of the AIDS response: reduction in AIDS – related deaths and prevention of new HIV infections (PlusNews Global). UNAIDS estimates that successful implementation of this method could avert nearly 10 million deaths by 2025. Treatment 2.0 calls for the creation of more successful HIV drugs that are less toxic, combine multiple ARVs into one pill, and are ultimately quicker and cheaper to manufacture. Another aspect of this program is the requirement that treatment be administered earlier for HIV patients, in line with recent WHO recommendations. Treatment 2.0 requires the community to deliver HIV services to more hard pressed areas, especially in rural Uganda. This proactive approach, while initially financially draining, offers a source of hope and a solution to long term financial and medical burdens.

A glimmer of hope is seen with the recent report by the Allergy and Infectious Disease Unit (NIAID) who have discovered the production of two innate antibodies that may actually block HIV (Park). These antibodies hold the key for preventing more than 90% of HIV strains from further damaging viable T-cells by blocking an essential protein on the surface of HIV (Park). In the simplest of

terms, when the antibodies connect with this area of HIV, it cannot function with the CD4 T-cell, preventing replication of HIV within the host. The main reason behind previous ineffective HIV vaccines is the HIV's constant and quick adaptability to its host environment. However, certain individuals are now able to produce antibodies that will bind to this site and essentially fight off the infection, without the aid of toxic medications. From screening the blood of individuals who possess this ability, scientists have been able to extract the specific protein responsible for this function (Park). Currently, this study has only been tested in laboratory Petri dishes but will soon expand to animals, and with promising results, to human subjects. Although the promise to an AIDS vaccine may be decades away, this is a monumental step in providing definitive preventative care.

THE 'ABC' APPROACH

Uganda's first preventative HIV/AIDS program, entitled 'ABC', was launched in 1987 to encourage abstaining, being faithful, and the use of condoms (UNFPA). To spread this campaign within all regions of Uganda, the Ugandan ministry of health incorporated a multi-sector approach by strengthening relationships within the government, community, and religious leaders to endorse and fully support ABC principles. The tenants of ABC were involved in the primary and secondary education, as well as discussed in faith-based community settings. Dynamic media messages took advantage of print, radio, and television to further promote these concepts.

Abstinence is still the most controversial area of the program, especially with the recent questioning of allocation of funds for abstinence-only programs (Avert). PEPFAR has been accused of exclusively focusing its prevention goals in Uganda on abstinence. Abstinence-only has been supported by many faith-based organizations as their central pillar, as the use of condoms often conflicts with both Christian and Muslim teachings. In terms of being

faithful, models of family values and loving faithfully were expressed extensively. Statistic models revealed fewer sexual partners were most effective from the late 1980s to 1990s (Avert). According to WHO, numbers of multiple non-marital partners fell from 15% to 3% in the 1990s but increased to 29% in 2005, expressing the need for a more thorough HIV prevention education program within the younger generation (United Nations).

The final division of ABC, the endorsement of condoms, also carries negative associations with it. It was not until the mid-1990s that condom use was supported by President Museveni and his ministry (Avert). The greatest barrier to safer sex practices were the attitudes and conventions of parents, who often times did not deem the promotion of adolescent sexual activity appropriate to begin with. Even today, the use of condoms is seen as a last resort, only if options A and B are not viable. The quality of condoms has always been a prime concern and because of high taxes, they were too expensive for many to afford to buy them. When interviewed, some women claimed that condoms could remain stuck inside them, killing them or causing irreparable damage to their reproductive systems (Allen and Heald). Proponents of ABC contend that although success rates to this program remain under much scrutiny and controversy, three positive changes occurred through this program: including (1) increased abstinence that was delayed and reduced levels of sexual activity from youth since the early 1990s; (2) increased faithfulness, and (3) increased condom use by casual partners (IRIN). Some researchers and policymakers alike even go as far to claim that Uganda's greatest success in containing HIV is attributed to the societal and behavior changes that have resulted out of this program.

Critics of this program have noted that 'abstaining from sex, being faithful, and using condoms', while all being ABC– related behaviors, are rather results of the preventative strategic plan and not strategic in themselves (Murphy). By focusing solely on behaviors, the ABC approach overlooks underlying key factors that make people vulnerable to HIV. For example, the ABC approach fails to acknowledge sex workers, those who are unable to negotiate safer sex options, or non-heterosexual risk groups (Murphy). Without attention addressed to these key societal groups, HIV prevalence rates will continue to increase. The extreme reaction to condom use seen in Botswana serves as a grave warning against overlooking this sector of the program. Botswana's public campaigns were discredited by many church authorities for its quick support of condom use, preventing trust from its citizens in the campaign, ultimately leading its people to not invest and follow the guidelines set by the program (Allen and Heald). Equal and objective information on all three sectors of the ABC

approach need to be emphasized in order to counter stigma and make significant strides countering HIV transmission.

THE CALL FOR STERILIZATION

One approach to reducing the risk for HIV infection is to reduce the high fertility rates that are characteristic of Uganda's maternal health issue. Controversially, sterilization has been offered as a means to alleviate these MTCT issues in many countries. NGOs and other organizations in support of this claim that overpopulation continues to be an issue in Sub-Saharan Africa and other forms of preventative tactics are simply not working fast enough to tackle the immediate issue. Sterilization, on the other hand, is quick and shows direct outcomes. This, however, raises the concern that women could potentially face the vulnerability of coerced sterilization unknowingly. For example, in certain documented cases in Namibia, HIV positive women were pressured into signing consent forms for sterilization minutes before giving birth (Mamad). Not fully understanding these ramifications, women assumed this was simply part of their HIV treatment. While the benefits of sterilization are apparent for Africa's future generations, depriving a woman to her reproductive rights does not appear to be an attractive sacrifice or compromise. This preventative strategy falls into a grey area of medical and moral ethics, questioning the basic human right to nondiscrimination and equal standards of reproductive health for all women.

STRENGTHENING UGANDAN HEALTHCARE INFRASTRUCTURE

Understanding the critical role testing plays in the prevention of HIV, Uganda was the first Sub-Saharan country to launch voluntary counseling and testing (VCT) clinics (Avert). Same-day voluntary counseling treatment programs have been successful because retaining patients who tested HIV positive are more challenging after they have left the clinic.

Skilled care at childbirth is vital in the care required throughout the pregnancy process and essential in the unforeseeable risk of medical complications. Yet between 1990 and 2008, the percentage of skilled health workers for Sub-Saharan Africa has only increased by 5% (United Nations). Only 56% of which these health positions in Uganda are currently filled (Avert).With this apparent high need for skilled workers in the maternal health sector, there has been great controversy over whether the recent ban on the traditional birth attendant system (TBA) would actually aid maternal health. For most women in rural Uganda, this is the only option they have to receiving any medical attention. While this may appear attractive, cases like that of 40-year old Salome Nakitanda, reveal the dangers of not adequately training these workers (United Nations). After

hours of painful labor and complications, her TBA used a kitchen knife to perform a caesarian section, accidentally cutting through her bladder in the process. Her child died minutes later and the mother was left in indescribable pain. Salome was later rushed to a hospital where she underwent several reconstructive surgeries. In resource-constrained areas where sanitation can be a concern, cesarean sections and routine episiotomies can lead to serious infections or even death. Salome's dramatic story bears a grave reminder over the dangers of untrained TBAs and traditional cultural practices.

TBAs, however, have also made a positive impact in the communities they reside in. For areas that are far and out of reach from adequate medical facilities, they offer support for normal deliveries. Often times, these women are well respected within their community and can advocate for safe family planning initiatives (Murigi and Ford). One prime example of this is the Shanti Uganda Birth House, created in 2010 (Shanti Uganda). This local home provided a place for women to receive medical treatment to deliver their babies safely. With the proper training of antenatal services and the ability to detect signs of maternal distress, they can be a great access in an otherwise resource-constrained environment. Even with the current ban in place, most TBAs continue to assist in deliveries, until they can be certain that a viable alternative will be made available for the women of their village and job security can be offered (Murigi and Ford). To effectively meet the needs of the growing maternal requirements for rural villages in Uganda, the Ugandan Ministry of Health must incorporate a more holistic approach to TBAs. They must find a compromise for both the medical professionals and TBAs, perhaps through the aid of technology and communication between these two groups. Another possible solution to the lack of skilled workers in the field is the Uganda Private Midwives Association. This organization's mission is to provide quality, accessible and affordable reproductive health services to the public community. However, these are generally built in areas of relatively high incomes, and tend to avoid emergency surgery or blood transfusion options due to lack of funding.

It is especially important for HIV-positive mothers to receive regular checkups in order to prevent any obstetric emergencies and provide effective postpartum care (United Nations). Antenatal care is necessary because many Ugandan women suffer from nutritional deficiencies, particularly during their gestation period. Without proper nutrition, a patient cannot undergo ARV medication, due to the extensive list of side-effects. Antenatal care is also critical for accessing and offering a source of HIV prevention services surveillance. However, monitoring performed at these clinics is largely not as accurate as they potentially

could be. Since most of the surveillance centers are in the Southern regions and urban areas, and most of Uganda's population resides in rural areas (over 80%), data reflecting this leaves out a high proportion of the population effected (Allen and Heald).

ADDRESSING ISSUES OF POVERTY: MICRO-CREDITING

While gender, poverty, and violence alone do not define HIV risk, they can increase a woman's vulnerability to it. There is growing evidence from areas in sub-Saharan Africa, Latin America, and Asia that an increased level of income inequity is linked to higher HIV prevalence rates (AIDS Support). Allowing women to gain more control over key economic resources will ultimately allow for them to generate their own income, increase their influential stake in their families, and increase the reproductive options available to them. Since the initial launch of microcredit lending programs in Bangladesh, loans have offered an entrepreneurial avenue for women to attain self-sufficiency and women empowerment.

Kiva is the main peer-to-peer lending model set in place in Uganda (Frontline World). 'Kiva' stands for agreement or unity in Swahili and allows for people to use cash or the PayPal system to lend African entrepreneurs. Normally, microcredit is offered through banks, which can charge anywhere from 35% to 300% interest. Kiva, however, can do this at a fraction of the cost and has given out more than $400,000 in loans since its inception in Uganda (Frontline World). Initially launching in one small village in Uganda, Kiva has already prospered to 11 other countries within its first year, showing great promise in the African economic system.

BETTER ACCESS TO TECHNOLOGY

Following Museveni's campaign footsteps, incorporating social media tactics into HIV prevention has proven to be attractive to Uganda's younger generations. Increase in cell phone use has sparked an interested in using them as a means for health promotion. The portability and 'always on' features of the mobile devices appeals as a more viable source of information than even computers. Text to Change (TTC) was set up with the AIDS Information Center in 2009 in certain health areas of Uganda to quiz participants about their previous knowledge on HIV/AIDS (Lepper). By offering participants incentives to take these inventories, like free airtime, more were encouraged to get tested for HIV.

CURBING STIGMA: A SOCIO-CULTURAL PROCESS

A stigma is considered to be "a mark of disgrace" (Mahajan et al). In particular, pregnant women are most at risk to stigma, resulting in the lack of participation in PMTCT

services. Most women have expressed fears of discrimination and violence, especially demonstrated from partners when disclosing their HIV status (Mahajan et al). One case of this seen through the life Lisungu Chieza led after she was diagnosed with HIV. A Zimbabwe woman, Chieza did not discover her HIV positive status until after her husband's ill health and death (Chienza). However, within the

to consult their partner and family. Another approach to this comes from the grass root level. Grass root efforts were and currently are run as key HIV prevention initiatives. Local organizations like TASO, The AIDS Support Organization, which was run originally by sixteen volunteers personally affected by HIV/AIDS and later went on to become the largest indigenous support group in Africa,

> *Stigma and discrimination towards those affected by AIDS are visible at nearly all levels of society from families, local communities, and government offices alike.*

African framework of tradition and culture, her in-laws blamed her for her husband's death, barring her and her children from attending his funeral. Although Chieza was able to bring herself out of her deep depression and shame over HIV, and actively became a part of the HIV/AIDS prevention programs in Zimbabwe, South Africa, and Canada, most African women are not so fortunate. Left to themselves, many are turned away from their family and village without a support group. They can often experience severe depression and feelings of hopelessness, and may even resort to suicide.

Stigma and discrimination towards those affected by AIDS are visible at nearly all levels of society from families, local communities, and government offices alike. One prime example is seen through President Muesveni's policies of government employment based on HIV status (Avert). By emphasizing HIV/AIDS differently from other infectious diseases and promoting the anonymity of HIV-infected people, its results may have been counterproductive. To truly alter people's perception about AIDS and curb sexual promiscuity rates, an environment of frankness and honesty is a necessity. With the relaxation of media censorship regarding AIDS and a diversity of prevention messages spread through religion, schools, and villages, President Museveni has attempted to create such a surrounding for Ugandans (Avert). It is now up to Uganda to sustain these efforts.

Uganda was the first country to tackle these issues through home-based care and support (Mungherera). Women tended to respond more to their reproductive options in the confines of their home, where they were able

provides immense support to HIV-positive women (Alimonti, Ball and Fowke). One of TASO's main strategies at communicating information is through song and drama (Mungherera). Since much of Africa is built on a tradition of storytelling and dramatics, messages relaying prevention to HIV has been very effective within the community. Their success rates are attributed to the personal connections and relationships built between villages made up of people living with HIV/AIDS.

Young mother mentorship programs have also been acclaimed for its efficiency in the region. Mama's Club, led by Lydia Mungherera, is a grassroots/community-based initiative that focuses on reducing stigma and empowering HIV-positive mothers (Mungherera). They offer psychosocial support and specific training in both HIV prevention and employment skills. Mothers 2 Mothers, another known nonprofit that utilizes mothers with HIV to relay information to other expecting mothers, has also recently set stage in Uganda (Mothers 2 Mothers). In resource-constrained environments like Uganda, mothers2mothers encourages sustainable and cost-effective solutions to the daily challenges of providing adequate PMTCT services. This mother mentorship works side-by side with doctors and nurses, supporting and educating women on how to better take care of themselves and their babies, ultimately closing the gap in health care service provided. Mothers who act as coaches also benefit from this relationship through gaining respect as a role model in their community and earning a salary for their family. In essence self-empowerment and education are closely intertwined as key values of this program.

By emphasizing the familial unit and utilizing the talents of local Ugandan women to inform the public, women offer their peers an attempt at a future free of HIV for their children.

For children facing issues of stigma and neglect, new programs are currently offering greater access to care and treatment. Uganda Young Positives (UYP), recently awarded the Red Ribbon Award for their outstanding work within the community, focuses on promoting a better quality of life for the younger populations living with HIV, especially orphans and young children (Red Ribbon Award). UYP fights against stigma and discrimination on these vulnerable children, and supports them by providing them with fosters homes. Currently, the organization has empowered over 20,000 young adults across Uganda to advocate for better rights, education, and access to treatment.

Challenging gender norms as a pathway to prevention

The greatest and most common mistake seen in HIV prevention programs is the failure to address the complexities of gender inequity; an indirect but influential factor in HIV's transmission. Worldwide, women's subordination in status has led to increased reproductive health risks, including forced sexual encounters and rape, maternal deaths, risky abortions, and sexually transmitted infections, including HIV (Murphy). President Museveni, realizing early on the effect of equity between men and women on the prevalence of HIV, addressed this issue, stating:

"Permit me to tell you the obvious. In the fight against HIV/AIDS, women must be brought on board. In sub-Saharan Africa, most women have not yet been empowered and men dominate sexual relations. To fight this epidemic, the women must be empowered to take decisions about their sexual lives. To fight AIDS effectively, we must empower women" (Murphy).

In Uganda where women are disproportionately affected for HIV, roughly 57% of female adults test positive overall for cases of HIV (Avert). This has been linked to the issue that women tend to marry at a younger age compared to males in Uganda, and often have older, more sexually active partners, putting them at a greater risk of infection. The disease is becoming increasingly more discriminating against the illiterate and impoverished populations. The most immediate and permanent response is education. Whether this information relates to AIDS specifically or to general sex education, this information can empower Ugandan women to make decisions and take further action.

Changes in gender norms are not limited to simply improving the status of women. Male involvement plays a central role in allowing these programs to be sustainable for the future. While previous AIDS prevention programs focused exclusively on tactics to address women and girls, equal attention must be given to men, as many of them stand to be the decision makers of sexual and reproductive health issues. Cultural practices that make women more susceptible to gender-violence must be stopped and can only be done so though active participation from Ugandan males. Ugandan men are less likely to seek medical attention than women, but conversely are more likely to engage in risky sexual behavior, ultimately putting women at a greater risk.

Male circumcision may be an area where men can contribute to PMTCT aid. There is growing research that circumcision can significantly reduce the risk of acquired HIV infection in men by 60% in heterosexual couples, when done so in safe and equipped medical settings (WHO "Male Circumcision"). However, some skeptics, like the Copenhagen Consensus Centre, argue that this tactic is less cost effective than other preventative programs (Henry Kaiser Family Foundation). Through emphasizing a familial role and responsibility, programs geared to address these issues have shown great successes in instilling a sense of accountability to their family for their actions. Redefining what 'masculinity' is in the present societal norms is essential in preventing a coercive figure but instead more positive role model for children.

CLOSING RECOMMENDATIONS

"By 2015, children everywhere can be born free of HIV and their mothers can remain healthy", were the sentiments expressed by Michel Sidibe, executive director of UNAIDS (UNAIDS). On June 9, 2011, significant strides were made through the annual United Nations High Level meeting on AIDS, held in New York City. What would mark this meeting differently from the countless previous conventions on AIDS prevention is the launch and brainstorm of

the Global Plan, an ambitious diagram to eliminate HIV infections among children and keep their mothers alive. In response, PEPFAR has already announced an additional 75 million U.S dollars on top of the 300 million already allocated to sustain PMTCT efforts (Naone). Other sizable donations have poured in from philanthropic organizations and companies alike, including the Bill & Melinda Gates Foundation, Chevron, and Johnson & Johnson. While financial contributions by these organizations are greatly appreciated, to truly attain the 2015 goals, countries affected most severely by the AIDS epidemic, especially Uganda, must step up and be the forefront of their own preventative HIV programs. Although initiatives laid out by the United Nations, PEPFAR, and other NGOs alike are beneficial, without Ugandans heading these movements, Uganda will never be able to lift itself out of the HIV/AIDS crisis. The first step to this, however financially disadvantageous may be, is to significantly increase internal expenditure on government PMTCT programs. As mentioned previously, Uganda presently only allocates 6% of its national expenditure for HIV prevention programs. This figure can be raised to 8 or even 10% to let their people understand the buy in and importance these programs hold for their future.

The HIV/AIDS crisis is a complex issue, and thus, contains complex solutions. There is not one absolute resolution to the confounding issues the country is facing. All of the proposed initiatives mentioned are connected and intertwined to each other, and they require cooperation in the local, national, and international arena to truly be successful. However, from examining the matter from various angles, the overarching theme goes back to the core of the Ugandan values and system: family and the role of women. By emphasizing the familial unit and utilizing the talents of local Ugandan women to inform the public, women offer their peers an attempt at a future free of HIV for their children. From my experience in Uganda and personally attending a PMTCT session in Fort Portal, Uganda, I have witnessed the power one woman can have on the births and lives of other Ugandan women. This close kinship and sense of responsibility to one another offers hope and optimism for women who have no other feasible option. Limitations to this involve not adequately educating local women of resources the medical information needed to ensure maternal health.

As a student at St. Edward's, it is impossible to not reflect on the values of our mission statement and how it holds true to anything and everything we do. In the course of four years, we are taught to critically and creatively evaluate the most important issues of society and social justice. We are encouraged to propose solutions, and make responsible decisions as citizens of the world community. In doing this, we are prompted to take risks, and continuously look outward. All of these core values our university holds relate to the Ugandan HIV/AIDS battle. While some of the proposed solutions may appear unorthodox, requiring much time and careful planning, and seem nearly unfeasible, St. Edward's University has stressed the importance of passionately enduring to achieve feats greater than ourselves. Through my brief time in Fort Portal, Uganda, it has become more evident that my own interest is rooted deep within maternal health and AIDS prevention in Sub-Saharan Africa. I believe that local efforts from this campus can become an eventual aspect of future interactions with this country. Through the continuation of service and global understanding programs, like that of Campus Ministry, field research studies performed locally in Ugandan villages, and possibly the start of a micro-crediting partnership between students and working HIV-positive women in Uganda, a more engaging and interactive connection can be made between the global issues affecting this region, their people, and us.

More than a quarter century after the HIV epidemic took place in Uganda; AIDS remains the leading source of adult disease and death. Several HIV prevention programs take place worldwide, and while they are far from perfect, each renewal of grants and preventative programs offers hope and glimpse into an AIDS free world. No longer can inadequate resources, infrastructure, and health care facilities be barriers against prevention for Africa's highest prevalent epidemic. Failure to prevent HIV transmission is neither a national nor an African issue; it is an infringement on the basic human right to life and social development that cannot be ignored any longer. In a world where the distribution of Coke and Pepsi products can be distributed to the most remote regions of the world more frequently and adequately than antiretroviral medications, I believe that effective change can be made.

WORKS CITED

AID STAR-One. "AIDS Support and Technical Assistance Resources." Microfinance, HIV, and Women's Empowerment. US AID: 2010. PDF File.

Alando, C. "Improving Cost-Effectiveness Through Cost Reduction Methodologies for PMCTC HIV/AIDS Interventions In Sub-Saharan Africa." Africa Evaluation Association: 2002:1-3. Print.

Alimonti JB, Ball TB, Fowke KR. "Mechanisms of CD4+ T lymphocyte cell death in human immunodeficiency virus infection and AIDS.". J. Gen. Virol. 84.7 (2003): 1649–1661. Print.

Allen, T. and S. Heald. "HIV/AIDS Policy in Africa. What has worked in Uganda and what has failed in Botswana?" Journal of International Development. 16 (2004): 1141-1154.

AVERT. "HIV and AIDS in Uganda." AVERTing HIV and AIDS. 2010. Web. 24 March, 2011.

AVERT. "HIV and AIDS in Africa." AVERTing HIV and AIDS. 2010. Web. 15 Aug, 2011.

Bollinger, L., & Stover, J. "Decision Model For Evaluating Strategies To Prevent Mother-To-Child Transmission of HIV." The FUTURES Group International. POLICY: 1999: 1-50.

Chieza, L. "The Beginning of Another Life." Women Organized To Respond To Life-Threatening Diseases November 2006. Thebody.com. Web. 12 October 2011.

Ciantia, Filippo. "HIV seroprevalence in Northern Uganda: The Complex Relationship Between AIDS and Conflict". Journal of Medicine and the Person 2.4 (2004): 172-175. PDF File.

Foundation for Women ."Microcredit Basics." Foundationforwomen.org. n.d. Web. 15 Oct 2011.

Frontline World. "Uganda: A little goes a long way."Frontline. pbs.org. 21 Oct 2006. Web. 28 Oct 2011.

Henry J. Kaiser Family Foundation."Adult Male Circumcision Not a Cost Effective Anti-HIV Tactic, Panel of Economists Says." The Body Pro.org. 2011. Web 3 Nov 2011.

Heywood, M. "South Africa's Treatment Action Campaign: Combining Law and Social Mobilization to Realize the Right to Health" J Human Rights Practice 2009: 14-36. Print.

IRIN. "Uganda: Condom message still not hitting home".irinnews.org. IRIN: Humanitarian News and Analysis. 16 Sept 2009. Web. 12 Oct 2011.

Johns Hopkins Bloomberg School of Public Health."World-Class Research on the 'Slim Disease.'" Johns Hopkins Public Health Magazine (2006, Spring). Web. 10 Sept 2011.

Lepper, A. D. "The Impact of Text Message Quiz Programmes in Uganda." Mhealthinfo.org. October 2010. Web. 22 Oct 2011.

Mahajan, Anish P., et al. "Stigma in the HIV/AIDS epidemic: A review of the literature and recommendations for the way forward". AIDS 22 (2008) s67-s79. Print.

Mamad, F. A. "Forced Sterilization of Women Living with HIV/AIDS in Africa." Mauritius. University of Mauritius: 2009. Print.

Mothers 2 Mothers. "The m2m Model". M2m.org. Mothers 2 Mothers 2011. Web. 12 October 2011.

Mungherera, L. "Barriers and Recommendations in Providing Access to Reproductive Health Options for People Living With HIV/AIDS in Uganda." XVIII International AIDS Conference 4 March 2011. PDF File.

Murigi, S., and Ford, L. "Should Uganda ban traditional birth attendants?" guardian.co.uk. The Guardian 30 Mar 2010. Web. 12 Oct 2011.

Murphy, Elaine M., et. al. "Was the 'ABC' Approach (Abstinence, Being Faithful, Using Condoms) Responsible for Uganda's Decline in HIV?" PLoS Med 2006. Sept. 6. 3(9): e 379. Print.

Naone, E. (2011). "Technology Review's annual list of 35 Innovators under 35." Technology Review 2011. Web. 10 Oct 2011.

Park, A. "AIDS Vaccine: The Promise of HIV Antibodies." Time - Health . TIME Magazine: 10 July 2010.Web. 12 Oct 2011.

PlusNews."GLOBAL: A radical new UNAIDS treatment strategy." PlusNews: Global HIV/AIDS News and Analysis 16 July 2010. Web. 12 Oct 2011.

PlusNews. "UGANDA: It takes money to get universal access to treatment." PlusNews: Global HIV/AIDS News and Analysis 29 Oct 2009. Web. 12 Oct, 2011.

PlusNews."UGANDA: Optimism as PEPFAR increases funding." PlusNews: Global HIV/AIDS News and Analysis 25 Aug 2010. Web. 12 Oct 2011.

PubMed Health. "Nevirapine". U.S. National Library of Medicine: 2008. Web.3 Nov 2011.

Red Ribbon Award. "Uganda Young Positives."redribbonaward.org. 2010. Web. 3 Nov 2011.

Saloojee, Haroon. "The Real Value of Nevirapine". Science in Africa (2002). Print.

Shanti Uganda. "Birth." Shantiuganda.org. The Shanti Uganda Society: March 2010. Web. 20 Oct 2011.

Slutkin, Gary, Sam Okware, et.al. "How Uganda Reversed Its HIV Epidemic." AIDS Behav. 2006 July. 10(4): 351-360. Print.

Ssengooba, Freddie, et al. "Maternal Health Review Uganda."Makere University Institute of Public Health: Health Systems Development Programme: 2003. PDF File.

Tim, E., and D. Mafubelu. "Women and health: today's evidence tomorrow's agenda." WHO Press, 2009: 40-47. PDF File.

UNAIDS."World leaders launch plan to eliminate new HIV infections among children by 2015." United Nations High Level Meeting On AIDS." New York City: United Nations Press: 2011.PDF File.

United Nations. Millennium Development Goal Report. United Nations Summit. New York: United Nations: 2010. PDF File.

UNFPA. "Creating Good CARMMA for African Mothers." United Nations Population Fund (27 Apr 2010). Web. Retrieved October 13, 2011,

WHO. "New Guidance on Prevention of Mother-to-Child Transmission of HIV and Infant Feeding in the Context of HIV." Thebodypro.com. 20 July 2010. Web. 1 Nov 2011.

WHO."PMTCT strategic vision 2010-2015: preventing mother-to child transmission to reach the UNGASS and Millenium Development Goals" World Health Organization: 2010 pp. 11-20. Geneva: WHO Press: 2010.

WHO. "Male circumcision for HIV prevention". World Health Organization: 2011. Web. 1 Nov 2011.

WHO. "New Guidance on Prevention of Mother-to-Child Transmission of HIV and Infant Feeding in the Context of HIV." Thebodypro.com. 20 July 2010.Web. 1 Nov 2011.

japan

In the Summer of 2012, Professor Joe Vitone's students studied at Asia Pacific University in Japan. These images are a small sampling of their projects. Some of them are close studies of the industries and cultural traditions of the city of Beppu, and other images come from more personal projects taken in other parts of Japan. Each project offered a visual narrative of students' understanding and reactions to new cultural experiences.

Berkeley Beauchot — top

One of eight natural hot springs found in Kannawa, Beppu.
The name, meaning "burning hell" comes from the ancient
Buddhist sutras of the East. The main tourist attraction in
Beppu, not even the dismal rainy season keeps visitors away.

Oniama-Jigoku June 24, 2012

Danielle Dalton — bottom

Pachinko: a deaf man's game

Diptych 4, 2012.

The pachinko machines whirl buzz and ping, as not a single
person lifts their eyes from their respective machines.
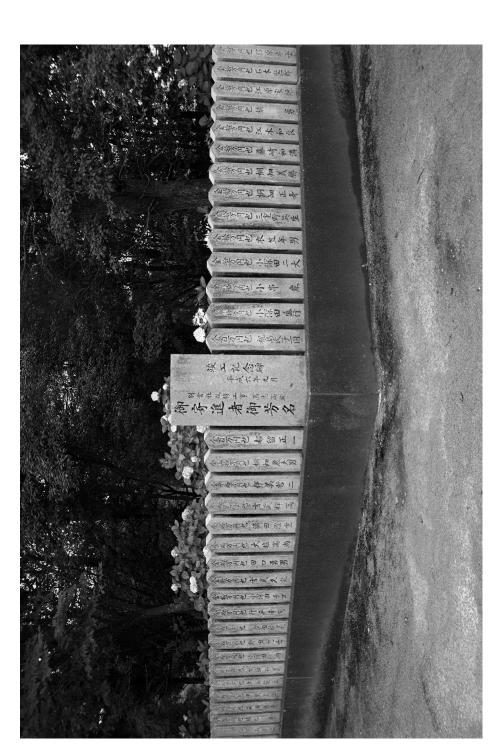
June, 2012. Beppu.

Joe Arellano

Kendōgi: Kendōgi consists of a dōgi "shirt" and hakama "leggings" and is worn for kendo, aikiro, kyudo, and judo. The Himo are ropes (straps) that form a knot and holds the Kendōgi together. They go behind one's back, then one goes under the other and then one is flipped so the Himo are at the same level. The newer and higher quality a Kendōgi is the more blue it will leave on the skin. A white version of the Kendōgi is also commonly worn and is quite popular during hot weather.

Dates: 7-4-2012, 7-4-2012, 7-10-2012

Taylor Wilkins
bottom

Temple Donations

Because the Japanese government does not financially support religion in Japan, each individual institution must have its own funding. These stones commemorate the many private donors to this particular temple.

Bungo-Takada, Oita Prefecture,

Japan

Emily Marie Palmer

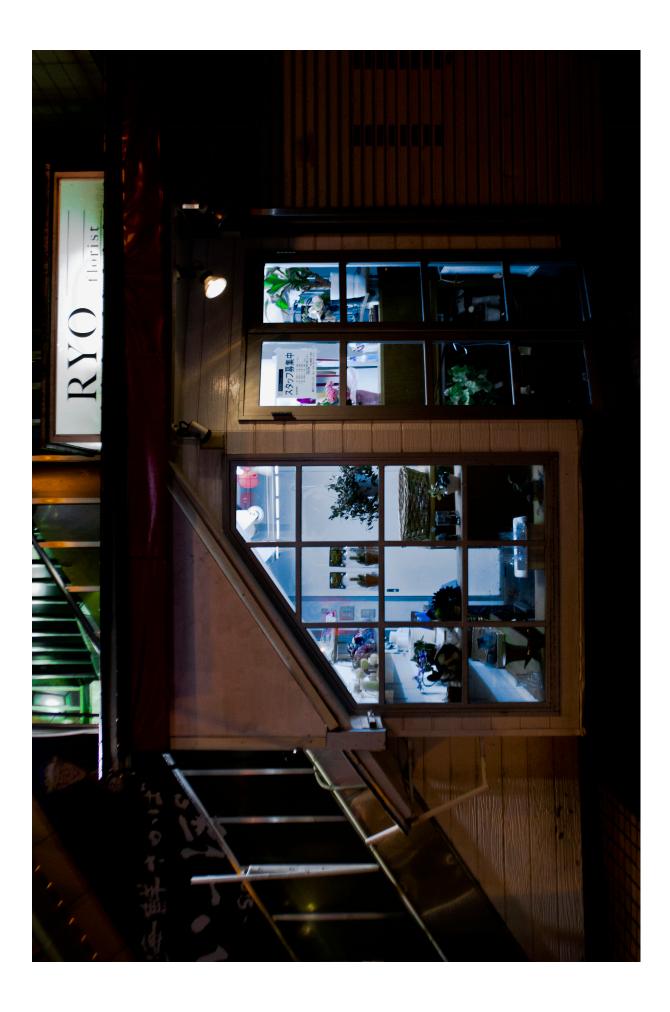*Irezumi: Tattoo Culture in Japan*

Horimono

Horimono refers to the tattoo body suits that are often associated with the Yakuza (but that do not necessarily confirm membership in the organization — especially today.) However, in Taguchi's case, the tattoos are indeed related to Yakuza involvement.
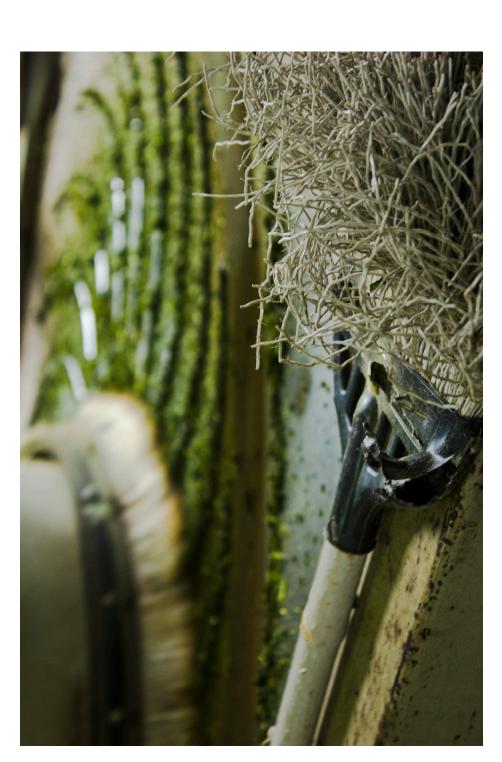
Olivia Swales

Flower Shop; Beppu, Japan

Another aspect of Beppu that gives the city its charm is a plethora of small, local shops. One can find everything from regionals flowers to dusty menswear to traditional kimonos and slippers. The majority of these shops close early in the evening, but a select few, like the one shown above, stay open late into the evening.

RYO florist

スタッフ募集中

Ashton Ebenhoeh

Grinding (2012/07/21) Bungo Takada

This machine grinds the tea leaves and compresses them until they are really thin. After enough tea gets collected, a hatch opens below and the tea goes on to the next step. A worker also uses a broom to help collect the leftovers.
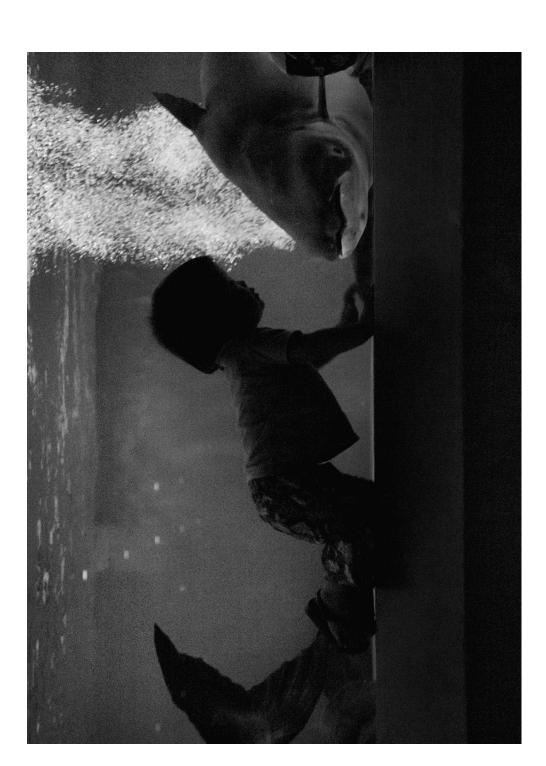
Hill Taylor White

Bungotakada, Ōita-Shi 2012
Prayer is believed to play a major role in the success of a farm.

Mary preys at Fuki-Ji temple, the oldest wooden temple on Kyushu island. Fuki-Ji is located only a few hundred meters from Ejji and Mary's Farm.

Beatriz Posada Alonso

Thai giant catfish on display

6/30/12 Nagasaki Aquarium, Nagasaki

The Nagasaki Aquarium is home to several giant catfish known as "Pla Beuk." This herbivore fish can grow to up to 10 feet long and weigh up to 650 pounds. This is an endangered species native to Thailand, and they were given as a token of good will by the Thai government.

Walter Long

The Gion Matsuri is a festival that takes place in Kyoto during the month of July. For three nights in a row the downtown area is shut down for pedestrians. These girls are wearing traditional yukatas (or summer kimono) as is custom for the festival.

Hunter Lawrence

Landscapes: Morocco

ABSORBED

Monica Maria Acosta
Submitted by Dr. Alex Barron

Mind the gap between the familiar and the unknown.

Mind the gap between words.
Rubbish, not trash
Queue, not line.

Mind the gap between the driving on the left side not the right side.

Mind the gap between learning through exploration
Learning by walking and wandering.
One afternoon along the South Bank, the next in Camden.

Mind the gap of my return to the familiar.
The unknown became ordinary.
The same, just a little bit different.
The words, the roads, the exploring.

MARGO SIVIN

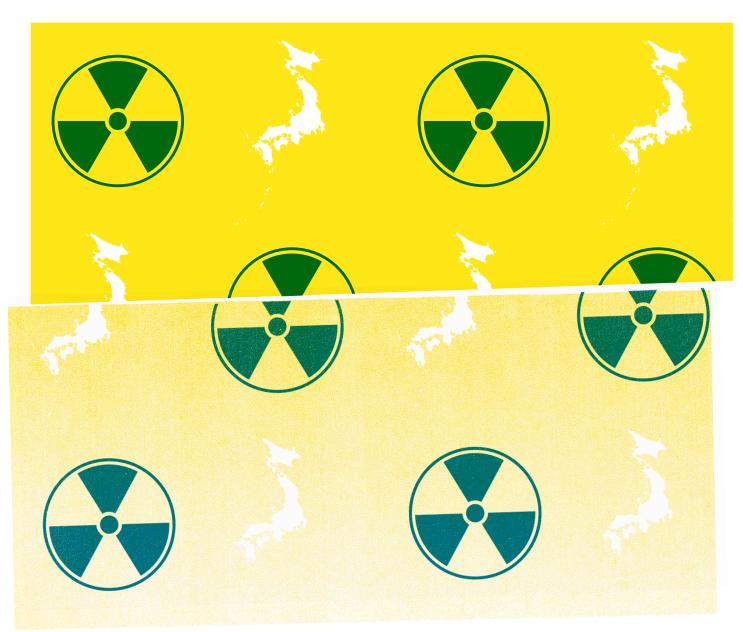# Japan's Nuclear Power Industry: Pain and Prosperity

JOHN LANGSTON

To this day, nuclear energy remains one of the greatest potential powers to benefit and destroy mankind. For this reason, it is one of the most controversial forms of energy. Of all countries involved with its initial creation and current use, Japan has experienced some of the worst and greatest consequences from nuclear energy. This paper will describe the history of nuclear power, focusing on its development in Japan, and discuss the current challenges facing this nation as it recovers from its recent catastrophe.

The world's first research with radiation began in the 1890s ("Outline"). This included developing the sciences of atomic radiation, change, and fission ("Outline"). However, this research progressed slowly amongst few curious scientists with little emphasis from governments until the late 1930s when World War II created an arms race amongst several powerful countries to support nuclear fission research. This nuclear arms race between 1939 and 1945 would eventually shock the world to the extent that many countries retreated from weapons development and

focused on developing nuclear power instead. While the U.S. and Soviet Union continued proliferating nuclear arms, Japan and most other countries focused on nuclear power.

Before Japanese research in nuclear power, Jewish-Hungarian physicist Leó Szilárd first patented the application of nuclear fission releasing a self-sustaining chain reaction of additional neutrons in 1933 and later patented the nuclear reactor used by nuclear power plants with Enrico Fermi (Holbert). He fled to America from Nazi-occupied Hungary and helped write the famous letter of nuclear threat to American president Franklin D. Roosevelt about Nazi Germany's efforts to purify uranium-235 and conquer the world with the atomic bomb (Bellis). Frédéric Joliot-Curie later confirmed the theory of nuclear fission as empirical fact through experimentation in 1939 ("Artificial"). Upon this discovery, many scientists of governments involved

with WWII raced to petition for nuclear fission research. These governments included the United States, the United Kingdom, Canada, France, Germany, the Soviet Union, and Japan. The Manhattan Project led by America along with Canada and the United Kingdom eventually won the race, creating the world's first atomic bomb.

Imperial Japan's fundamental nuclear research began in 1931 at the Nuclear Research Laboratory of the Riken Institute in Tokyo (Kim 9). Emperor Showa despised all Japanese atomic weapons research believing it would destroy mankind, but gave in until Japan's surrender in 1945. The majority of Japan's atomic research program was led by Dr. Yoshio Nishina, the founding father of modern physics in Japan and a close associate of Albert Einstein (47). In 1934, Professor Hikosaka Tadayoshi of the Tohoku University developed his "atomic physics theory" (Fukui). In just two years after British scientist James Chadwick discovered the neutron, Tadayoshi theorized that the nuclei in these neutrons contained massive energy that could be harnessed

into nuclear power generation and weapons of devastating potential, similar to Leó Szilárd's nuclear fission theory (Fukui). After having his ideas rejected from the journal Physical Review as nonsense, Hikosaka compiled his best work in an essay titled, "On Quantum states of Neurons in the Nucleus," and successfully submitted it to the Tohoku University journal Science Reports in 1935 ("Science and Society").

From this, Dr. Yoshio Nishina led the Japanese atomic program which gained momentum in 1939 when the Japanese army grew aware of nuclear fission and its atomic weapons development in the rest of the world (Kim 145). In 1940, Dr. Nishina contacted Lieutenant-General Takeo Yasuda of Japan's Army Aviation Department of a possibility for Japan to build nuclear weapons with his research institute using Uranium ore from Korea and Burma (Jo and Gartzke). In response, the Japanese military established three atomic weapons research programs including their army's "Ni-Go" project and navy's "B-research" and

"F-go" projects (Grunow 157). These projects sought development of methods to extract Uranium-235 from Uranium ore; the "Ni-Go" project faced great difficulty with several fire bombings on its crucial facilities in 1945 and was officially terminated on June 28, 1945 (159). The navy's "F-go" project ultimately built a functional ultracentrifuge to extract the Urianium-235, but obtaining Uranium ore was still extremely difficult and all the projects were ultimately shut down in 1945 after the U.S. atomic bombings of Japan and their surrender. The cities of Hiroshima and Nagasaki were bombed on August 6 and August 9, 1945. Shortly after, on August 15, 1945, Emperor Showa responded with a public address of his "Imperial Rescript on the Termination of the War" which surrendered Japan's atomic weapons development and involvement with WWII. However, with a functional ultracentrifuge and sufficient access to Uranium ore and heavy water (water highly enriched in the hydrogen isotope deuterium), Japan was essentially a screw-turn away from completing the atomic bomb. Emperor Showa expressed great rage and shame over the world's development and use of the atomic bomb – refusing to allow his own country to have any more involvement. Curiously, Dr. Yoshio Nishina continued nuclear research after the surrender in his institute up until November 24, 1945 when the US Secretary of War was concerned by Japan's continual nuclear research. They had all the nuclear research cyclotrons destroyed at the Kyoto University, Osaka University, and Riken institute (Coleman). Dr. Nishina protested these actions, claiming he had already given up on all nuclear weapons research and had lost all hope in any realistic completion of the atomic bomb near the end of the war (Coleman).

THE POST-WAR "ATOMS FOR PEACE" CONTESTED BY THE COLD WAR

The immense causalities of WWII and greater awareness of the consequences of atomic weapons led to an international effort to shift nuclear research toward aiding human prosperity. Japan began to form prospects of its own nuclear energy program in the 1950s around the time Dwight D. Eisenhower became the 34th president of the United States (Kuznick). While Japan forfeited all their nuclear arms development, Eisenhower quietly made atomic arms the foundation of the US defense. However, during his presidential campaign, he pitched strong opposition towards nuclear weapons, sympathized over the bombings of Hiroshima and Nagasaki, and even suggested the U.S. forfeit its atomic weapons stockpile to the United Nations for international control over the matter (Kuznick). Eisenhower addressed the United Nations on December 8, 1953 with his "Atoms for Peace" speech to shift nuclear development focus from weapons to energy (Parry-Giles).

However a Cold War between the U.S. and Soviet

Union remained long after the end of WWII which undoubtedly made the "Atoms for Peace" agreement unrealistic for the U.S. and Soviet Union. Despite Eisenhower's initial intentions towards nuclear weapons and energy, he created procurement contracts that eventually led the U.S. military to develop and stockpile an equivalent of 1,360,000 Hiroshima bombs by 1961 (Kuznick). Ironically, Eisenhower had created the same military-industrial complex he had originally warned about. To this day, Eisenhower remains responsible for one of the most reckless escalations of nuclear arms in the world.

THE RISE OF NUCLEAR POWER IN JAPAN

At the same time as the Cold War arms race, scientists also began developing methods of harnessing electricity from nuclear power. Out of years of intense research, electricity was first successfully produced from atomic energy on December 20, 1951 by an American power plant called the Experimental Breeder Reactor No. 1 (EBR-1) ("Experimental Breeder Reactor"). Since 1956, the main focus of the world's nuclear research has been put into expanding and engineering nuclear power ("Outline").

The official beginning of Japan's nuclear power program began in 1954 when their government budgeted 230 million yen for its development ("Nuclear Power in Japan"). They later established the Atomic Energy Basic Law on December 19, 1955 which mandated all nuclear development activities to only be used for peaceful purposes; this law held provisions that gave rise to both the Japanese Atomic Energy Commission (AEC) and Nuclear Safety Commission (NSC) in 1956 ("Nuclear Power in Japan"). The Japanese AEC regulates safety and peaceful intentions of nuclear research along with managing all the plans for its future development and use ("The role of AEC"). The Japanese NSC strictly focuses on additional safety regulation (more than the AEC) with in-depth safety inspections, investigations, and review of safety activity conducted by other all other nuclear regulatory agencies in Japan ("The Basic Policies").

Japan unveiled its first nuclear power plant Tōkai in 1966 as Japan's government made the expansion of nuclear power a top priority for the country's energy ("History"). Currently, the country's 51 key nuclear plants provide approximately 30% of its power with plans to increase this coverage to 40% by 2017 and 50% by 2030; currently there are two additional plants under construction and twelve in the planning stage ("Nuclear Power in Japan").

In June 2002, the Energy Policy Law provided their government greater authority to establish nuclear power and manage its consumption to move away from the dependence on fossil fuels ("Energy Policy"). On April 18, 2007, Japan and the United State signed the United

Emperor Showa expressed great rage and shame over the world's development and use of the atomic bomb – refusing to allow his own country to have any more involvement.

States-Japan Joint Nuclear Energy Action Plan to collaborate on research, engineering, and further development of nuclear energy; much of this research is focused towards fast reactor technology with advantages such as greater power efficiency and reduced radioactivity; in addition to fast reactor development, these joint research projects are also working towards engineering fuel cycle technology, smaller sized reactors, nuclear waste management, improved safeguards, and greater physical protection against disasters ("Fact Sheet").

WHY JAPAN TURNED TO NUCLEAR POWER

Japan's main reason for implementing and expanding their use of nuclear power was economic desperation. One reason for this desperation is their geographical disadvantage of lacking many resources for conventional energy production. They still have to import about 84% of energy producing materials to meet their current demands (Uraniumletter). Although coal and water for hydro power are locally available resources, other fossil fuels such as petroleum and natural gas have to be imported ("Nuclear Power in Japan").

This expensive burden led the Japanese government to seek new ways to increase the country's self-sufficiency. Importing the uranium for nuclear power was clearly a less expensive alternative for Japan in the long term compared to importing the equivalent power in fossil fuels. This is because nuclear power is currently the most efficient producer of energy per fuel material required (Chhetri 158). This efficiency obviously applies to its power density in comparison to fossil fuels such as coal which require much greater quantities to produce the same energy output.

Decades before Japan's greater involvement with nuclear power, it held more dependence on imported fossil fuels with oil generating 66% of its electricity alone in 1974 ("Nuclear Power in Japan"). However the soaring costs of oil due to the 1973 oil shock forced the Japanese government to re-assess and modify its domestic energy policies to utilize a more efficient power source through their nuclear power program (Sugihara 14).

Currently, Japanese energy derives from approximately 27% coal, 27% gas, 27% nuclear, 9% oil, and 7% hydro ("Nuclear Power in Japan"). The remaining 3% makes up their renewable energy which is relatively made up of 0.2% solar, 0.3% wind, 0.2% geothermal, 1.5% hydropower, and 1% biomass ("[Renewables]"). As you can see, innovations such as nuclear power have enabled Japan to reduce its oil energy dependence from 66% in the 1970s to a mere 9% in the past few years up until 2011. The economic incentive for Japan to continue expanding and engineering its nuclear power also includes the practically inevitable reduction of its reliance on coal and natural gas in addition to decreasing reliance on oil. The monetary savings from reduced importation costs of energy can be utilized on furthering its nuclear and alternative energy programs to become as self-sufficient as possible.

THE CLOSED NUCLEAR FUEL CYCLE

Since uranium still has to be imported, the Japanese government further reduced its importation costs by developing and mandating a closed fuel cycle strategy to enhance purchased uranium and reprocess spent uranium for maximum fuel efficiency (Bulletin 17). Circular processing of uranium seeks to keep as much uranium as possible in active use with eight types of processing plants and three types of storage facilities ("Japan's Nuclear Fuel Cycle"). The eight processing plants individually conduct: refining of ore, conversion into fuel, enrichment, reconversion to fuel, fabrication, mixed oxide (MOX) fabrication, power extraction, and uranium recovery from spent fuel; the three storage facilities in the process include reusable spent-fuel storage for reprocessing, a permanent low-level waste

disposal site, and a permanent high-level vitrified waste disposal site; some low-level unrecoverable waste is left over from the power plants, while the high level vitrified waste is left-over from reprocessing ("Japan's Nuclear Fuel Cycle").

Before enrichment, the natural uranium (composed of 99.3% U-238 & 0.7% U-235) is about 13,500 times denser than coal when used in a light water reactor (the most prevalent reactors in the world) ("Nuclear Energy Efficiency"). After the enrichment process involving isotope separation, the low enriched uranium (composed of relatively 3.4-3.5% U-235) is about 106,000 times denser

relocated; it also damaged at least 332,395 buildings, 2,126 roads, 56 bridges and 26 railways across the east coast of Honshu ("Magnitude 9.0"). Through remaining inertia, the tsunami waves naturally followed the earthquakes reaching up to 133 feet (40.5 meters) and traveling 6 miles (10 kilometers) inland over the Miyako City in the Iwate Prefecture ("March 11"). This catastrophic disaster also included the damage of four nuclear power plants: Fukushima I, Fukushima II, Onagawa, and Tōkai II – automatically shutting down 11 of their nuclear reactors combined ("Japan earthquake").

Innovations such as nuclear power have enabled Japan to reduce its oil energy dependence from 66% in the 1970s to a mere 9% in the past few years up until 2011.

in energy output than coal ("Nuclear Energy Efficiency"). This provides Japan with about an 87% reduced need to import uranium if it were to use natural unprocessed uranium alone. Nuclear weapons take the enrichment process further requiring highly enriched uranium composed of 90% U-235 through sophisticated (and highly classified) isotope separation technology (Feiveson 558).

Japan's cycle strategy also involves recycling an astonishing 97% of spent nuclear waste back into reusable fuel for nuclear power plants; however the remaining 3% consists of high-level radioactive waste that has to be stored at a vitrified waste disposal site ("Nuclear Power in Japan"). This not only increases Japan's self-sufficiency with reduced need to import uranium but significantly reduces their amount of nuclear waste.

2011 TŌHOKU EARTHQUAKE AND TSUNAMI - 4 AFFECTED NUCLEAR PLANTS

On March 9, 2011, Japan was hit by several earthquakes including a magnitude 7.2 and three magnitude 6 quakes; these preceded what would eventually become a record magnitude 9.0 earthquake that hit on March 11, 2011 off the northeast coast of Honshu with an epicenter of 43 miles (70 kilometers) ("Magnitude 9.0"). The U.S. Geological Survey reports the Tohoku earthquake left at least 15,703 fatalities, 5,314 injured, 4,647 missing, and 130,927 people

Onagawa only had a fire break out in one of its reactors which was extinguished without any signs of radioactive leakage ("Japan earthquake"). Tokai II faced power issues and failures in two of its three diesel backup generators for reactor cooling pumps; however the problem was resolved before any radioactive leaks occurred ("Tokai no. 2"). Fukushima II had all four of its reactors shut down automatically with functional backup diesel power following the earthquake; however the accompanying tsunami flood damaged its pump rooms required for cooling reactors and flooded the plant with thousands of tons of seawater ("Insight to Fukushima"). By June 2011, 7,000 tons of tsunami seawater remained in the plant with 3,000 tons containing radioactive substances; the Japan Fisheries Agency has refused the plant permission to release it back into the ocean (Kyodo).

Of all four of these nuclear plants affect, the Fukushima I incident encompassed the vast majority of damages. Fukushima I faced a series of equipment failures, nuclear meltdowns of its reactors 1-3, and ultimately released dangerous levels of radioactive materials into the outside environment ("Timeline"). According to the International Atomic Energy Agency (IAEA), Fukushima's disaster is one of the largest nuclear accidents to have ever occurred since the Soviet Union's 1986 Chernobyl disaster – with

both being the only nuclear accidents rated level 7 on the International Nuclear Event Scale (INES) ("Fukushima Nuclear Accident Update Log"). Fortunately, its radioactive material released in the atmosphere was only 10% of what the Chernobyl accident released ("Fukushima Nuclear Accident Update Log").

As for Japan's ethical views towards nuclear power, its government and a significant portion of its population have come to accept a dichotomy of value between the two forms of energy—seeing the dangers of nuclear weaponry alongside the advantages of nuclear power (Lifton). However another formidable portion of the population maintains strong opposition towards nuclear energy–an opinion that notably grows since the Fukushima crisis (Ramana).

Before the Fukushima incident, a 2005 public opinion poll conducted by the International Atomic Energy Agency revealed 82 percent of Japanese favored nuclear power and its expansion in Japan (de Man). Since the Fukushima incident and its upsetting disaster response, several 2011 polls reveal this support dropped to somewhere between 41 and 54 percent (Ramana). Months following the nuclear disaster aftermath of the Tōhoku earthquake and tsunami have featured several massive protests occurring in Japan – particularly in Tokyo. On April, 10, 2011 - 17,000 people gathered in Tokyo to conduct two demonstrations of antinuclear protest (Mahr). Another mass protest occurred on August 2011, when 2,500 agricultural workers who suffered great financial hardships from Fukushima's fallout marched in Tokyo for stipends of compensation from plant operator Tokyo Electric Power Co. and the Japanese government ("Fukushima food").

September 2011 featured the most elaborate anti-nuclear protests with 60,000 people marching on Tokyo on September 19, 2011 seeking reduction of nuclear energy policy and greater alternative energy policy, chanting, "Sayonara nuclear power" (Janowski). In fact, this was the largest rally of opposition in Japan since the demonstrations against the US-Japan security treaty between the 1960s and 1970s (Slater). On November 11, 2011, 1,000 Japanese illuminated a candle-lit human chain around the Ministry of Economy, Trade, and Industry to mark the eight-month anniversary of the crisis. Merely a week later on November 18th, 15,000 gathered to a nuclear power plant on the southern island of Kyushu demanding the government decommission its nuclear programs and scrap all nuclear reactors (Blair).

One ongoing international research aspiration for the world's leading nuclear powered nations is to improve and expand use of fast breeder reactors. In fact, 20 have already been tested since the 1950s, but more research is needed to make them more practical and safe ("Fast Neutron Reactors"). While conventional light water reactors allow natural uranium to produce about 123,000kWh/kg or enriched uranium to produce 960,000kWh/kg, the fast reactor allows natural uranium alone to produce an astonishing 6,600,000kWh/kg ("Nuclear Energy Efficiency"). Another advantage of these reactors is that their leftover waste has a much lower half-life due to the fact that they also burn up the actinides, the most long-lived aspect of high-level nuclear waste ("Fast Neutron Reactors"). Then there's nuclear fusion (a man-made sun reactor) which utilizes 100% U-235 enriched uranium for a power output of 24.5 million kWh/kg that is 200 times more efficient than natural uranium in a light water reactor ("Nuclear Energy Efficiency").

Small and medium reactors (or SMRs) are also a significant aspiration for the future of nuclear power research with several hundred designs already built for both naval and neutron source use ("Small Nuclear Power Reactors"). Japan's Toshiba is currently working with U.S. companies to develop a portable nuclear battery called the Super-Safe, Small & Simple (or 4S) – a sodium cooled reactor capable of producing electricity, steam, or heat in both its 30MWt & 125MWt models ("Multipurpose Energy Station 4S"). This project has gained international attention including great support from Microsoft's Bill Gates (Dugdale). He is a primary investor of TerraPower and wants the company to collaborate with Toshiba to build a hot-tub sized traveling-wave reactor capable or running on depleted uranium and only needing refueling every 60-100 years (Dugdale).

The Molten Salt Reactor (MSR) is another innovative new prospect for nuclear power due to its greater efficiency, safety, and ability to consume and reduce nuclear waste. The first molten salter reactors were designed in the 1940s for aircraft propulsion, with a first successful application in the 1954 Aircraft Reactor Experiment (ARE) using uranium dissolved in fluoride molten salt (Forsberg). The Oak Ridge National Laboratory (ORNL) also created the Molten-Salt Reactor Experiment (MSRE) in 1964 operating until 1969 ("Molten Salt Reactors"). Currently in 2011, a duo of grad student entrepreneurs – Leslie Dewan & Mark Massie – have resurrected the MSR technology engineering it a new reactor called the Waste-Annihilating Molten Salt Reactor (WAMSR) which literally runs off nuclear waste ("Leslie Dewan G"). They claim it can turn the world's current 270,000 metric tons of high-level nuclear waste into energy that could power the entire planet and its growing energy demands for an astonishing 72 years ("Transatomic Power's"). It consumes 98% of the nuclear waste by dissolving it into molten salt and leaving a baseball

sized 3kg of waste left-over with a half-life of a few hundred years ("The Future of Nuclear Power"). The reactor is also inherently safe using natural temperature properties of physics to stabilize temperatures instead of externally powered coolers, along with an auxiliary freeze valve containment that solidifies the nuclear materials when the unit is turned off ("The Future of Nuclear Power").

CONCLUSION

As history reveals, Japan has held extensive experience with some of the most painful and prosperous aspects of the nuclear age. Though the recent incidents of Fukushima have stuck great fear in the world's population once again, they have also revealed additional unforeseen flaws of nuclear safety and disaster response that can now be taken into further consideration. With this greater safety includes real progression towards efforts to make nuclear power inherently safe without any waste left over. Breakthrough innovations such as the WAMSR and S4 can surely reduce and perhaps eventually even get rid of nuclear plants, waste, meltdowns, and the radioactive footprint altogether.

For the past few decades, the Japanese government and the majority of its people have held some of the greatest aspirations to replace fossil fuels with nuclear power. Though the current disasters have provoked a decline in support for nuclear power, the true problem is the world's conventional nuclear power generation. The safer nuclear alternatives include the more portable versions of nuclear generators with smaller risk for catastrophes, and technologies that dissolve nuclear waste. Instead of investing in nuclear fusion reactors, the same money could innovate solar power to harness nature's fusion reactor – the sun. As Japan recovers for its tragic nuclear crisis, it is crucial they maintain nuclear power – but also replace its high-risk conventional reactors with smaller and more efficient reactors that dissolve nuclear waste.

WORKS CITED

"Artifical Radioactivity," Idaho State University Physics website. Web. 11 Nov, 2011.

"The Basic Policies for the Near-Term Initiatives of the Nuclear Safety Commission," Nuclear Safety Commission Decision No. 2010-D33. December 2, 2010. Nuclear Safety Commission. Web. PDF File.

Bellis, Mary. "History of the Atomic Bomb & The Manhattan Project," About.com. Web. 11 Nov 2011.

Blair, Gavin. "Japan's anti-nuclear protesters find the going tough, despite Fukushima disaster," csmonitor.com, 23 Nov 2011. Christian Science Monitor. Web. 14 Dec 2011.

Bulletin of the Atomic Scientists. Chicago: Educational Foundation for Nuclear Science, Inc., 1978. Print.

Chhetri, Arjun B. Inherently-sustainable technology development. New York: Nova Publishers, 2008. Print.

Coleman, Samuel K. "Riken from 1945 to 1948." Technology and Culture 31.2, (1990): 228-250. Web. 13 Nov 2011.

de Man, Femke. "Global Public Opinion on Nuclear Issues and the IAEA: Final Report from 18 Countries," GlobeScan October 2005. International Atomic Energy Association. Web. PDF file.

Dugdale, Addy. "Bill Gates Goes Nuclear with Toshiba's 4S Reactor," Fast Company, 23 March 2010. Fast Company. Web. 14 Dec 2011.

"Energy Policy Basic Law and Energy Policy Plan," CNIC. Citizen's Nuclear Information Center. Web. 15 Dec 2011.

Experimental Breeder Reactor No.1 (EBR-I). Idaho National Laboratory. Idaho National Laboratory. Web. 11 Nov 2011.

"Fact Sheet: United States-Japan Joint Nuclear Energy Action Plan," United States Department of Energy. Web. 14 Dec 2011. PDF file.

"Fast Neutron Reactors," World Nuclear Association, November 2011. Web. 14 Dec 2011.

Feiveson, Harold. SIPRI Yearbook 2007. New York: Oxford University Press, 2007. Print.

Forsberg, Charles W. "Molten Salt Reactors (MSRs) Coupling Spent Fuel Processing and Actinide Burning". Advances in Nuclear Fuel Management III. American Nuclear Society Conference. Hilton Head, South Carolina. October 5–7, 2003. American Nuclear Society. PDF file.

Fukui, Shuji. "Shell-Like Structure of Nuclei Introduced by Tadayoshi Hikosaka in 1934." Progress of Theoretical Physics Supplement No. 105 (1991): 136-146. Web. 12 Nov 2011.

"Fukushima food producers protest," The Yomiuri Shimbun, 13 Aug 2011. Web. 14 Dec 2011.

"Fukushima Nuclear Accident Update Log: Updates of 12 April 2011," IAEA.org, 12 Apr 2011. International Atomic Energy Agency. 14 Dec 2011.

"The Future of Nuclear Power: Getting Rid of Nuclear Waste," TED Talk New England, 1 Nov 2011. TED.com. Web. 14 Dec 2011.

Grunow, Tristan. "A Reexamination of the Shock of Hiroshima: The Japanese Bomb Projects and the Surrender Decision." Journal of American-East Asian Relations 12 No. 3-4 (2003): 155-189. Web. 12 Nov 2011. PDF file.

"History of Japan Atomic Power Company." The Japan Atomic Power Company. The Japan Atomic Power Company. Web. 15 Dec 2011.

Holbert, Keith E. "Albert Einstein and Leo Szilard". Keith Holbert Faculty web page. Arizona State University, 2002. Web. 12 2011.

"Insight to Fukushima engineering challenges," World Nuclear News, 18 March, 2011. World-nuclear-news.org. Web. 14 Dec 2011.

Janowski, Tomasz. "Japan anti-nuclear protests mark 6 months since quake," reuters.com, 11 Sept 2011. Web. December 14, 2011.

"Japan earthquake: Evacuations ordered as fears grow of radiation leak at nuclear plant," News.com.au, 12, March 2011. News.com.au. News Limited. Web. 14 Dec 2011.

"Japan's Nuclear Fuel Cycle," The Federation of Electric Power Companies of Japan. The Federation of Electric Power Companies of Japan. Web. 14 Dec, 2011.

Jo, Dong-Joon, and Erik Gartzke. "Determinants of Nuclear Weapons Proliferation." The Journal of Conflict Resolution 51.1, (2007): 167-194. Web. 12 Nov 2011.

Kim, Dong-Won.Yoshio Nishina: father of modern physics in Japan. Boca Raton: CRC Press, 2007. Print.

Kuznick, Peter. "Japan's nuclear history in perspective," The Bulletin of Atomic Scientists. 13 Apr. 2011. thebulletin.org. Web. 14 Nov 2011.

Kyodo, "Fishermen to Tepco: Don't release water," The Japan Times, 9, June 2011, Web. 14 Dec 2011.

"Leslie Dewan G + Mark Massie G," web.mit.edu. 1 Nov 2011. Nuclear Science & Engineering at MIT. Web. 14 Dec 2011.

Lifton, Robert Jay. "Fukushima and Hiroshima," nytimes.com, 15 Apr , 2011. The New York Times Company. Web. 14 Dec, 2011.

"Magnitude 9.0 – Near the east coast of Honshu, Japan," USGS, March 11, 2011. United States Geological Survey. Web. 14 Dec 2011.

Mahr, Krista. "What Does Fukushima's Level 7 Status Mean?,"

Ecocentric: A blog about all things green, from conservation to Capitol Hill. 11 Apr. 2011. Time.com. Web. 14 Dec 2011.

"March 11th Tsunami a Record 40-Meters High," Set you free news, 12, June 2011, setyoufreenews.com. Web. 14 Dec 2011.

"Molten Salt Reactors," iket.kit.edu. Karlsruhe Institute of Technology (KIT). Web. 14 Dec 2011.

"Multipurpose Energy Station 4S," Toshiba.co. Toshiba. Web. 14 Dec, 2011.

"Nuclear Energy Efficiency vs. Fossil Fuels," Green World Investor. 7 July 2011. Green World Investor. Web. December 14, 2011.

"Nuclear Power in Japan," World Nuclear Association, 04 Oct 2011. Web. 14 Nov 2011.

"Outline History of Nuclear Energy," World Nuclear Association, June 2010. World-nuclear.org. Web. 11 Nov 2011.

Parry-Giles, Shawn J. "Dwight D. Eisenhower, 'Atoms for Peace.'" Voices of Democracy 1. (2006): 118-129. Web. 14 Nov 2011.

Ramana, M. V. "Nuclear power and the public." Bulletin of the Atomic Scientists, August 2011. Princeton University. Web. 14 Dec 2011. PDF file.

"[Renewables] The Current Renewable Energy Situation in Japan," Japan for Sustainability. 24 Aug 2010. Japan for Sustainability. Web. 13 Dec 2011.

"The role of AEC," Japan Atomic Energy Commission. Japan Atomic Energy Commission. Web. 14 Nov 2011.

Science and society history of the soviet atomic project (40's-50's): Proceedings of the International Symposium at Dubna, May 14-18, 1996. Moscow: Izdat, 1997. Web. 12 Nov 2011,

Slater, David H. "Fukushima women against nuclear power: finding a voice from Tohoku," The Asia-Pacific Journal, 9 Nov 2011. Japanfocus.org. Web. December 14, 2011.

"Small Nuclear Power Reactors," World Nuclear Association, 21 Nov 2011. Web. 14 Dec 2011.

Sugihara, Kaoru. Japan in the contemporary Middle East. New York: Routledge, 2005. Print.

"Timeline: A Nuclear Crisis Unfolds in Japan," npr.org. 4 Apr 2011. National Public Radio. Web. 14 Dec 2011.

"Tokai No.2 nuke plant cooling process working - operator," uk.reuters, 13 March 2011. Reuters. Web. December 14, 2011.

"Transatomic Power's WAMSR reactors turn high-level nuclear waste into electric power," transatomicpower.com. Transatomic Power. Web. 14 Dec, 2011.

Uraniumletter International, September 2011. Web.13 December, 2011. PDF file.

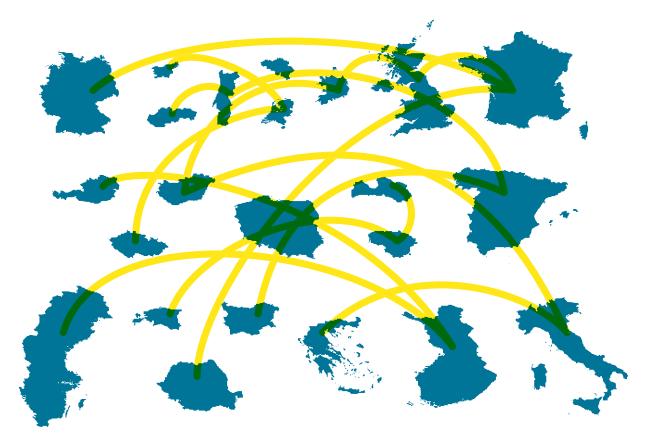# Negotiating Immigration in The European Union

SAMANTHA COOK

After World War II, the European Union was created to secure peace and economic stability for the region. In the decades that followed, the EU has grown to include 27 member countries, which have become more politically and economically integrated. In September 2008, the EU passed the European Pact on Immigration and Asylum, detailing a common immigration and asylum policy. Realizing the need for a common policy on both issues, the EU has been working on developing a suitable solution for the past 20 years ("European Pact"). The European Pact on Immigration and Asylum represented a significant step toward this goal, along with other policies relating to it – the EU Blue Card, the Stockholm Program and the Schengen area. It is clear that immigration policy in Europe is changing, but not everyone agrees with the measures being implemented. Since the EU represents a collection of countries, what they decide both affects and sets an example for the movement of people and the integration of politics and policies across all nations.

In the European Pact on Immigration and Asylum, the EU stated five main goals: increased labor migration, recruitment of highly skilled workers from outside Europe, an avoidance of brain drain within Europe through circular migration and family migration policies, and better cultural reception of both immigrants and migrants. Several parties have agreed with the need to take care of families and assist immigrants with settling into a new environment; however, the main legal support has been in the areas of the recruitment of highly skilled workers, increased labor migration and circular migration. While this paper will mention all

five areas, there is more statistical data available for those three policy areas, so those will be the focus of this paper.

One initiative to deal with immigration policy was actually developed by states independently of the EU, long before the European Pact on Immigration and Asylum; the Schengen Agreement was signed in 1985 by the five original participating countries: Belgium, France, Luxembourg, the Netherlands and West Germany, and created a borderless zone among these member states. In 1997 the Schengen Agreement was incorporated into the EU in the Treaty of Amsterdam ("The Schengen area"). While all EU member countries are now participating in free movement initiatives, some states are not yet part of the Schengen area – an area without border checks – which was the original goal of the Schengen Agreement. The Schengen Agreement has also set up a database of shared information called the Schengen Information System (SIS), which has been in effect since 1995. The SIS keeps information on people and objects for use by national border control and judicial authorities ("The Schengen area").

The most recent policy implemented by the EU in alignment with their stated priorities was the EU Blue Card in 2009, to fit both the goal of increasing labor migration and recruitment of highly skilled workers from outside Europe. The EU Blue Card was designed to bring in new skilled workers to fill growing labor shortages (Gümüs 435). Eurostat has projected that due to the ageing population and falling birth rates in the EU, after 2010 the annual number of deaths will outweigh the birth rate, and so growth from then on will be due to migration or immigration. Even then,

Eurostat found that "the effect of net migration will no longer outweigh the natural decrease after 2025" (European Commission 4 qt. Gümüs 437). This means that even if the EU Blue Card is successful in recruiting skilled workers now, Europe will eventually suffer a population drop and thus a decrease in workers.

The EU Blue Card has not been embraced by every country and party in the EU. Yasim Kerem Gümüs, a research fellow at Sakarya University in Turkey, wrote an article detailing the different arguments for and against the Blue Card initiative. He found that one of the main concerns of opponents is that the blue card will cause brain drain of workers from developing countries outside of Europe who have spent money educating them (Gümüs). Tajeddine El Husseini, a Moroccan international economic law professor, claims that this initiative is "a new form of colonization, of discrimination...it is a big mistake and a criminal act of the north to drain the south of its brainpower" (436). Another argument comes from some of the strongest opponent countries within the EU: Britain, Denmark and Ireland. These countries are worried about the loss in sovereignty they feel will be caused by the initiative and worry about a wave of illegal migrants who use the permits to get inside the EU and then stay there. Some of the member countries are also worried about losing their cultural identity to the immigrants. Opponents of the initiative are concerned about the logistics of the agreement, as states can choose to opt out – as the UK and Ireland have already chosen to do.

Gümüs believes a better solution would be to use newer Eastern European member states to fill the talent gap in some of the older member states; instead of importing new workers, he believes we should utilize the ones already in the EU (449). The EU has stated that they would like to avoid brain drain within Europe through circular migration; they could do this and fill their labor migration goal by focusing on using Eastern European citizens instead of outside immigrants for filling labor shortages. Helena Marques, of the University of the Balearic Islands, agrees. In her article "Migration Creation and Diversion in the European Union", Marques talked about the negative impact being an outsider state within the EU can have on migration. Particularly for Eastern European states, limits on free movement once admitted to the EU had a negative effect, as we will see below (287).

Gümüs' idea and Marques findings raise an interesting point, since data exists that shows limiting immigration from newly added EU states is actually detrimental to older EU countries, such as Germany. Currently the treaty allows incumbent member states of the EU to keep their current immigration restrictions on new countries joining the EU for up to seven years (Felbermayr et. al 2). If a country, say Germany for example, only allowed two percent immigration from non-EU countries, any new EU country would have to remain at two percent for up to seven years, unless Germany decided to change its policy regarding that country before then. This treaty point was created because it was originally expected that there would be a large inflow of workers from countries joining the EU, which would lead to unemployment and lower wages for people who were

working in that country (2). However, Gabriel Felbermayr and his team in Germany ran the numbers comparing productivity and immigration now versus projected immigration rates if new EU countries were not limited in their migration. They found that limiting the inflow of migrants might have a positive effect now, but in the long run the effects are going to be more detrimental and "transitional restrictions on immigration from the new EU countries does not appear like a welfare-improving policy" (20).

It is important that the EU begin considering the implications of restrictions they have placed on migration within the EU before they can look at the implications of immigration to and from the EU as a whole. Turkey has been interested in joining the EU, but they have yet to be accepted. Currently, Turkey's migration flows to Europe are down 50-60,000 people a year from what they used to be, indicating that there would not be the huge rush of migrants that the EU was trying to protect itself from (Elıtok 109). However, the EU is still worried that accepting Turkey would lead to an increase of illegal immigrants from the Middle East, as currently about 30% of migrants in Turkey are undocumented; the EU is worried about the security risk of these migrants if they allowed Turkey to join (111). The authors cite a study by Erzan, which shows that if Turkey does not manage to maintain their high economic growth, 2.7 million people may immigrate to the EU, whether legally or illegally.

Nevertheless, Turkey has a lot to offer the EU in terms of skilled workers. According to authors Seçıl Paçaci Elıtok and Thomas Straubhaar, who wrote an article for Insight Turkey, "in the mid-2000s, 20 percent of the total population in Germany was over 65 years of age. In Turkey, this ratio remained only at six percent. Thus, the youth of Turkey's population could offset the ageing problem of EU societies in the near future" (Elıtok 116). While some member states of the EU may drag their feet or not want to let Turkey into the Union, they cannot deny the increasingly ageing population that exists. Turkey could solve labor shortages for Germany, increasing their productivity until at least 2025. In addition, Erzan hypothesizes that should Turkey join the EU, there would be a "migration hump," with increased migration at first but then rapidly falling rates over time as the standard of living gap between Turkey and the EU closes (121). This fall in migration is echoed by the trends seen in the EU; according to the authors, "trade has replaced the economic demand for migration in the EU. In brief: having the option to migrate within a common labor market has turned out to be the most effective anti-migration policy" (Elıtok 122).

As Vladimír Špidla, the European Commissioner for Employment, Social Affairs and Equal Opportunities said, "a sensible immigration policy must take into account the needs of actual immigrants" (Špidla 18). Špidla believes that the EU needs to integrate immigrants into society through programs designed to increase their intercultural knowledge and practical skills. This idea follows the EU's stated priority of better reception of both immigrants and migrants, but there is not clear policy created for this yet. However the idea does acknowledge the need to accept and integrate, instead of isolate, the increasing number of immigrants to and migrants within the member countries of the EU.

Looking forward, the Stockholm Program sets out the EU's priorities for 2010-14 in the areas of justice, freedom and security. The Stockholm Program involves enhancing the Schengen Information System in its second generation, strengthening borders against illegal immigration while continuing the development of the common visa policy for legal movement to the EU, as seen with the EU Blue Card ("The Stockholm Program"). All of the stated priorities for the EU during the next three years aim for increased interdependence and EU, not national, regulation of immigration policy and the movement of people.

The very existence of the European Union is connected to globalization. According to Manfred B. Steger, political globalization "refers to the intensification and expansion of political interrelations across the globe" (Steger 58). We see that with the existence of the United Nations and other bodies committed to international governance. In the European Union, the EU Blue Card is the next step in continually intertwining and developing common legal policies for its member countries.

Ultimately, it may be family and culture that becomes more important and cohesive than state boundaries. Joyce Chia, a lawyer, sees the three most important imperatives of EU immigration law as offering a single labor market, integration of migrants through citizenship, and respect for family life, by helping its citizens move between EU states to be with their family (Chia 695). Again, this was one of the EU's top priorities – to "regulate family migration more effectively" – and yet no policy has been developed to assist with this goal ("European Pact"). In the past, many of the conflicts that have been seen with Pakistan and India, or in the Balkanization of Yugoslavia, for example, have stemmed from part of a cultural group being politically separated from the rest of their people. With the EU and increased migration ability, political boundaries will not be as impermeable, with randomly drawn lines from previous treaties and conquests keeping geographic and cultural entities apart. Critics may not see it that way now, but the EU may actually be more beneficial to the cultural stability of the area than the detriment that they fear it to be. People who can be together – regardless of political boundary – may actually end up strengthening their

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

Chia sees the three most important imperatives of EU immigration law as:

offering a single labor market,
integration of migrants through citizenship,
and respect for family life.

>>

culture. And the treaties and trade agreements between the countries will help create economic and political stability, reducing wars and conflicts.

One of the other solutions mentioned instead of letting Turkey join the EU would be to have it create the Middle Eastern Union, with Turkey at the head. The idea was that natural cultural groupings should join together to raise their standard of living, increase stability and promote the exchange of people, knowledge and ideas. It will be interesting to see if different unions begin forming across the world. But for now the EU should be more welcoming to immigrants and realize that they are leading the political globalization of the world. While their countries may not be the same, they will be stronger together.

WORKS CITED

Chia, Joyce. "Immigration And Its Imperatives." European Law Journal 15.6 (2009): 683-699. Academic Search Complete. Web. 13 Dec. 2011.

Elıtok, Seçıl Paçaci, and Thomas Straubhaar. "Turkey As A Migration Hub In The Middle East." Insight Turkey 13.2 (2011): 107-128. Academic Search Complete. Web. 4 Dec. 2011.

"European Pact on Immigration and Asylum." EUROPA – EU Website. European Union. Web. 15 Dec. 2011.

Felbermayr, Gabriel, Wido Geis, and Wilhelm Kohler. "Restrictive Immigration Policy In Germany: Pains And Gains Foregone?." Review Of World Economics 146.1 (2010): 1-21. Business Source Complete. Web. 12 Nov. 2011.

Gümüs, Yasin Kerem. "EU Blue Card Scheme: The Right Step In The Right Direction?." European Journal Of Migration & Law 12.4 (2010): 435-453. Legal Collection. Web. 13 Dec. 2011.

Marques, Helena. "Migration Creation And Diversion In The European Union: Is Central And Eastern Europe A 'Natural' Member Of The Single Market For Labour?." Journal Of Common Market Studies 48.2 (2010): 265-291. Business Source Complete. Web. 12 Nov. 2011.

Špidla, Vladimír. "Immigration Policies In The European

Union." New Presence: The Prague Journal Of Central European Affairs 11.1 (2009): 17-18. Academic Search Complete. Web. 23 Nov. 2011.

Steger, Manfred B. Globalization: a Very Short Introduction. Oxford: Oxford UP, 2009. Print.

"The Schengen area and cooperation." EUROPA – EU Website. European Union. Web. 15 Dec. 2011.

"The Stockholm Programme" EUROPA – EU Website. European Union. Web. 15 Dec. 2011.

WORKS CONSULTED

Billet, Carole. "EC Readmission Agreements: A Prime Instrument Of The External Dimension Of The EU'S Fight Against Irregular Immigration. An Assessment After Ten Years Of Practice." European Journal Of Migration & Law 12.1 (2010): 45-79. Academic Search Complete. Web. 12 Nov. 2011.

Jan Skaksen, et al. "Explaining Cross-Country Differences In Attitudes Towards Immigration In The EU-15." Social Indicators Research 91.3 (2009): 371-390. SocINDEX with Full Text. Web. 4 Dec. 2011.

Lipsmeyer, Christine S., and Ling Zhu. "Immigration, Globalization, And Unemployment Benefits In Developed EU States." American Journal of Political Science 55.3 (2011): 647-664. Academic Search Complete. Web. 4 Dec. 2011.

Roots, Lehte. "The Impact Of The Lisbon Treaty On The Development Of EU Immigration Legislation." Croatian Yearbook Of European Law & Policy 5.(2009): 261-281. Academic Search Complete. Web. 13 Dec. 2011.

Strumia, Francesca. "Tensions At The Borders In The U.S. And The E.U.: The Quest For State Distinctiveness And Immigrant Inclusion." American University International Law Review 25.5 (2010): 969-1030. Business Source Complete. Web. 13 Dec. 2011.

The Other Third: A Look at Stationary Oil

SAMUEL FARIAS

Very often in the realm of historical education, oil and its importance are not given the attention they deserve. Secondary educators mention John D. Rockefeller and Standard Oil, often when the topic of monopolies arises. Rockefeller and his big-name buddies are often portrayed in a negative light. However, Rockefeller helped to make a name for America in the global community. Some argue that this country is built on oil and the oil industry; maybe they are not so far from the truth.

Typically, discussions about oil use center around transportation, likely because about two-thirds of all oil use in America is for transportation.1 This paper, however, will focus on the non-transportation uses of oil that are commonly overlooked; it will first look at the economic aspects and implications of non-transportation uses of oil (from here on referred to as "stationary" uses), then describe the various uses of oil that do not include transportation, explain how different types of petroleum are extracted from

crude oil, and provide a detailed outline of the production of petrochemicals and their use in production of plastics. This paper will then present an argument about the environmental effects of the continual mass production of plastics. Finally, this paper will discuss the cultural aspects and implications of stationary oil.

The economics of stationary oil have puzzled researchers and economists for two primary reasons. First, when researchers observe trends in supply and demand of stationary oil, they find abnormal patterns of growth. The experience of the 1970s suggested that oil demand responded to price changes in a theoretically straightforward manner: rapid and sustained increases in world oil prices led to significant reductions in the consumption of oil products in industrialized countries, including the United States (Ryan and Plourde 285). For example, between 1973 and 1982, use of oil products per capita fell by 16.5 percent in the United States, but when you remove transportation uses from this

One of the most important uses for oil is in modern medicine and healthcare practices.

equation, it becomes a drop of 30.7 percent in stationary uses of oil (286).

Based on this trend, researchers expected the rapid and sustained decreases in world oil prices of the latter half of the 1980s to bring with it correlative increases in oil consumption (286). Curiously, this was not the case; in the decade following the rapid decrease in oil prices in 1986, per capita oil use in the United States rose by a mere 1.5 percent, and even more peculiarly, oil consumption for stationary uses alone, per capita, actually dropped by 3.8

percent over this same span of time (286).

Second, researchers speculate that a transition from energy sources to energy services played a role in this unexpected trend (286). It begins to make sense when we consider the way stationary oil is used. A significant portion of stationary oil consumption comes from furnaces, air conditioning, motors and generators, insulation, space heating or cooling, hot water, etc. ("Petroleum: Demand"). Each of these services are characterized by three qualities: they are long-lived, fuel-specific, and their technical characteristics

tend to be fixed, which means that consumers' options are limited when they are faced with sudden price changes in oil (Ryan and Plourde 287). When prices increase, they can keep, for example, their water heater and reduce the temperature to which the water is heated or they can use less hot water to compensate for the rise in oil prices, but they can not continue to use the water heater with the same frequency and intensity and reduce their usage of oil for water heating. The water heaters make that non-viable.

What they can do, however, is replace the water heater with a more efficient model, which would allow consumers to use the same amount of hot water with the same intensity while still reducing their oil consumption because the newer model is either more efficient or uses a different fuel to provide its service. This solution is clearly a longer-term one since the decision must take into account the opportunity cost of the new equipment, as well as that of disposing of the old equipment, and the solution becomes a "trade-off" between anticipated energy-savings and the total opportunity cost of installing the new, more efficient equipment (287).

In addition, it is likely that with sustained high energy costs, manufacturers will be encouraged to improve energy efficiency of their products and governments will expectedly modify building codes and standards to regulate energy consumption more strictly, both of which occurred during the oil price increases in the 1970s (288). These adjustments tend to result in sustained decreases in energy consumption, and when oil prices begin to fall again, consumers remain with their more energy-efficient equipment, actualized technological gains cannot be reversed, and governments would very unlikely undo efficiency regulations (288). What researchers conclude from these observations is that analysts can expect the responsiveness of energy demand to a sustained price decrease to be relatively weaker than to that of a sustained energy price increase that occurred earlier.2

The aspects and implications of stationary uses of oil are very unusual when it comes to supply and demand, but a look from a broader scope reveals additional information. In 2010, the U.S. consumed over 19 million barrels of oil per day, for all purposes, and was the leading consumer of oil, followed by the European Union and China ("Country"). However, the United States produced only about 9.6 million barrels of oil per day, which means the U.S. had to import the vast majority of the oil it consumed ("Country"). According to the U.S. Energy Information Administration, consumption of oil for stationary uses fell from a peak of 8.7 million barrels daily in 1978 to a low of less than 6 million barrels per day in the late 1980s and early 1990s; in more recent years, consumption of oil for stationary purposes has been between 6.5 and 7 million

barrels per day ("Petroleum"). In addition, while oil accounts for more than 95 percent of all the energy used for transportation in the United States, oil accounts for less than 20 percent of the energy consumed for stationary uses – a decrease from 30 percent in 1973 ("Petroleum: Demand").

Oil's stationary uses don't stop at space heating and electricity generation, though. Oil is used in the production of a variety of different objects and materials. One of the most important uses for oil is in modern medicine and healthcare practices. Even in the Middle Ages, oil was used for treating skin diseases (Farndon 43). Many people do not realize how vital oil is to the production of various pharmaceuticals and plastics used in the healthcare system. Plastics and pharmaceuticals are primarily derived from petrochemicals, for which there are very few substitutes (Pierce et al. 1570). Healthcare's reliance on petroleum for plastics and pharmaceuticals first became a concern after the 1973 oil embargo,3 when healthcare professionals realized that the healthcare system was vulnerable to petroleum supply shifts (1568). Plastics are central to the antiseptic model of modern healthcare and are used in a wide range of medical devices, supplies, and packaging; however, only an estimated 0.2 percent of petroleum consumption in the United States is used for medical plastics (1570). During the oil embargo of 1973, the healthcare system suffered from inflation in the price of plastic feed stocks, delays in their delivery to factories, and subsequent delays in finished product delivery to healthcare facilities around the country (1570). As for pharmaceuticals, just under half of all Americans take prescription medications at any point in time; all of this, combined with ambulatory visits that involve medication administration, results in approximately three percent of petroleum production being used for pharmaceutical manufacture (1571).

Advanced technological developments have also been made possible through the use of oil. Over the last couple of decades, the world has witnessed a surge of technological advancements with the advent of the internet, e-mail, social networking, advanced computing, video gaming, and more. Technology has enabled people across countries and across the world to communicate in ways they never could before. A significant number of people do not realize that oil has made this quantum leap in communication technology possible ("Petrochemistry"). The computer cannot function without microchips, which are made using a type of oil, just as the computer keyboards plastics are made with oil; in fact, everything from "the board of a printed circuit to the chip, cablings and connectors" requires oil in its production ("Petrochemistry"). Oil has enabled the miniaturization of available electronic devices – cell phones, laptops, digital cameras. Indeed, the

Indeed, the electronic industry could not exist without the oil industry: oil ensures better design, better electrical insulation and safety, ease of assembly, and an outstanding capacity for miniaturization and data storage

electronic industry could not exist without the oil industry: oil ensures better design, better electrical insulation and safety, ease of assembly, and an outstanding capacity for miniaturization and data storage ("Petrochemistry").

Clothes and cosmetics are often made using different types of oil, as well. Molecules in the oil can be linked to create a wide range of synthetic fibers, like nylon, polyester, and spandex, each of which have their own special qualities (Farndon 43). Acrylic fibers, derived from oil, are much smoother than fibers of cotton or wool, so they dry faster and are airier (43). Lipstick, eyeliner, mascara, moisturizer, and hair dye are just a few of the many cosmetic products that are developed from oil (42). Most skin lotions, for example, use petroleum jelly, which is a waxy, kerosene-like substance made from oil, as a main ingredient (42). On any given day, a person could be wearing oil from head to toe.

An indeterminate number of other materials and products that people use daily are made using oil. Detergents, soaps, ink, wax, laminates, fertilizers, and so much more are derived from types of oil. Because water alone does not remove greasy dirt from surfaces, detergents are able to do the job because they contain chemicals called surface active agents, or surfactants, which are attracted to both grease and water, clinging to and loosening dirt, so it can be removed during washing (42). Ink, including the printing ink being used on this page, is made from tiny colored particles suspended in a solvent, which is usually a kerosene-like liquid distilled from crude oil; paints and nail varnishes also uses these types of petroleum-based solvents to carry their pigments (43). Working surfaces, shelves, and tables are resistant to dirt and grime and are easy to wash thanks to laminates manufactured using oil; many of these types of laminates keep kitchen surfaces hygienic ("Petrochemistry"). Most cheap candles, polishes, and crayons are made from a type of odorless wax, called paraffin, made by filtering oil through clay and treating the oil with sulfuric acid, then adding color if appropriate (Farndon 43).

Arguably the most important stationary use of oil is in the production of plastics. Plastics are used in everything from kitchen materials to toys, food and merchandise packaging, and all of the products mentioned above. Plastics are so essential primarily because they can be heated and molded into almost any shape – a trait which they gain from the polymers of which they consist (44). In 2006, about 331 million barrels of liquid petroleum gases and natural gas liquids were used to create plastic products in the United States, equal to about 4.6 percent of total U.S. petroleum consumption ("Petroleum: FAQ"). The first semi-synthetic plastic, Parkesine, was created – through the modification of cellulose, a natural polymer found in cotton – by Alexander Parkes (1813-1890) in 1861 (Farndon 44). Modern plastics began in 1907 with Leo Baekland's (1863-1944) discovery of polymer modification through chemical reactions (44). By reacting phenol and formaldehyde under heat and pressure, Baekland formed a revolutionary polymer, Bakelite, which was used for a wide variety of things from aircraft propellers to jewelry and door knobs, and especially for casing electrical goods because it was an excellent electrical insulator (44). But Bakelite was only the first in a long line of synthetic polymers.

Since then, scientists have created hundreds of different kinds of polymers, each of which has its own properties. However, this paper will focus on five of the most common polymers used in the production of plastic, the first of which is polyethylene. Most recognizable in the form of a water or soda bottle, polyethylene is a tough yet soft, flexible plastic that is resistant to chemicals and moisture and has good insulating properties ("Petrochemicals"). It was first made by the ICI company in 1933 and is one of the oldest plastics.4 It also comes in two other forms: high density (HDPE) and low density (LDPE). HDPE is an especially tough, dense form of polyethylene that is often used to make toys, cups, detergent bottles, and garbage cans (Farndon 44). In LDPE the polymers are loosely packed, which results in a very light, flexible plastic often used for packaging bread and as a kitchen food-wrap (44).

Another very common plastic polymer is polyvinyl chloride, better known as PVC. PVC can be used to make diverse range of cost-effective products with various levels of technical performance suited to a wide range of applications. It is one of the hardest plastics and is used for sewer pipes and window frames, but it can be softened by substances called plasticizers and used to make shoes, shampoo bottles, medical blood bags, electrical cables, and much more (Farndon 44; "Petrochemicals")

Polypropylene and polystyrene both have unique properties that make them very useful polymers. Polypropylene, also called polypropene, is used to create rugged plastics that resist solvents, acids, and other chemicals and are used

distillation involves heating crude oil until it turns to vapor, which is then fed into a pipe still – a tall tower divided into a series of intervals by horizontal trays (38). The heaviest petroleum fractions cool rapidly, condense into a liquid state, and settle at the bottom of the pipe still; medium-weight fractions drift up the pipe still and condense on the horizontal trays midway up the still; the lightest fractions, including gasoline and hydrocarbons that are necessary to make petrochemicals, find their way up to the top of the tower and condense on the highest trays (38).

While some of the fractions that come out of the process of fractional distillation are ready for use straight away, many of them must go through the process of cata-

Oil products are at the very core of society and have truly defined the way Americans live their lives.

for medicine and industrial chemical bottles (Farndon 44). Polypropylene is also used to produce automobile parts for its resistance to auto chemicals and camera film because the plastic is not harmed by the chemicals used in the developing process (44). As the information shows, polypropylene is primarily used for chemical resistance. Polystyrene, on the other hand, actually has a couple of different uses. It can be molded hard and clear to make items like CD jewel cases or it can be filled with tiny gas bubbles to form a light foam used for egg cartons and disposable coffee cups, as it is an excellent heat insulator (45).

One of the hardest plastics and capable of withstanding extreme temperatures, polycarbonate is growing in popularity in the manufacturing of electronics (45). Polycarbonate tends to be made for protective covers; some examples of items produced using polycarbonate polymers include DVDs, MP3 player covers, electric light covers, vandal-proof windows used in banks, and sunglass lenses.

Polymers are truly a remarkable discovery, and the process through which they are attained is not as complex as one might expect. At the root of polymer construction are the bases of stationary oil uses: petrochemicals. Petrochemicals are chemicals that are derived from petroleum or natural gas and are an essential part of the modern chemistry industry.

The process of extracting polymers from petrochemicals involves two important steps, fractional distillation and catalytic cracking, and begins with crude oil. Fractional

lytic cracking, also known as "cat cracking." This process requires intense heat (about 1,000°F) and the aid of a powder called a catalyst (hence the name "cat cracking"), which accelerates the chemical reactions that split up the hydrocarbons (39). The process begins by mixing the feedstock of long-chain hydrocarbons and heating them until they are vaporized; the vapor-powder mixture is carried to a large reactor where the cracking reactions occur and make their way to large cylindrical mechanisms called cyclones, which extract the cracked hydrocarbon vapor and pass it on to a tall fractioning column similar to the stills used in the fractional distillation process (Darling). There, it is fractioned, yielding petroleum gases, gasoline, light gas oil, medium gas oil, and heavy gas oil; used catalyst powder is mixed with steam and carried in a current of hot air back to the catalyst regenerator where it is cleaned and recycled while waste gases are vented (Darling).

From this process, several different forms of petrochemicals are derived, but two are most important for the production of petrochemicals: naphtha and liquid petroleum gases (LPG). Liquid petroleum gases yield the petrochemicals ethane, ethylene, propane, propylene, normal butane, butylenes, and isobutene produced at refineries; the most primary of these are ethylene, propylene, and the carbon stream (butane, propane, ethane, etc.) ("Petrochemicals"). Naphtha primarily breaks down into the petrochemicals benzene, toluene, and xylenes ("Petrochemicals"). From this analysis, six categories of petrochemicals arise:

ethylene, propylene, the carbon stream, benzene, toluene, and xylenes. Each of these petrochemicals, like the polymers they construct, has qualities that translate into their polymer counterparts.

The first three petrochemicals are classified as olefins, or alkenes, meaning they are unsaturated hydrocarbons containing one or more pairs of carbon atoms linked by a double bond, which basically means they can readily be combined to form other longer-chain compounds ("Petroleum Refining"). Ethylene is one of the most important materials of the organic chemical industry. Also called ethene, ethylene is the simplest member of the olefinic hydrocarbon series and one of the most important raw materials of the organic chemistry industry ("Petrochemicals"). It occurs in both petroleum and natural gas, but the majority of the industrial material is produced by heating of higher hydrocarbons. It can be polymerized into polyethylene, high density and low density polyethylene, polystyrene, polyesters, and polyvinyl chloride (PVC).

Propylene, also called propene, is a colorless, flammable, gaseous hydrocarbon obtained from petroleum; large quantities of propylene are used in the production of resins, fibers, and plastics, as well as numerous other chemical products ("Petrochemicals"). It is primarily used in the creation acrylic fibers and polypropylene plastics.

The carbon stream consists of the main olefin products that result from the catalytic cracking process, along with ethylene and propylene. The most valuable product of the carbon stream is butadiene which is a flammable, gaseous olefin used in making synthetic rubber, which is the carbon stream's primary use. In fact, polymers made from the carbon stream have enabled synthetic rubber to completely displace natural rubber in the manufacture of automobile tires ("Petrochemicals").

The other three petrochemical categories, benzene, toluene, and xylenes, have their own uses and fall under a different category: aromatics. Aromatics are "ring molecules" that have alternating double and single bonds between carbon atoms and are very unstable and chemically reactive, making them a popular foundation in the petrochemical industry ("Petroleum Refining"). Benzene is the simplest of the aromatic compounds, with a ring of six carbon atoms and six hydrogen atoms ("Petrochemicals"). It is a colorless liquid that occurs naturally in fossil raw materials, such as crude oil and coal, and is produced during the processing of petroleum liquids and through chemical reactions; it is one of the most important feedstocks for the chemical industry and is used for a wide range of everyday items, though is not itself used directly by consumers ("Petrochemicals"). Benzene is used to create polymers that then create polystyrene, polyesters, nylon, synthetic rubber, surfactants, and polycarbonates.

Toluene is another colorless liquid and is used primarily as a starting material for the manufacture of industrial chemicals – its most notable end products are polyurethanes, which are an organic polymer used to make the foam found within furniture, mattresses, refrigerators, car seats, building insulation, artificial sports tracks, jogging shoes, roller blade wheels, and much more. It is also used in the production of coatings, sealants, and adhesives ("Petrochemicals").

Xylenes are also a colorless liquid, but come in two different forms: paraxylene and orthoxylene. Paraxylene, the more commercially important of the two, is used to make a variety of polyesters, including those used in clothing, packaging, and plastic drink bottles ("Petrochemicals"). The most commonly used of paraxylene polyesters is polyethylene terephthalate (PET), which is used to create lightweight drink bottles, fibers in clothing, car tire cords, conveyor belts, and film used for videotape, audiotape, and x-rays ("Petrochemicals"). The other xylene, orthoxylene, is primarily used in plasticizers and most predominantly in flexible PVC material, medicines, and dyes.

This research details the incredible number of possibilities oil and its by-products have presented to both the United States and the rest of the world. However, all great things come at a cost, and oil products, especially plastics, are no exception. Environmentalists around the world have taken issue with the vast amount of plastic being produced and even more so with the plastic waste that has come along with it. Despite the fact that the reactivity of unsaturated hydrocarbons can lead to instability in storage and sometimes to environmental emission problems, environmental concerns tend to focus around the effects of plastic waste in the marine environment ("Petroleum Refining").

Environmentalists argue that plastics have been entering the marine environment "in quantities paralleling their level of production over the last half century" and plastics are now one of the most common and persistent pollutants in ocean waters and beaches around the world (Moore 131). While thirty years ago the plastic industry's attitude indicated that plastic litter was little more than an eyesore, between 1960 and 2000, the world production of plastic resins increased twenty-five fold, while plastic recovery remained at only about five percent (131). From 1970 to 2003, plastics grew as a municipal waste stream nine times its size, becoming the fastest growing U.S. municipal waste stream and making the total of marine litter 60 to 80 percent plastic and even 90 to 95 percent in some areas (131).

Given plastic's light weight and long life, it was inevitable that a product that fills such a vast amount of niches, and that is very often used once and then discarded, would eventually create problems for marine and terrestrial environments (133). The three primary concerns are aesthetics, entanglement, and ingestion.

According to the World Health Organization, a clean beach is one of the most important characteristics sought by visitors (Oldridge). Debris has a number of negative ef-

regulations should be placed on harmful plastics and on the production of plastic products in general, especially when there are viable substitutes. Third, bio-polymers, which are

Everything from the way we package our food to the medicines we are prescribed, the artistic expression of American culture, and the activities we participate in for leisure and entertainment is made possible by the stationary uses of oil.

fects on tourism and fishery activities and is an aesthetic issue for swimmers, mariners, coastal and inland water body dwellers, and divers (Moore 133).

Entanglement, however, is a much more serious issue. In the 1980s, researchers estimated a total of approximately 100,000 marine mammal deaths per year in the North Pacific alone due to plastic nets and fishing line, and while efforts are being made to remove lost gear, the efforts are not widespread (133). Efforts to make the biodegradability of six pack rings used to hold cans and bottles more effective have proven helpful over a short period of time, but the resultant particles are no more biodegradable than the untreated polymer (134).

The problem of ingestion is the most concerning of the three. Often, sea turtles mistake plastic shopping bags for jellyfish, ingest them, and often choke to death, including the critically endangered leatherback sea turtle (134). Even "bottom-feeders," which trap anything of appropriate size with which they come in contact, were found to have plastic particles embedded in their tissue (134). Seabirds, like the Laysan albatross, feed their young through regurgitation, which leads adult seabirds to transfer an alarming quantity of plastic to their chicks (134). The ingested plastics, when not fatal, usually lead to health concerns in the animals that ingest them and can throw off hormone and chemical levels (135).

The solution for this is multifaceted and includes three major points. First, recycling processes should be made more effective and more affordable. There is insufficient government funding in recycling programs for recycling to be effective. Recycling requirements and regulations set by the government should be tightened; all businesses and residences should be required to recycle. Second, bans and

derived from non-petroleum sources and are often based in cellulose, should be further researched and should replace, at least in part and where possible, petroleum-based plastics (137). These substitutes breakdown further and faster and are much less harmful to the environment. They will also help to lessen plastic production's susceptibility to changes in the price of oil.

Oil products are at the very core of society and have truly defined the way Americans live their lives. Most evidently, technological advancements have enabled instant communication and instant access to information and entertainment and characterize modern American culture. All these technologies have been made possible through petrochemicals. According to a survey by the International Association for the Wireless Telecommunications Industry, about 91 percent of all Americans use cell phones (Foresman). There is no question that technology has become an essential part of American culture, and all thanks to oil.

Everything from the way we package our food to the medicines we are prescribed, the artistic expression of American culture, and the activities we participate in for leisure and entertainment is made possible by the stationary uses of oil. "America's pastime" the way it is played today is only possible through the use of oil. The shoes, the fertilizer, the gloves, even the bat and ball are made using petrochemicals derived from oil. The way Americans dress is largely influenced by the petrochemical industry. Polyester, nylon, and spandex all come from petrochemicals and are worn widely throughout American societies. Even the comfort of our homes, the air conditioning that Americans are so accustomed to, the cosmetics, the kitchen utensils – it all goes back to oil.

As the research shows, oil plays a part in every aspect of society. The economics of oil is immensely important to understand because American culture relies on oil products so heavily. With a more complete understanding of the qualities of oil, the process by which oil becomes the products we use daily, and the environmental implications that come along with that process, we can begin to form deeper and more careful appreciation for the oil we use so wildly. Nothing lasts forever, so we should appreciate the opportunities that oil makes available to us as we continue to search for efficient and viable substitutes where possible. Whether or not oil supplies are wearing thin isn't the problem; the problem is our heavy reliance on oil and the potential effects that come with that reliance. With that understood, it becomes evident that research into alternative energy sources should continue and follow from the research presented in this paper.

(ENDNOTES)

1 Of those two-thirds, about two-thirds are used for the production of gasoline. The other third is commonly used to produce diesel fuel (used for trucks, buses, railroads, some vessels, and a few passenger autos), jet fuel, and residual oil fuel (used for tankers and other large vessels) ("Petroleum: Demand").

2 This is the starting point for a number of empirical assessments of the changing nature of the responsiveness of energy demand to energy price variations (Ryan and Plourde, 288).

3 Beginning in October 1973, the members of Organization of Arab Petroleum Exporting Countries or the OAPEC (consisting of the Arab members of OPEC, plus Egypt, Syria and Tunisia) proclaimed an oil embargo in response to the U.S. decision to re-supply the Israeli military during the Yom Kippur War. The embargo lasted until March 1974.

4   Imperial Chemical Industries (ICI) was a British chemical company that was once the largest manufacturing company in the British Empire, and commonly regarded as a "bellwether of the British economy." It produced paints and specialty products, including ingredients for foods, specialty polymers, electronic materials, fragrances, and flavors. In 2008, it was taken over by AkzoNobel, a Dutch conglomerate and one of the largest chemical producers in the world (Smith, David, et al. "Falling into the abyss." The Times (London). 2008. Print.)

5 The term "aromatic" was assigned before the physical mechanism determining aromaticity was discovered, and

was derived from the fact that many of the compounds have a sweet scent ("Aromatic compound." The Columbia Encyclopedia, 6th ed.. 2011. Encyclopedia.com. 24 May. 2012).

WORKS CITED

"Country Comparison: Oil - Consumption." CIA World Factbook. Central Intelligence Agency, Dec. 2011. Web. 13 Dec. 2011.

Darling, David. "Cracking," The Encyclopedia of Science. David Darling, 2011. Web. 13 Dec. 2011

Farndon, John. Oil. New York: DK Eyewitness, 2007. Print.

Foresman, Chris. "Wireless Survey: 91% of Americans Use Cell Phones." Ars Technica. Ars Technica, Aug. 2011. Web. 13 Dec. 2011.

Moore, Charles James. "Synthetic Polymers in the Marine Environment: A Rapidly Increasing, Long-Term Threat." Environmental Research 108.2. (October 2008): 131-139.

Oldridge, S. "Bathing Water Quality: A Local Authority Perspective." In: D. Kay [Ed.] Recreational Water Quality Management 1, Coastal Waters: Ellis Horwood Ltd., Chichester, 1992: 33-47.

"Petrochemicals Make Things Happen." Association of Petrochemicals Producers in Europe. The European Chemical Industry Council, 2006. Web. 13 Dec. 2011.

"Petrochemistry in Everyday Life." Association of Petrochemicals Producers in Europe. The European Chemical Industry Council, 2006. Web. 13 Dec. 2011.

"Petroleum and Other Liquids: Demand." U.S. Energy Information Administration. U.S. Department of Energy, 2011. Web. 12 Dec. 2011.

"Petroleum and Other Liquids: Frequently Asked Questions." U.S. Energy Information Administration. U.S. Department of Energy, 2011. Web. 12 Dec. 2011.

"Petroleum Refining." Encyclopædia Britannica. Encyclopædia Britannica Online. Encyclopædia Britannica Inc., 2011. Web. 13 Dec. 2011.

Pierce, Jessica, et al. "Petroleum and Health Care: Evaluating and Managing Health Care's Vulnerability to Petroleum Supply Shifts." American Journal of Public Health 101.9 (2011). Academic Search Complete. EBSCO. Web. 29 Sept. 2011.

Ryan, David L., and André Plourde. "Smaller and Smaller? The Price Responsiveness of Nontransport Oil Demand." The Quarterly Review of Economics and Finance 42.2. (Summer 2002) :285-317. ScienceDirect. Web. 13 Dec. 2011.

Educating Street Children

A qualitative evaluation of the use of performance elements to achieve educational success

SAMUEL FARIAS
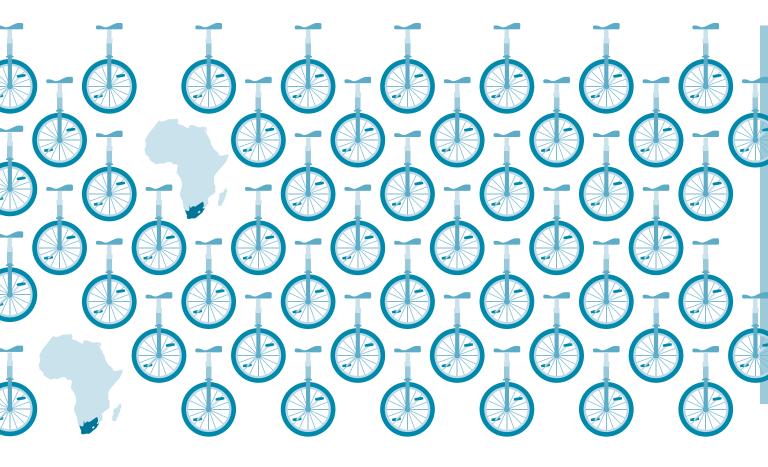
"You are from America?" he asks, inspecting my raincoat for a brand. He says, "I want to go there. I want to go to New York City." I tell him about Texas, where I'm from, and he listens attentively. Although he is only fourteen years old, he has seen much of Africa. He speaks three languages – English, French, and a traditional African language from his home country in North Africa. Later I learn that he can write none of them. Curious, I asked him how he managed to end up in the southern-most part of Africa, the city of Cape Town. "Men brought me here," he explains. He does not have a family. He attends school at the Salesians Institute in Cape Town because he wants to go to college. He wants to become educated and start a life in America.

A day later I enter a large white tent in the heart of Cape Town, South Africa. From the ceiling I can see dangling ropes and metal rigging. The floor is a thin blue carpet. Directly in front of me there is a large trampoline; to my left there is a small stage. A dozen or so South African children exit the office, which is located to my right. Several bound across the blue gymnastics floor and, one by one, begin riding unicycles that were propped up against the far wall. Two girls take turns practicing flips from rings hanging from the ceiling. Others perform daring acrobatics on the trampoline. I am amazed. The children are spectacular; I am captivated by their skill. Never in a million years, I think, would an outsider guess that these are street children.

These are short introductory stories to the month of June 2011, which I spent immersed in the narratives of two groups of street children. The first are boys and girls receiving traditional education from a catholic secondary school for homeless and vulnerable children. The second are homeless and at-risk boys and girls who learn circus skills in addition to their formal schooling. Over the course of the month I watched them interact with one another, the Americans with whom I was traveling, and their instructors. These observations, paired with interviews and

conversations with the children as well as their educators and social workers, inspired this construction of complex narrative stories that speak to the effectiveness of particular methods in educating these children.

In my thesis, I compared these two educational environments. However, in this abbreviated account I will focus on the second school—the Zip Zap Circus—which supplements traditional education with the teaching of circus performance skills, and the conclusions I drew about how the incorporation of performance elements into the educational process of street children improves interpersonal communication skills, confidence, trust, and self-expression. These educational components are significant factors in successful education of street children.

SUMMARY OF STUDY

Street children are, perhaps, our world's most underrepresented demographic. They exist in every country on our globe. The United Nations and many international organizations (like the Consortium for Street Children) have begun addressing the countless social issues that arise from the estimated tens of millions of street-dwelling children living in our world. The exact number of street children is difficult to quantify, and while some sources claim that the number reaches one hundred million, data to support this number is lacking ("Street Children Statistics" 2).

Listed as one of the UN Millennium Development Goals, improving access to primary education plays an important role in getting children off the street, and preventing future children from becoming street-dwellers. UNICEF's 2008 report on the State of Africa's Children, cites low levels of education as a key obstacle in the reduction of child and maternal mortality (The State of Africa's Children 18). Creating effective education systems for children, especially those children who are most vulnerable, like street children, is a step in the right direction for addressing many transnational social issues (such as poverty, child and maternal health, and homelessness).

Educational programs that achieve success should be studied, deconstructed, and replicated. This study takes a qualitative, interpretive approach to evaluating the education process for street children in Cape Town, South Africa.

Street children are, perhaps, our world's most underrepresented demographic.

Two institutions were observed and studied: The Zip Zap Circus and the Salesians Institute. The Zip Zap Circus is a non-profit social circus that teaches circus performance skills to children in South Africa. The Second Chance boys of the Cape Town Multiservice Family Center, a group of about 20 formerly homeless boys ranging from ages 11 to 20, made up the majority of the Zip Zap focus group.

METHODS

The study consisted of observations over the course of one month of both focus groups in their learning environments. Interviews were conducted with the children and teachers from both groups, as well as social workers, former students, administrators, and members of the Cape Town community. In order to gain a broader perspective regarding education in general in the Cape Town area, several public elementary schools were visited and considered during the research process. This qualitative study is informed by Norman K. Denzin's "Steps to Interpretation" in which researchers "obtain self-stories and personal experience narratives pertaining to the phenomenon in question. These narratives are symbolic expressions, shaped by the cultural and meaning systems of social groups... the researcher identifies how the cultural practices of social groups shape the narratives and symbolic expressions persons give to their experience" (Interpretive Interactionism 126). Interpretive research is concerned with questions of "how" not questions of "why." This qualitative study rests on the power of stories – narrative accounts – to inform readers on the subject of educating street children (Denzin 41, Interpretive Interactionism 126).

Owen Hargie and David Dickson's book, Skilled Interpersonal Communication: Research, Theory, and Practice, highlights the crucial role of interpersonal communication skills for all humans: "If we are unable to engage meaningfully with others, or are ostracized by them, the result is often loneliness, unhappiness, and depression" (1). More

specifically, for this study it is important to remember that interpersonal communication skills are "a prerequisite of learning" (Hargie and Dickson 2). Before developing the necessary interpersonal communication skills, it will be difficult, if not impossible, for street children to learn effectively in the classroom.

Street children are often skeptical of authority and mistrustful of people they do not know. This is, according to Barbara Brink, author of the study, Working with Street Children: reintegration through education, "a result of rejection by their families and society" (80). When attempting to educate street children, the goal is typically to assist the children in the process of societal reintegration. In order to do so, Brink writes, "it is imperative to win their confidence" (80). Winning the trust of street children is probably the first step in getting them into an effective classroom environment.

Self-expression is an essential aspect of the educational process for street children. These children are bright and are familiar with the ways of the street, but, as Brink points out, "they may have short attention spans due to poor health..." (83). In order to maintain the attention of street children, school activities should include "expression and communication activities" (Brink 83). Expressive activities allow street children to stay focused during more traditional lessons and help create an environment in which the children can explore and define themselves (Brink 83).

DEFINITIONS

Before discussing the history and education of street children, it is imperative to adopt a concrete definition of 'street child.' A study conducted by UNICEF offers a common, working definition of a street child as, "any girl or boy who has not reached adulthood, for whom the street (in the broadest sense of the word, including unoccupied dwellings, wasteland, etc.) has become her or his habitual abode and/or sources of livelihood, and who is inadequately protected, supervised or directed by responsible adults" (UNICEF 89). For this study, it should be noted that the term "street children" includes children who currently live or work on the street and children who have

previously lived or worked on the street but now live with a relative or in an institution or home. A child who has, at any point in his or her life, lived on the street is likely to experience problems in the crucial development of emotional regulation that affect psychosocial development later in life. Thus, these children likely have special educational needs outside of those of children who have not lived on the street (Colby 6). In other words, children do not stop being "street children" immediately after being placed in a home. Psychosocial development refers to a child's ability to interact within an environment (for instance, a classroom learning environment) and develop positive communication, coping, and life skills. These skills include, but are not limited to skills that are specific to getting a job or earning an income (Colby 5). Performance elements are an important aspect of this study. Performance elements include those elements that allow self-expression; require peer interaction; and consist of oral/vocal or physical presentation for an audience. These performance elements are incorporated alongside traditional educational curriculum.

HISTORY OF STREET CHILDREN IN AFRICA

It is necessary, when considering street children, to develop an apt understanding of the history, sociopolitical climate, and cultural setting of the region in which the children reside. For South Africa, the history of street children is a rich one. Before colonization, African societies generally functioned around a strongly connected kinship network that included extended family. Within this system, large, extended family units made up the smallest faction of society, and children were considered to be the responsibility of the community, rather than just the child's parents (Mugo 2). In instances of death, poverty, or significant need, responsibility of child rearing was promptly received by extended family members. The system managed to cover the cracks in society through which many children today slip. Similarly, regarding education, acquiring skills, knowledge, values, and behaviors was particularly inclusive. Few, if any, children were without a meaningful role within African society (Mugo 2). This is not to say that pre-colonialized Africa was without social conflict or strife, but, it appears that family and community networks functioned in a way that addressed problems like child homelessness.

Scholars indicate that the introduction of the colonial system to Africa resulted in a breaking down of the African extended family unit via methods of administration, identification, taxation, and resettlement (Mugo 2, Suda). European colonists, especially the British, introduced individualistic concepts into many of the societies they colonized. By altering the family unit, the substratum of African societies, systems that prevented and addressed social problems were negatively impacted (Mugo 2, Suda). During my time in South Africa, I encountered at least two children who were taken in by extended family members after the breakdown of their immediate family (due to death, poverty, or other factors). This indicates that the African extended family system, while significantly impaired, has not been entirely eliminated.

Colonists replaced African systems of education with colonial systems, which divided education among racial groups. The result was a system of education that created social classes based on race where whites received education for upper class jobs, Asians/Coloreds received education for middleclass jobs, and Africans received education that prepared them for "lower class, manual-work-oriented education" (Mugo 2, Suda). It is thought that this forcing of African parents into labor (which often forces them to travel long distances from their outlying communities) by white colonists ultimately contributed to the neglect of children, in part, creating the problem of street children in Africa (Mugo 2). While in Cape Town, I visited the township, Khayalitsha. This community is Cape Town's largest township, and my visit there provided an opportunity to witness how the structure of housing and labor, which requires many parents to travel many miles into the city or out into the countryside for work, impacts the upbringing of children. In Khayalitsha, it was not uncommon to see young children, some as young as two or three, alone on the streets and in front of their houses. A visit to a daycare in the community where extremely young children are left for up to ten hours a day while their parents are away at work further illustrated this reality.

This set the stage for the oppressive apartheid regime in South Africa, which exacerbated the problem of street children. In the late 1980s and early 1990s, before the apartheid government fell, "the vast majority of an estimated 9,000 street children in South Africa [were] black… but there were 10,000 white children in 160 state-registered and subsidized children's homes [children living in subsidized homes were not considered homeless]. In contrast, there were no state-administered children's homes for African children in urban areas" (Ross 70). The 11 homes, located in rural areas, that did exist for black South African children had capacity for only 1,400 children. In 1991, only 700 children resided in these facilities (Ross 70). Today, the Consortium for Street Children and the United Nations estimate that there are between 10,000 and 12,000 homeless children in South Africa, and the number is growing. The causes of this trend of children living on the street are poverty, overcrowding, abuse, neglect, family disintegration, and HIV/AIDS – problems that the newly democratic nation has been struggling with ("Street Children Statistics").

Judy Westwater, a street child in Johannesburg for part of her childhood, explores her trials in her autobiographic work, Street Kid. Judy's story, and her non-profit organization The Pegasus Children's Trust, which has a history of helping both the Zip Zap Circus and the Salesians Institute, sets the stage for the present study by making an assertion: if we can teach children who have suffered terribly on the streets to express themselves, learn to trust, and learn important interpersonal communication skills, then we can help them successfully enter society ("Personal Development"). One promising way of achieving these goals, as the present study will contend, is by incorporating performance elements into the curriculum used to educate street children.

Judy's methods of rehabilitating and educating street children parallel the goals proposed in Defining Quality in Education, a paper presented to UNICEF Education Officers to assist them in the planning of programs that promote quality education for children across the globe. Defining Quality in Education uses a five-point definition, which is arguably reinforced by the incorporation of performance elements (like those promoted by the Zip Zap Circus) in the education of street children and other vulnerable children with special needs.

Quality education includes: 1) Learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities; 2) environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities; 3)content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, HIV/AIDS prevention and peace; 4)processes through which trained teachers use child-centered teaching approaches in well-managed classrooms and schools and skillful assessment to facilitate learning and reduce disparities; 5) outcomes that encompass knowledge, skills and attitudes, and are linked to national goals for education and positive participation in society" (Colby 3).

Education systems that incorporate these five points, which are interdependent, foster education that is effective and positive; however, studies show that many street children (in some sub-Saharan African countries up to twenty-five percent) receive no schooling. Education systems that do not actually incorporate all children, regardless of quality, fail to fulfill the intended goals set out by the local, regional, and international community (UNICEF). This study does not seek specifically to identify the factors that prevent the extension of education to all children. Instead it seeks to identify and explain how particular strategies improve education for street children who do attend school

– a likely result of which will be an increase in the number of street children who attend school. By deconstructing successful educational programs for street children, they can be replicated and extended to include more children.

Children who have spent time living on the street face particular challenges that, not surprisingly, negatively influence their ability to learn in the standard classroom environment (Chitiyo, Changara, Chitiyo 386). Studies suggest that street children often exhibit emotional or behavioral disorders, and, due to their vulnerable nature, these issues may be exacerbated by abuse and/or exploitation. That the vast majority of street children possess special educational needs suggests that even those learning environments that manage to fulfill all five points of UNICEF's definition of quality education may not be effectively educating this delicate demographic.

In 1992, as the South African apartheid government was drawing its final breaths, Brent van Rensburg and his wife Laurance decided to swim against the tide of South Africans who were fleeing the country. Facing talk of civil war and political unrest, the couple, who had only planned to visit Brent's home country for a short time, said, "why not stick around and see if we can make a difference." And this was the beginning of the Zip Zap Circus. Brent, a professional circus performer and trapeze artist, decided to build a school that would unite children from various backgrounds through the love of performance – what Zip Zap members call 'circus magic'.

By 1995 the circus school was gaining national recognition, performing at events like the birthday celebration of newly elected president Nelson Mandela. A year later the circus completed its first international tour. Today, the Zip Zap Circus is a free service for youth of all backgrounds who wish to learn circus skills, because, as Brent explained, "all youth are at-risk." The circus also has two specific outreach programs. One of these, the second chance program, which is sponsored by Judy Westwater's Pegasus Children's Trust, is for boys living at the Cape Town Multiservice Family Center, and consists of about 20 formerly street-living boys.

When I entered the Zip Zap tent, which is located in the heart of Cape Town, for the first time, I was immediately struck by an overwhelming sense of community. As I watched children practice complex acrobatics, I was awed by the determination and focus exhibited by even the youngest performers. This practice session, which included the boys of the second chance program, was an excellent example of the spirit of the Zip Zap Circus and its mission. The circus, through the teaching of performance skills, equips students with life skills that transcend the circus arena. Observations, interviews, and interaction with

Today, the Consortium for Street Children and the United Nations estimate that there are between 10,000 and 12,000 homeless children in South Africa, and the number is growing.

the students, instructors, and social workers of Zip Zap's second chance boys indicated that the program improves interpersonal communication skills (especially regarding listening and teamwork), teaches confidence and how to trust, and serves as an outlet for self-expression.

LISTENING AND TEAMWORK

During one of my early visits to the Zip Zap Circus, I met Portia, a former Zip Zap student who now holds a paid position assisting Brent in the teaching of the Second Chance boys. Our introduction was brief as she was eager to begin the boy's afternoon practice, which involved about twelve Second Chance boys. She walked to the center of the tent floor and called for attention. Immediately she was the center point of a large circle of boys who were now stretching their muscles. She initiated the stretching routine, and then she removed herself from the circle and called on one of the boys to continue the warm up. Portia walked around the circle, emphasizing the importance of stretching before physical activity, inspecting the students, and offering advice for improving technique.

After warm-ups, Portia corralled the group to one end of the large tent, just in front of the stage. I observed as Portia gave concise instructions to the boys to produce in fifteen minutes, with their bodies, a visual piece that would engage an audience. And then she walked away, leaving the boys to complete the task alone.

From a distance, I watched older boys initiate a brainstorming session. Although I couldn't hear the group's discussion, it was clear that most (if not all) of the boys were offering ideas for the final product. Next, after a creative direction was chosen, the boys began a process of trial and error to see which techniques would achieve the desired result. By the time Portia returned to inspect the boys' work, they were ready to build a human pyramid. Several boys situated themselves straight-backed on all fours. Three boys stood on the back of the boys on all fours, and, once properly placed, began to help two of the smallest boys in the group climb to stand upon their shoulders. With precise attention to detail, the boys who were standing on the

second and third layers of the pyramid stretched their arms straight out to the side, fingers spread, palms facing forward.

The finished product was marvelous, but it was the route taken to achieve it that really sparked my interest. Unified under a common goal set by Portia, the boys worked without conflict, distraction, or outside instruction.

Clearly this was not the first time that the boys were asked to complete such an assignment. Sometime later, during an interview with Siyanda, one of the smaller boys who had stood atop the human pyramid, I asked about their assignment. Siyanda explained that he likes working in groups at Zip Zap because the end result in better than when a task is taken on alone. He indicated that group projects at Zip Zap are not always as harmonious as the one I witnessed because "sometimes people shout in groups." However, Portia identified this type of activity as invaluable to the students of the circus: "Letting students brainstorm to make their own tricks is something I learned from Brent. It helps them learn to work together, and it gives us new ideas for actual performances."

Brent echoed these values. "Zip Zap aims to make children a link in a chain rather than just a link," he said. In order to do this, children must learn to listen to instruction and the ideas of others and give their own input. They must also be able to appropriately handle conflict so that it does not prevent progress. Brent continued, "being in the circus gives kids tangible success which promotes goal-setting." Learning performance is not like learning in the classroom, he explained, "you're not just getting better marks on a paper, you're actually accomplishing tasks you thought you could never accomplish." Brent extended this example to illustrate the importance of listening skills in circus performance: in the classroom if you don't listen you might receive bad marks. In circus if you don't listen, the consequences can be fatal.

As a welcome present to Cape Town, the second chance boys decided to teach the group of Americans with whom I was traveling some circus skills. Although I had never attempted acrobatics in my life, I was amazed at how, with the encouragement and skilled instruction from some of

the older second chance boys, every person in my group was able to land front flips from a spring board onto a mat and learn basic tumbling skills (although we lacked the flash and flair that made the circus children so visually appealing and engaging). I was also painfully confronted with the result of failing to listen and implement instructions properly!

CONFIDENCE AND TRUST

Just as confidence plays an essential role in becoming an effective interpersonal communicator, it is also necessary for good circus performance. All people need positive reinforcement and encouragement to develop the self-esteem and self-confidence to perform for hundreds of spectators, but this is especially true for children, like street children, who are vulnerable, underprivileged, and often victimized.

During my final week in Cape Town I visited the Cape Town Multiservice Family Center, which houses Zip Zap's second chance boys. In an upstairs room, I sat with several of the boys who take lessons at the circus school. A question came to mind, and I directed it at the youngest boy in the group: "Are you good at circus?" He shrugged and nodded. I rephrased, "What parts of circus do you do well?" He smiled and began a long list of circus skills that he has mastered during his time at Zip Zap that included riding the unicycle, trampoline acrobatics, and making friends. That making friends was classified as a circus skill was particularly interesting to me. He mentioned that before attending classes at the social circus he was uncomfortable talking to strangers; however, now he is perfectly capable of meeting new people.

The annual meeting for the Zip Zap Circus just happened to fall during my visit to Cape Town. I attended the event to learn about how the circus receives and budgets its funds. As the meeting progressed, I was surprised to see several of the second chance boys walk to the podium and microphone to the right of the stage. The boys had been asked to give their perspective on the events of the previous year for the Zip Zap board of trustees, fellow circus students and their families, and the Zip Zap staff. Although all of the boys were somewhat uneasy at first, they were able to conquer their nerves and deliver a well-prepared presentation.

Jose, one of Zip Zaps oldest members spoke with me at length about the skills that Zip Zap students take away from their circus education. Jose was one of the first children to join Brent's social circus in the early 1990s. He made a professional career of circus performance, touring Europe for several years before returning to Cape Town to give back to the program that inspired him to achieve his life goals. During our interviews, he explained that most of the children who join the program are apprehensive about being in front of a large audience. In order to prepare children

to take on this task, Jose listed several tactics used to gain the trust of new students, including teambuilding exercises and 'trust falls' (where students must fall back into the arms of a peer, trusting that they will be caught before hitting the ground). "Trust is probably one of the most important skills that our kids learn. When you're swinging from a trapeze it doesn't matter what color the person holding you is – it only matters that they're holding you and that they don't drop you. You're forced to trust your peers." In order to gain the confidence to perform well, the children of Zip Zap must trust their instructors and their peers. Jose also commented on the boys who presented at the Zip Zap annual meeting: "when I met those boys they not would have been able to speak in front of such a large audience."

SELF-EXPRESSION

The mission of the Zip Zap Circus is centered on the goal of promoting self-expression for children through performance. Zip Zap has the unique opportunity to focus on activities that directly promote creativity. As previously mentioned, Zip Zap frequently uses the ideas produced by students during practices and brainstorming sessions. This not only validates the efforts of the children while encouraging expression, it also improves the Zip Zap shows (which raise about one third of the circus' budget) by drawing on the vast imagination of the child.

During one of my last visits to the circus, I observed the benefits that Zip Zap's role as a creative outlet has on the circus students. After meeting Flack, one of the younger boys of the second chance program, I was surprised and pleased with his willingness to talk about Zip Zap's role in his life. Flack, like many of the other children who make up Zip Zap's general group, was forced to move to Cape Town after the death of his father because his mother could no longer support him. Before joining the circus in 2009, Flack was a member of a group of boys in his neighborhood who frequently sought-out violent activity (what Americans would probably label a 'gang'). This was the only group membership Flack had ever known, and the group's activities served as an outlet for his anger.

Flack joined Zip Zap at the request of a neighborhood boy who was not a part of Flack's violent group of friends. When asked about his desire to join the circus, Flack echoed the words of many of Zip Zap's student: "the performances are amazing." He was captivated and intrigued by the idea of being a part of such stunning shows. Since joining the circus, Flack said he has changed as a person: "I learned respect, and I am more confident meeting people." Flack is able to positively express his emotions through the outlet of creative circus performance, and he hopes to one day have a professional role in the developing of circus shows.

In the classroom if you don't listen you might receive bad marks. In circus if you don't listen, the consequences can be fatal.

DISCUSSION

Although it is difficult to produce conclusions about the effects and benefits of educational components based on only one month of observation and narrative construction, the qualitative nature of this study allows for three major assertions regarding the educational qualities of the Salesians Institute and the Zip Zap Circus. This study observed that performance elements paired with traditional educational curriculum enhanced the development of interpersonal communication skills, promoted the development of self-confidence and trust, and served as an outlet for creative self-expression.

The significance of the positive influence of Zip Zap on its students should not be confined to the circus arena. Lionel, a former Zip Zap student who is now a teacher for the Waldorf School in Stellenbosch, South Africa, discussed the long-term benefits that the circus program has on its students:

Zip Zap teaches social skills that are essential for street children who may not have developed them in their upbringing. Things like meeting people or going to dinner a person's house are usually totally foreign to these kids. At the same time, Zip Zap teaches them to appreciate and praise the skills they already have.

Lionel explained an important component of the circus called the 'full-circle model.' This model asks older students who excel in circus to dedicate time to teaching younger students. According to Lionel, this teaches "the gift of giving." Lionel, Jose, and Portia are all former students who returned to give their time and energy to the circus, and, eventually, Jose and Portia gained employment as instructors.

Since it is a goal of both the Salesians Institute and the Zip Zap Circus to improve academic performance and prepare students to one day successfully enter the workforce, the likelihood of children to attend college or technical school or secure employment after leaving either program should be considered.

According to Brent, Sarah (an employee of the Cape Town Multiservice Family Center), Lionel, and many of the Zip Zap students, membership to the circus group has a positive influence on academic performance of the students. The consensus among those interviewed is that the skills learned in circus performance (including, but not limited to those discussed in this study) directly transfer from the circus tent to the classroom. While a few of the Zip Zap students said that their grades had not changed since entering the program, most expressed that their grades had improved. According to Lionel, the program is so successful that he is currently writing a circus performance curriculum, which, when finished, will be implemented as part of the physical education program of the Waldorf School where he teaches. Zip Zap's history is saturated with success stories of students joining professional circus tours, joining renowned circus schools, and breaking into industries like set design and construction for American television and movies. But, according to Brent, the majority of his circus students pursue careers outside of circus or visual performance. Many of Zip Zap's students attend college or trade school, and they are able to point to their involvement with Zip Zap in addition to their formal schooling as proof of their skills and character traits.

In addition to circus performance skills that, with enough talent, can eventually allow Zip Zap students to become professional performers, the circus produces students who are better prepared to successfully enter colleges and technical schools and the workforce after finishing their general education because the program targets skills and traits that are valued by the academic community and employers.

LIMITATIONS AND CONCESSIONS

While the building of narrative accounts and stories provides an in-depth look at the focus groups targeted for this study, the analysis is certainly not without limitations. Formal surveying of teachers, students, social workers, and instructors considered in this study would provide quantifiable data that might highlight the specific significance of the skills assigned to students. The time constraint within which this research was conducted, and the limiting of focus groups to only two programs hinders the application of the current study's conclusions to educational programs on a large scale. Future studies should consider the education

The mission of the Zip Zap Circus is centered on the goal of promoting self-expression for children through performance.

of street children by a variety of programs and over a longer period of time. Describing and analyzing psychosocial development programs that do not incorporate performances elements may provide insight into the program-specificity of the skills attributed to Zip Zap students

It should be noted that, while there are numerous success stories of children who complete the full Zip Zap Circus program, there are certainly students who do not maintain membership over the course of their education. Additionally, not all students who complete the Zip Zap Circus program achieve success after leaving the program as young adults. It was impossible to incorporate the stories of these former members into the present study as they were no longer in contact with the circus and inaccessible for interviews and observations. There have been instances where students of the Zip Zap Circus discontinued their formal studies due to frustration with poor performance. The circus encourages students to finish school, but does not require school enrollment for membership. Considering these students as a separate focus group would offer further information regarding the influence of teaching performance skills versus the teaching of the traditional curriculum on students.

CONCLUSION

With the aim of improving educational programs for street children, this study identified the development of three main skill sets gained by circus students that may ultimately lead to improved academic ability and success later in life. Educational institutions that serve similar demographics to the one targeted in this study who wish to improve standards of quality education may see significant improvement in the psychosocial development of their students if performance programs that facilitate the development of interpersonal communication, the building of trust and confidence, and the promotion of self-expression are sought out (or created and developed) and utilized.

WORKS CITED

Brink, Barbara. "Working with Street Children: reintegration through education." Support for Learning 16.2 (2001): 79-86. Print.

Chitiyo, Morgan, Darlington M Changara, and George Chitiyo. "Providing Psychosocial Support to Special Needs Children: a case of orphans and vulnerable children in Zimbabwe." International Journal of Educational Development 28 (2008): 384-392. ScienceDirect. Web. 7 Oct. 2011.

Colby, Jeanette. Defining Quality in Education. UNICEF. United Nations, 2000. Web. 12 Oct. 2011. <http://www.unicef.org/education/files/QualityEducation.PDF>.

"Confronting youth unemployment: policy options for South Africa." National

Treasury. South African National Treasury, 2011. PDF file.

Denzin, Norman K. Interpretive Biography. Newbury Park: Sage Publications, 1989. Print.

—. Interpretive Interactionism. Newbury Park: Sage Publications, 1989. Print.

Hargie, Owen, and David Dickson. Skilled Interpersonal Communication: research, theory, practice. New York: Routledge, 2004. Print.

Mugo, John Kabutha. Rehabilitation of Street Children in Kenya: approaches, quality, and challenges. London: Verlag für Interkulturelle Kommunikation, 2004. Print.

"Personal Development." The Pegasus Children's Trust. The Pegasus Children's Trust, n.d. Web. 17 Sept. 2011. <http://sites.google.com/site/pegasuschildrenstrust/>.

Ross, C. "The Street Children: survival strategies." SA: 69-72. Print.

Roux, Johann Le. "Street Children in South Africa." Pangaea (1996): n. pag. Pangaea. Web. 18 Sept. 2011. <http://pangaea.org/street_children/africa/safrica2.htm>.

The State of Africa's Children. N.p.: UNICEF, 2008. UNICEF. Web. 8 Oct. 2011. <http://www.unicef.org/wcaro/soaco8/>.
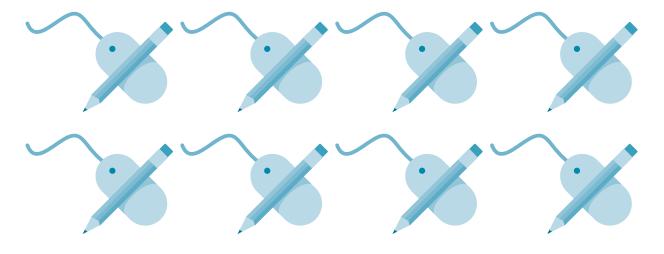
"Street Children Statistics." Consortium for Street Children (Aug. 2009): 1-13. The Consortium for Street Children. PDF file.

Suda, C A. "Street Children in Nairobi and the African Cultural Ideology of Kin-Based Support System." Child Abuse Review 6 (1997): 199-217. Print.

UNICEF. "A Study on Street Children in Zimbabwe." Orphans and Other Vulnerable Children and Adolescents in Zimbabwe (2001): 89-103. Print.

JOE ARELLANO is currently studying photo-communications and plans to graduate in the Spring Semester of 2014. Arellano has written articles and taken photos for Hilltop Views and is heavily involved in the St. Edward's Omni, Madrigals, and Choral Choirs. Upon his return to America he plans to work as a St. Edward's Photography Lab Monitor and a member of SEU TV.

LEIGH-ANNE BARNES is a junior majoring in public relations and communications. She is an active student in many organizations such as PRSSA and Best Buddies International. She is an honor student hoping to one-day change the world

BIBIANA CANTUA Alderete is a senior studying History at St. Edwards University. A native of Torreón Coahuila Mexico, her interests include animal liberation and the lives of medieval women. If she could go on a coffee date with anyone the top three contenders would be Carol J. Adams, Gandhi, and Thom Yorke.

SAMANTHA COOK is a recent graduate of St. Edward's University, majoring in Arts and Event Management. She was a Brown Scholar, and she has studied abroad in Scotland and Holland, increasing her interest in global issues and multinational governing bodies, particularly the European Union.

GOLDIE DA Costa recently graduated from the honors program with Bachelors of Science in Biology in 2012. This paper was written for her Honors Senior Thesis, and helped her decide on a career in public health. She will be applying for graduate programs in healthcare administration and management this fall.

EMILY DUNN was born and bred in Austin, Texas, Emily's passion for human rights and a liberal arts-centric education led her to St. Edward's University for college. She is currently straddling the line between Fine Arts and Global Studies as she works as an Intern, a Teacher's Assistant, a part-time nanny, and a leader of the Missions Board at her church (Austin Ridge). She dreams of running a casita in Southeast Asia for missional organizations or potential adoptive parents, and, when she has free time, can usually be found making a mess in the kitchen.

SAMUEL FARIAS graduated last spring with a Bachelor of Arts in English Writing and Rhetoric. He was born and raised in Austin, Texas, and can't imagine living anywhere else. His interests include playing music, writing, playing basketball and soccer, and technology. His research interests include technology and its implications for education, rhetoric, and educational uses of video games.

NAYELI GARZA is a third year Philosophy Major seeking to expend her knowledge of globalization. Her submission examines obesity as a growing global condition—rampant across varied world regions and economic classes.

JOHN LANGSTON grew up in Alexandria, Virginia, D.C., and South Carolina and has spent most of his life in Austin, Texas. He earned an A.A. in Radio-Television-Film at Austin Community College and a B.A. in Communication at St. Edward's University. His greatest interests include interactive media, computer science, philosophy, coin collecting, and yoga. He has built, repaired, and innovated computers since he was 10.

HUNTER LAWRENCE is a recent graduate of St. Edward's University, and is now an Austin based Visual Artist.

ELIZABETH NICOLE Mejia was born in Houston, Texas. As a young child she moved to her parent's hometown of La Ceiba, Atlántida Honduras. She returned to Houston as an adolescent, where she finished schooling. She is currently studying Enviornmental Science and Policy at St. Edward's University.

COLLIN PHILLIPS is a recent graduate of St. Edward's with a degree in Communication. In September he will begin a Fulbright English Teaching Assistantship in South Africa where he hopes to continue working with homeless children. Upon returning to the U.S. Collin plans to attend law school

BEATRIZ POSADA is a photocommunications student at St. Edward's. She has a passion for traveling and documenting cultures. In 2013 she will graduate and hopes to keep doing photography around the world.

MARGO SIVIN is a Graphic Design major and Photocommunications minor. Her work was recently acquired by the Smithsonian Institution, as part of a documentary project by Photocommunications students centered on Lockhart, Texas. She enjoys traveling, sweater weather, brunch, cities, and pictures of food. She would someday like to open her own café.

TAYLOR WILKINS is a third year student at St. Edward's University with a major in Global Studies, with a regional focus on East Asia. Wilkins has a very strong interest in culture and plans to apply for the JET program to teach English in Japan.

RUOYUN XU is a sophomore studying Marketing at St. Edward's University. She is also a St. Edward's Student Ambassador and Tour Guide and sings in the Madrigal Choir. She recently studied abroad in Angers, France during the 2011 Fall semester.