The Journal of Undergraduate Research
at the University of Kansas

Third Edition | Fall 2010-Spring 2011
The Importance of Undergraduate Research
By: Michael S. Vitevitch, Ph.D
University Honors Program

Universities are exciting places where new discoveries are made everyday. Students at KU discover new talents, new passions, and new things about the world around us, like a new language, or the practices of a different culture. Perhaps the most exciting thing that students at KU learn is that—at a research-intensive university like KU—you can make new discoveries in your chosen field.

The primary goal of research-intensive universities like KU is not to conduct massive amounts of research; much more research occurs at national and private laboratories, and at research institutes than at any university. The primary goal of research-intensive universities like KU is to teach you how to do research, and—more importantly—to inspire in you a passion for discovery. In other words, a research-intensive university like KU does not make new discoveries, it makes those who make the new discoveries.

In this edition of the Journal of Undergraduate Research you can sample some of the creative and scholarly work, as well as read about some of the discoveries made by undergraduate students in a variety of fields at KU. These discoveries and the Journal would not be possible without the help and support of the faculty mentors, the members of the Editorial Board, and the KU Honors program, which provided financial and institutional support. For all of those efforts, we thank you.

You can find the electronic edition of this publication, along with information regarding subsequent issues online at http://web.ku.edu/~kujur/.
The Journal of Undergraduate Research
The University of Kansas

Editors in Chief
Megan Fracol
Chantz Palmer Thomas

Faculty Advisor
Michael S. Vitevitch, Ph.D.
Contents

Sex Differences in Otoacoustic Emissions to Examine Underlying Cochlear Mechanisms...........................................................7
Joshua Williams (Faculty Advisor: Dr. Tiffany Johnson, Speech-Language-Hearing: Sciences and Disorders)

The Smart Grid, A Scale Demonstration Model Incorporating Electrified Vehicles.................................................................11
Lee Clemon, Jon Mattson, Andrew Moore, Len Necefer, Shelton Heilman (Faculty Advisor: Dr. Chris Depcik, Mechanical Engineering)

Nutrient Losses in Agriculture: the Role of Biochar and Fungal Associations.................................................................16
Alison King (Faculty Advisor: Dr. Sharon Billings, Ecology & Evolutionary Biology)

Missouri’s Favorite Son: A Thomas Hart Benton Story..............................23
Bethany Christiansen

Hades: The Construction of a Graphic Novel........................................33
Bethany Christiansen

Builders of a Nation: Women’s Experiences in Postwar Germany.........45
Barbara Brennan

Precis of Fashioning a ‘Free State’: Race, Violence, and Myth-Making in Kansas, 1840-1880.....................................................54
Hannah Ballard

Chelsea Cooley

Freedom in the Name of Peace: The Story of Thich Nhat Hanh........65
Chelsea Cooley
Sex Differences in Otoacoustic Emissions to Examine Underlying Cochlear Mechanisms

Joshua Williams (Faculty Advisor: Dr. Tiffany Johnson)

Speech-Language-Hearing: Sciences and Disorders

ABSTRACT

**Purpose:** The purpose of this project was to describe the extent to which differences in underlying cochlear mechanisms explain why some otoacoustic emissions (OAEs) are smaller in males than in females while other OAEs are similar in both sexes.

**Method:** 24 females and 20 males with normal hearing were tested. In each subject, three types of OAEs were recorded: stimulus-frequency OAEs (SFOAEs), distortion-product OAEs (DPOAEs), and transient-evoked OAEs (TEOAEs). These various OAE types arise through different cochlear mechanisms and can be used to test the hypothesis that sex differences will only be apparent for OAEs generated by one cochlear mechanism.

**Results:** Consistent with previous data, TEOAEs were significantly larger in females than in males. SFOAEs also were significantly larger in females than in males, which supported the hypothesis that SFOAEs and TEOAEs arise through the same cochlear mechanism and that it is this mechanism that is influenced by sex. In contrast, DPOAEs, which arise from a different cochlear mechanism, were not significantly different in level between the sexes.

**Conclusions:** The data reported here provide evidence that differences in the underlying cochlear mechanism across varying OAE types, may explain the contradictory observation that some, but not all, OAEs are larger in females than in males. SFOAEs and TEOAEs arise via the same mechanism and both show differences between the sexes. DPOAEs, in contrast, do not show differences because they arise via a different cochlear mechanism that is not affected by sex.

INTRODUCTION

An otoacoustic emission (OAE) is an internal sound that is produced by the cochlea (the sensory structure in the inner ear) in response to external sound and can be recorded with a sensitive microphone placed in the ear canal. The presence of OAEs suggests a healthy cochlea and normal (or near normal) hearing. OAEs serve as a measure for various auditory tests clinically. They are widely used to screen for hearing loss in newborns and also have been used to noninvasively test cochlear function. Additionally, OAEs have been used to explore the differences in the auditory system between sexes, with a number of studies suggesting that females have larger OAEs than males (e.g., McFadden et al., 2009a, b, 2008, 2002). This difference between the sexes has been observed for some, but not all, types of OAEs.

OAEs typically have been classified based on the external stimuli used to elicit the response. SFOAEs occur in response to a single pure-tone stimulus and DPOAEs occur in response to pairs of pure tones. In contrast, TEOAEs are evoked with a short-duration click stimulus. Modern theories of OAE generation, however, suggest that the various OAE types may differ not just in terms of the stimuli used to elicit the response but also in terms of the cochlear processes underlying the generation of the internal response (e.g., Shera, 2004). According to these theories, there are two different mechanisms that contribute to OAEs. These are a nonlinear-distortion mechanism and a coherent-reflection mechanism. DPOAEs are thought to include both mechanisms. SFOAEs are thought to be primarily generated by the coherent-reflection mechanism, at least for low-to-moderate stimulus levels (Johnson, 2010). TEOAEs, similar to SFOAEs, are believed to arise primarily through the coherent-reflection mechanism. It may be important to
consider the cochlear mechanisms underlying the different OAE types when interpreting the somewhat contradictory evidence that sex-differences in OAE levels have been observed for some but not all types of OAEs.

McFadden and colleagues (2008, 2009a, b) have explored the idea that OAEs differ between the sexes of humans and other animals by studying sex-differences in OAE response levels in DPOAEs and TEOAEs. These data showed no statistically significant difference in DPOAE response level (in dB SPL) between the sexes. In contrast, for TEOAEs there was a statistically significant difference between the sexes where females had larger OAE response levels than males. McFadden et al. (2009b) have argued that differences in OAE level between the sexes can be attributed to different levels of androgen exposure in utero; masculinized cochleae exhibit lower OAE levels than non-masculinized cochleae. Again, McFadden (2009a) has argued that the observation that TEOAEs vary with sex (and sexual orientation), while DPOAEs do not, is evidence that the cochlear mechanisms that produce TEOAEs (coherent reflection mechanism) are strongly affected by the biologic process that influences sex differences (and sexual orientation) but that the cochlear mechanism underscoring DPOAEs (primarily the distortion mechanism) is not influenced by this same process.

These data suggest that it may be possible to explain why TEOAEs show sex differences, while DPOAEs do not, based on the different cochlear mechanisms. These data, however, do not fully account for the role of cochlear mechanisms because SFOAEs, which are thought to represent the same mechanism as TEOAEs, have yet to be tested. Testing both SFOAEs and TEOAEs in the same subjects would help to describe the extent to which all coherent-reflection mechanism OAEs show the same patterns and would strengthen (or contradict) arguments that it is this mechanism that is affected in prenatal development. Moreover, the influence of prenatal androgens on cochlear mechanisms for DPOAEs is complicated by the fact that both mechanisms contribute to the DPOAEs. This has not been considered in previous work with sex differences; however, it is possible to restrict the DPOAE response to just the distortion mechanism by recording DPOAEs in such a way that only the distortion mechanism contributes. This would help to clarify the uncertainties surrounding the lack of sex differences in DPOAEs.

This paper explores two hypotheses: (1) due to similarities in the cochlear mechanisms involved in their generation, SFOAEs and TEOAEs will show evidence of differences in OAE response level between males and females, (2) when recorded with only the distortion mechanism contribution to the response, DPOAEs will be equal in level for males and females because the distortion mechanism is not influenced by prenatal androgen exposure.

**METHODS**

**Participants**
24 females and 20 males with normal hearing with a mean age of 21 years, ranging from 19 to 37 years old, were tested.

**Apparatus**
Subjects sat in a reclining chair in a soundproof room. A soft-tipped probe microphone was inserted in one ear. They were instructed to remain as still and quiet as possible in order to reduce physiologic noise. Subjects were allowed to read, watch a silent (captioned) movie, or sleep.

**Procedure**
TEOAEs were recorded in response to click stimuli (short bursts of sound) presented at 80 dB SPL. SFOAEs were recorded in response to pairs of tones: a probe tone, used to elicit the response, and a suppressor tone, which...
is necessary to observe the SFOAE response. The specific stimulus conditions were chosen because they were expected to produce robust TEOAEs and SFOAEs in our subjects (Johnson & Maack 2010). The stimuli represent commonly used conditions for recording these OAEs and, in the case of TEOAEs, represent the stimulus conditions that have been used in previous investigations of sex differences (e.g., McFadden et al., 2009a).

DPOAEs were recorded in response to pairs of tones with slightly different frequencies. The stimulus protocols were set to standard conditions (Kummer et al., 1998), which are expected to produce robust DPOAEs. DPOAEs were recorded in small frequency steps across two 1/3-octave intervals. This allowed us to restrict the cochlear mechanism contributing to the DPOAE to the distortion mechanism using an approach we have used previously (Johnson et al., 2006, 2007).

**Analyses**

Analysis of variance was used to interpret the data statistically for the main effect of sex and the interaction between sex, stimulus levels and stimulus frequencies.

**RESULTS**

Because the effect of sex did not differ across the various frequencies and levels that were tested (p > 0.05 for all interaction terms involving sex), data were collapsed across frequencies and level for each OAE type. These results are plotted in Figs. 1-3, where the mean (± 1 standard error) emission level is plotted as a function of sex. Each figure represents data for a different OAE type. As shown in Fig. 1, there was a statistically significant difference between the sexes (p=0.002) for TEOAEs. There was a significant difference (p=0.036) between the sexes for the SFOAEs as well (Fig. 2). In both cases, females had larger OAEs than males.

On the other hand, in relation to the DPOAEs, there was no significant difference (p=0.514) in OAE level between the sexes (Fig. 3).

**DISCUSSION**

Consistent with previous reports (e.g., McFadden et al 2009a), TEOAEs exhibited sex differences. SFOAEs patterned like TEOAEs, by having sex differences, which is consistent with the hypothesis that they arise through a common cochlear mechanism. DPOAEs did not show sex differences, as was expected from previous data (e.g.,
McFadden et al 2009a). This is consistent with the hypothesis that DPOAEs may arise via a different cochlear mechanism than the SFOAEs and TEOAEs. Therefore, looking at differences in emission levels as a function of sex, suggests that OAEs can be segregated based on the cochlear mechanisms that underlie OAE generation.

REFERENCES


The Smart Grid, A Scale Demonstration Model Incorporating Electrified Vehicles

Lee Clemon, Jon Mattson, Andrew Moore, Len Necefer, Shelton Heilman (Faculty Advisor: Chris Depcik)
Mechanical Engineering

DESCRIPTION AND OBJECTIVE OF RESEARCH

The current electrical grid cannot maintain the rising energy demand of the digital age without the construction of new power plants. In addition, this increasing demand requires upgrading a large number of components within the aging energy infrastructure. Furthermore, with the advent and commercialization of electrified vehicles, energy demand has the capability to increase dramatically. A sustainable solution via renewable energy technologies can act to offset this increased demand; however, transformers and meters across the country do not currently account for this option. As a result, a wholesale revision of the electrical grid into an intelligent communication pathway (energy and information) is required to ensure the energy security of the United States.

Supported by the EPA P3 initiative, the current small-scale stage of the EcoHawks design project involves creation of a smart energy infrastructure that integrates solar and wind renewable energy, electrified vehicle technologies, and information transmission in order to optimize energy resources and maximize overall system efficiency. The smart grid system focuses on accomplishing the two main objectives of the Department of Energy’s requirements for an intelligently designed electric grid:

- Decentralization of energy production and storage
- Two-way communication from end users or appliances and the energy network.

It decentralizes energy production through deploying multiple renewable energy resources that can generate and manage power locally, leading to precision control of the electrical grid. Renewable energy is captured using both a student-built 45W solar panel and a 50W wind turbine to charge two separate battery banks, modeled by two deep cycle lead-acid batteries. Storing this energy within the system ensures that even when solar and wind systems are not actively producing power, there is still renewable power available for consumption. Moreover, further decentralization occurs by employing the LiFeYPO4 battery pack of a PHEV/BEV as a reserve or dynamic storage bank. Use of a commercial vehicle in this manner can lower greenhouse-gas emissions, improve urban air quality, save consumers money, bolster power-grid reliability and reduce oil imports.

The application of a smart grid allows for simple additions to the grid in terms of both energy production and storage, but this energy must be controlled in order for it to be used effectively. Thus, two-way communication between energy producers and consumers has been established using a LabVIEW program in which users can track and record all energy and efficiencies. Moreover, this program can control the flow of energy throughout the different subsections of the smart grid in order to maximize
efficiency. It monitors power production and the reserve capacity available in the different decentralized storage mediums. Effectively, this system minimizes the usage of fossil-fuel power generation by prioritizing renewable energy and only using fossilized or petroleum power (modeled in the system with a gasoline generator) when the renewable power supply is insufficient to meet demand. Currently, the system employs manual switches in order to facilitate testing; however, the upgrade to digital switching is immediately available and plans are underway to implement its usage.

In order to facilitate this control, the system is outfitted with numerous sensors connected to National Instruments (NI) hardware. With these sensors in place, the user can be updated with information regarding the use of the system through the LabVIEW program. This allows the user the ability to fine-tune the system to their needs, or troubleshoot a malfunctioning system. Additionally, the sensors allow the LabVIEW program to calculate efficiency losses, both within individual parts of the system, as well as over entire subsections of the smart grid.

One final aspect of the system is the inherent need for power conversion within the sources, storage units, and sinks. While the modern electrical grid uses AC power, many components within the smart grid do not, namely the battery and renewable energy generation systems. For maximum functionality, inverters convert DC power from the batteries into AC power useable by the control system, appliances, and the battery management systems. The inclusion of multiple inverters adds a degree of freedom to the system’s ability to control the flow of energy between sources and sinks at any one time.

PHEV and BEV technology creates another opportunity for the smart grid to store and use renewable energy. Through enabling energy and communication flow in both Vehicle-to-Grid (V2G) and Grid-to-Vehicle (G2V) systems, the smart grid utilizes the battery systems of these vehicles as auxiliary storage in order to help buffer the supply and demand of energy at peak hours, such as the evening work rush hour. For example, this can be accomplished by charging the car’s battery pack at night when energy demand on the grid is low, with subsequent selling back of any excess energy at peak hours for a profit. The smart grid control system would be able to buy back energy from the electric vehicle owner in order to supplement the power supply. Moreover, this promotes efficiency of conventional power plants by limiting cyclical operation and wasting of resources at night by dumping energy.

The scale grid includes a popcorn maker as a model appliance demonstrating the end of the energy flow line. This allows for testing and sizing of the battery systems in order to ensure sufficient capacity for storage of renewable sources. Moreover, smart appliances in the future will be able to interact with the grid demonstrating a future objective of the system to integrate new technologies in the home, business or industry. Finally, the choice of popcorn maker demonstrates the insight of the students to include a sustainable solution in all areas. Little waste is generated in running the appliance, as hungry EcoHawks always need to eat.
SUMMARY OF FINDINGS
(OUTPUTS/OUTCOMES)

After assembly of the scale grid, the EcoHawks tested all of the components allowing for a systematic methodology in debugging and troubleshooting the system. Both of the renewable sources of energy were successfully implemented with the solar panel proving to be a reliable source of energy, even under less than favorable weather conditions. In hazy weather, the panel produced 18VDC at a range of 1.5 to 2.5A, and successfully charged one lead-acid battery by 0.1VDC in 2 minutes and 30 seconds while charging the other lead-acid battery by 0.18VDC in just under 5 minutes. The wind turbine has an effective efficiency of 16% in 20 mph winds, after applying Betz’s Law, which provides sufficient charge in order to maintain battery capacity through float charging.

For proper usage and lifetime of the PHEV/BEV battery pack, the system employs a Battery Management System (BMS). This device demonstrates proper balancing of individual cells promoting the lifetime of the pack ensuring maximum customer return on investment. Moreover, using a relay it provides the ability to charge a pack safely ensuring over-voltage does not occur. In addition, to prevent excessive discharge of the pack, the BMS controls another relay that cuts the power flow when the pack voltage becomes too low. This demonstrates a proof of concept for the eventual conversion to an automated system in replacing the manual switchboard with a series of computer-controlled relays. It also establishes the methodology of using the PHEV/BEV battery pack as a dynamic storage medium where renewable energy can be stored and used without compromising the ability of the vehicle.

Use of renewable energy to power the appliance was proven by running the popcorn maker off the lead acid batteries individually. Experimental data finds that popping a full batch of popcorn took four minutes for a cool kettle (soaked overnight); whereas, it took two minutes and 30 seconds for a pre-heated kettle. During this experiment, the batteries were drained by approximately 0.10 to 0.15VDC per run, entirely dependent on the time taken to test. Unfortunately, the low capacity of the PHEV/BEV batteries tested (3.6Ah) was not able to provide enough power to make a full batch of popcorn; however, it was able to power the appliance for 35 seconds before being shut down by the BMS. Additional testing using the control computer with a lower power draw demonstrates that the PHEV/BEV batteries could power this device for approximately 8 minutes. Future efforts involve adding more capacity to this pack through a parallel cell arrangement along with testing of a similar 90Ah battery targeted for the current GMC Jimmy BEV conversion. This further illustrates the novelty of the phased approach of the EcoHawks program.

The LabVIEW control program and attached sensors were tested for accuracy against a multimeter, and were found to be operating normally and without significant error. The program was able to generate an output value for any AC current flowing within the system in ten seconds, and can perform the same for a DC current in one second. Because of the sinusoidal nature of AC current, a root mean square averaging is utilized to provide a low standard of deviation of the current value. Efforts are underway at investigating available sensors and calculation methodologies to improve this time frequency. All voltages in the energy grid are being measured and validated using a
multimeter. Data collection has begun using the main LabVIEW Graphical User Interface (GUI) on an average value basis with sub-GUIs providing a time-history of the signals.

CONCLUSIONS
The scale smart grid designed and built by the EcoHawks successfully demonstrates the feasibility and potential for intelligent energy management technology in order to enhance traditional power systems. It incorporates electrified vehicle technologies, solar and wind energy as well as two-way communication between power production and consumption. By tying these entities together, better matching of the energy infrastructure with the supply and demand of power can reduce the use of conventional (fossil fuel, petroleum) power production in favor of renewable resources. This smart grid model implements a control system with the capability to manage the flow of energy in order to maximize energy efficiency. A large-scale version of the EcoHawks design can act to meet the increasing energy demand without the need to build new power plant facilities. Systems like these are necessary to reduce greenhouse gas and hazardous emissions while prolonging finite fossil fuel resources.

FUTURE WORK OBJECTIVES AND STRATEGIES (PHASE II)
For Phase II, the insights gained from the scale smart grid constructed in Phase I will be used in order to convert the EcoHawks student design laboratory into a complete smart grid including an electrified vehicle refilling station with attached renewable energy generation. Hence, the building will provide additional power for use with the fleet of electrified vehicles being recycled from older vehicles and tested to replace current petroleum-based vehicles used on campus.

The full-scale smart grid will feature an expansion of an existing solar array through additional solar panels and solar shingles on the facility. In addition, university administration approval is pending on the addition of a wind turbine at the facility. Expanded renewable energy generation will eliminate the need for centralized power generation, such that the design laboratory may become carbon neutral, reduce emissions and improve sustainability. In addition, EcoHawks will add to the control system in order to incorporate additional sources and sinks, automate switching and to optimize efficiency. Further research improvements will come from use of automotive simulation software, particularly AVL Cruise and Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET) from Argonne National Laboratory. These models will aid in improving the applications of V2G and G2V energy transfer. Moreover, their use will foster a macroscopic investigation into the future place of electrified vehicles in the market and their impending stress upon the electrical grid.

In the long term, successive iterations of this research and development program will provide incremental improvements to the efficiency, size, weight, cost, and ease of use of the overall system. Therefore, the system will become more practical over time, with the ultimate goal of appealing to a wide variety of companies, governmental bodies, or individual consumers. Finally, the EcoHawks actively publish their efforts and present at conferences in order to facilitate widespread dissemination of
outcomes. This will continue to be a focus throughout Phase II along with the translation of this information onto a K-12 level. The phases indicated and associated efforts of all of the students and interdisciplinary partners illustrate the EcoHawks commitment to sustainability through the five E’s of energy, environment, economics, education, and ethics.

ACKNOWLEDGEMENTS
Bryan Strecker; Austin Hausmann; Nicholas Surface
Nutrient Losses in Agriculture:  
the Role of Biochar and Fungal Associations  

Alison King (Faculty Advisor: Dr. Sharon Billings)  
Ecology & Evolutionary Biology  

INTRODUCTION  

Agriculture is a system of extraction: through it we capture soil nutrients taken up by plants and we channel them away from their local decay for our own consumption. The principles of the system suggest some loss of soil fertility over time, but the practice of agribusiness, with its rigorous tilling and irrigation, leads to a great wash of topsoil and nutrients that, in the United States, most often congregate in the flow of the Mississippi before leaving the continent and mixing with the Gulf waters. While the industrialization of agriculture brought about a huge boom in global food production, it did so by the integration of relatively cheap and abundant energy from fossil fuels to manufacture inorganic fertilizer, apply it with heavy machinery, and power irrigation. In spite of all these efforts to boost productivity, current rates of topsoil runoff lead to a total loss of soil fertility over time. Fertilizer runoff from the same agricultural fields pours excess nitrogen into streams, rivers, and lakes, leading to algal blooms and associated dead zones such as the one found off the Mississippi delta.  

Current methods in farming are typically viewed as unsustainable. In this light, and from other perspectives, farmers and scientists are reinvigorating other practices in agriculture. For example, some agriculturalists are invoking our knowledge about soils in the Amazon known as terra preta, or ‘dark earth’, that are still fertile from thousands of years ago when farmers mixed charcoal with them. Today, the material is known as biochar, and is loosely defined as organic matter that has been heated in the absence of air. The organic matter ranges from wood chips to rice husks to poultry litter, and heating varies in time and intensity. Biochar itself does not provide a significant amount of nutrients to plants. Rather, it increases soil fertility through four mechanisms: 1) increasing soil pH; 2) increasing soil cation exchange capacity (CEC); 3) improving water holding capacity; and 4) improving the habitat for microorganisms.  

The increase in microbial biomass often seen with biochar application has prompted many hypotheses about soil microorganism responses to biochar. One of the more popular hypotheses is that the miniscule pores that cover the surface of a grain of biochar allow for
colonization by bacteria and fungi while sheltering them from predatory microbes. The increase in soil CEC caused by biochar also helps to reduce nutrient leaching, but it has been hypothesized that microorganisms, such as mycorrhizae (described below), can help to reduce nutrient leaching even more than the presence of biologically inactive biochar. The potential for interaction between biochar and soil microorganisms, then, appears to be an important area of study if we want to discover effective means of retaining nutrients in our soil systems for plant productivity.

To adequately investigate the hypotheses about biochar function in soils, we must consider specific, key relationships between plants and soil microbes such as those formed with mycorrhizae. Fungi and plants can form mutualistic relationships- that is, when certain fungi and certain plants share resources and serve each other, both benefit. One of the most ubiquitous of such mutualisms exists between a collection of fungi known as mycorrhizal and the roots of plants with which they associate. Fungi infect the roots and then send out filaments into the soil, threads no larger 64 µm that transport nutrients to the plant. In exchange, the plant gives the fungi some of the carbon that it has fixed photosynthetically. Plants that enter into such relationships are often many times more productive than those that do not. Many current agricultural practices, like frequent tilling and the use of fungicides, discourage the growth of such fungi. Because mycorrhizal relationships with plants are so ubiquitous, the interaction between these mutualistic relationships and biochar is likely an important feature of soil nutrient dynamics. Thus, the purpose of this research was to explore the question: How does the interaction of mycorrhizae and biochar in soil influence crop production and soil nutrient retention?

**METHODS**

Treatments were made up of a fertilized and an unfertilized set, each of which included: pots with char but no mycorrhizal inoculant, with both char and inoculant, and with inoculant but no char. Each treatment as well as a control was replicated four times to give an initial total of 32 pots (in three treatments, three rather than four pots sprouted oats, giving a total of 29 pots). All soils were sterilized. Biochar was ground and homogenized with soils at 5% w/w, with no-char pots totaling 140 g soil and biochar amended pots 147 g. Three oats were seeded per pot, and liquid 46:00:00 fertilizer applied at a rate of 26.4 mg N to fertilized pots. Mycorrhizal inoculant was applied according to distributor recommendations at a rate of 1.3 mL solution per pot (solution =4 cc inoculant / 1 L H₂O).

Oat seeds sprouted within one week, at which time pots with multiple sprouts were thinned down to one plant. For the next six weeks, 5 mL water were applied to all plots 5-6 times weekly to avoid excess water stress on the oats. These water additions did not produce leachate. Once weekly, pots
were inundated with either 40 or 60 mL water, and leachate was collected in scintillation vials, which were then stored at 4° C. At the end of six weeks all whole oat plants were harvested, their live biomass recorded, and root samples taken for mycorrhizal testing. These roots were stored in a 1:1 solution on ethanol and water at 4° C. Mycorrhizal infection was assessed by staining roots segments with lactophenol cotton blue, mounting on slides, and examining roots at 10x-40x magnification. Dry oat biomass was collected after one week at 60° C. Nitrate and ammonium content were then measured from leachate samples on a Lachat Quickchem Autoanalyzer. Total N leached, both at individual time points and cumulative across the experiment, were analyzed with SAS using repeated measures ANOVA (PROC MIXED).

RESULTS

Fertilized pots without biochar leached 35-50% of N applied at the first week, which was more than any other treatment (p< 0.05, Figure 1). Biochar addition to fertilized pots reduced N loss substantially in the first week, with pots leaching 10% of total N applied. The effect of both fertilizer and biochar on nutrient leaching was variable in following weeks: fertilized pots with biochar often did not loose significantly more N in later weeks than did control plots, and the effect of biochar to reduce N loss significantly in fertilized pots (below levels of fertilized pots without biochar) was intermittent. The role of mycorrhizal inoculant in altering N loss was sporadic, appearing only in weeks three and four. The strongest effect, significant across all six weeks, was the large N loss in fertilizer-only pots compared to unfertilized biochar pots with or without mycorrhizae (p<0.05).

Figure 1. Nitrogen leached at individual time points from greenhouse oats and pot soil subjected to the indicated treatments over a six week period. Each point is the mean of four leachates except in Fertilizer, Control, and Fertilizer + Biochar + Mycorrhizae treatments when n=3; error bars represent standard errors.

Trends of cumulative N lost (Figure 2) were similar to those revealed via individual time points (Figure 1), with the only exception being on week one, when fertilized additions of mycorrhizal inoculant reduced N loss in fertilized pots without biochar (p<0.05). In subsequent weeks, mycorrhizal inoculation had no effect on cumulative N loss. Pots receiving fertilizer alone exceeded all others in cumulative N leaching, followed by control and mycorrhizae pots. The addition of biochar to fertilized pots reduced cumulative N leaching to a level below that of control pots, and pots receiving neither fertilizer nor biochar leached significantly less total N than any other treatment.
shoot dry biomass, N leached did not explain variation in biomass (Figure 3, p=0.36). Excluding data representing pots that received fertilization, biochar, and mycorrhizae the relationship between total N leached and shoot biomass is significant (p<0.05, $r^2=0.6023$). The relationship between water loss and shoot dry biomass was similar: with all treatments, average weekly percentage loss of water did not explain variation in biomass (Figure 4, p=0.22). Excluding data representing pots that received fertilization, biochar, and mycorrhizae the relationship between water leached and shoot biomass is significant ($r^2=0.7383$).

**Mycorrhizal Colonization**

In spite of the periodic, significant effects of mycorrhizal inoculation described above, mycorrhizal infection of sub-samples of roots from all of the inoculated pots was not observed.

With all treatments included in a regression of total N leached versus
Figure 4. Relationship between average percent water loss each week and shoot dry biomass production. Regression: \( y = 0.8983 - 1.104; r^2 = 0.7383 \) when point representing Fertilizer + Biochar + Mycorrhizae is removed. Each point represents data from four oat plants, except in Fertilizer, Control, and Fertilizer + Biochar + Mycorrhizae treatments when \( n=3 \); error bars represent standard errors.

**DISCUSSION**

Nitrogen losses from soil were regulated by fertilizer inputs and biochar application. Though mycorrhizal treatment significantly influenced N loss on two sampling dates, overall, mycorrhizal inoculant had no significant effect on N loss. Taken in conjunction with weekly water percolation, time point data give us a valuable insight into the dynamics of N retention and loss over this six week period, while cumulative data provide a more time-integrated perspective, which is important for plant production. Water loss and N lost both described a portion of shoot productivity.

Fertilization was associated with enhanced N losses, a large proportion of which occurred in the short term (up to 50% of N applied on the first week), while biochar reduced N losses across all time points. Though the ability of biochar to reduce nutrient loss is rarely explored in the literature, Lehmann *et al* (2003) suggest that reductions in N loss from biochar-amended soils may occur as a result of “the creation of sites for electrostatic adsorption [or] the retention of soil water and therefore nutrients contained in it”. These sites for electrostatic adsorption, also referred as the cation exchange capacity, are lower in fresh biochar (as used in this study) compared to aged biochar, a difference attributed to their incomplete oxidation. It is through oxidation that biochar acquires the negative surface charges that can bind positively charged molecules such as nitrate. The use of sterilized soil may have played a role in nutrient transformations, as the normal compliment of nitrogen-fixing, ammonifying, and denitrifying bacteria were exterminated, with unknown rates of re-colonization. Biochar’s high water holding capacity also likely contributed to reduction in N loss.

Both N lost and water loss had some explanatory power on shoot biomass production. Fertilized pots without biochar, while leaching significantly more than other treatments, did not encourage greater shoot production than control or mycorrhizae pots, possibly because such a large percentage of total N applied had been leached from the soils in the first weeks (35-50%). It is likely that the greater shoot production in biochar pots, fertilized and unfertilized, was
influenced by their greater capacity to retain nutrients (but see exception below). N losses in later weeks may have been limited by the ability of soil, biochar-amended or otherwise, to retain nutrients, and/or by the diminished N remaining in soils, resulting from either leaching or plant uptake.

Differences in water retention across treatments may be explained either directly, by the porosity of biochar, or indirectly, by the growth of the oats. The interactions between water loss and plant vigor are difficult to untangle: larger root systems and bigger leaves provide greater surface areas to both absorb and transpire water, preventing its loss, while greater water retention by biochar may have allowed greater plant growth. The anomalous behavior of fertilized pots with mycorrhizae and biochar, which lost moderate amounts of water but produced the most diminutive shoots, may be attributed to their expansive root systems. Their average root: shoot ratio of 2.55 (n=3, s= 0.311) was higher than any other treatment. Greater proportional allocation of carbon in roots has been associated with mycorrhizal symbioses, and also offers explanation for their low shoot production compared to other treatments with similar N losses.

In this oat-soil system, biochar appears more influential in reducing N loss than mycorrhizae. In this study, mycorrhizal infection may not have occurred, but their presence in the soil, and their possible function as heterotrophic organisms, suggests that inoculant can influence N losses. Furthermore, mycorrhizal additions appear to have had a strong positive influence on root: shoot ratios in fertilized biochar pots, influencing shoot production and water loss. The low shoot production in these pot receiving fertilizer, biochar, and mycorrhizae was the exception in a pattern of greater shoot production associated with biochar amended pots compared to treatments without biochar. These reductions in water loss and N loss associated with biochar amended soils are important in their potential positive influence on soil fertility, water quality, and crop production.

**ENDNOTES**


2 Ibid.

3 Ibid.


6 Ibid.

7 Ibid.

8 Nadian H., Hashemi M. and Herbert, S. J., “Soil Aggregate Size and Mycorrhizal Colonization Effect on Root Growth and Phosphorus Accumulation
REFERENCES


The graphic novel, “Missouri’s Favorite Son: A Thomas Hart Benton Story,” depicts a brief, imaginary episode in which a woman and her son encounter the artist Thomas Hart Benton while he paints his murals in the Missouri capital building. He shows them the sections that relate to Kansas City, educating them (as well as the reader) about the seedy, enterprising, and ever-resourceful midwest town during the Depression.

This project serves a three-fold purpose; firstly, it provides an historical sketch of this multi-faceted city in a new -- and hopefully, more engaging -- manner than the typical text book. But the graphic novel is more than a simple historical retelling: it serves as a brief look into Benton’s conceptualization of what art can and should do. In the story, he says, “Art serves a function, just like a hammer or wrench. It records the history of the people.” Later critics consider Benton as much an important social historian as a famous Regionalist artist. He reveals the mundane and the sordid, not only the majestic; in doing so, he “shows us Missourans as we really are,” as Mrs. Collins says in the story.

The third aim of this graphic novel is to juxtapose two artistic styles -- that of comic art and mural art -- in order to compare the two. Comics and murals are essentially populist and accessible; both are deeply entrenched in the American art scene. These art forms also share the same downside -- they tend to lack vitality and sag toward the lowest common denominator: in an attempt to speak to everyone, they speak to no one. “Missouri’s Favorite Son” is a subtle but pointed critique: the most effective art challenges us to expand, to grow, and to better understand ourselves as humans.

BIBLIOGRAPHY


Missouri's Favorite Son

A Thomas Hart Benton Story

Story and Art by
Bethany Christiansen
© 2009-11
I just hope they don't ask any questions.

It's too damn hot. I shouldn't have to put up with this.

I should put up another notice. Say: no talking allowed.

Notice
To the visitors:
The mural cannot be changed at this save your suggestion for another day. I am glad to have them as I cannot incorporate them.

Send to Room 100

(journalist)
Mama! Why is the room all covered up?

Because he's still working on it, honey. The curtains keep the walls from getting dirty.

I guess that makes sense...

Look! That lady's putting a diaper on her baby. Ew.

Mr. Benton chooses to paint us Missourians as we really are. And lots of ladies have to change diapers.

He's a very good artist, and famous all over the country.

He can't be all that good. Everything is all wobbly.
"All wobbly, eh? That's pretty good..."

"That's just his style. Makes everything look terribly alive and real, don't it?"

"Guess so. Hey!"

Jasper! Don't you run indoors!!

Look, Mama! Indians!!

WAUGH!!

Ouch!!

Hey!!
You ok, kid?

Jasper!

Ouchhh.

It's alright, Mama.
I don't need Help.

You sure made a helluva mess here, boy.

Sorry.

But you're tough too. I'll give ya that.

We're very sorry about the disturbance, Mr. Benton.

Hmph. I reckon I lost a good couple hours of daylight here...

Still, nothin' to apologize for. I like this kid. He's a real scrapper, just like I was.

Your name's Jasper?

Now, where all are you folks from?


Kansas City, this side. We're here in Jefferson City to visit my sister.
Oh? Kansas City is an old haunt of mine. Some of the best Jazz in the country.

Which part are ya from?

Westport. My husband used to own a bookstore there, before he passed away...

They sell my favorite kind of Whiskey in Westport.

Ahh, what the heck. I've lost a couple hours anyway. What's the rush? You folks come on up here, see what I'm workin' on.

Oh, I'd better not. I can't abide heights.

Hmph.

Wowee!
This one in front of us is the story of Frankie and Johnny. Frankie caught her husband, Johnny, cheating. She shot him in a bar.

But here's what I wanted to show you. The Kansas City part of the mural.

First, you see the slaughterhouses that made KC a boom town.

...back around 1880s or so.

The town was built on the sweat and blood of the men who worked in the stockyards.

The neighborhood is called the West Bottoms. They ship cattle in from Abilene, Leavenworth, even as far as Texas.

If it weren't for the meat-packing industry, Kansas City wouldn't be here today. But some folks wanted it to be known for more than comes...
There you see one of the many dancing girls that keeps the jazz district going. She also keeps the businessmen happy... I tell you, I put her in more clothing than I usually saw.

Now, this whole mural I'm doing here in the capitol building...

I'm calling it *A Social History of the State of Missouri*. Missouri is made up of a lot of regular folks, hard-working folks, and that's what I'm trying to show. I'm trying to get at the truth of it, how Missouri really is. But that means it's got to have women diapering babies and slaughterhouses and show girls. And that's going to make some folks pretty mad, I reckon.

But what I think will make them the maddest will be this character right here. Tom Pendergast.

No, I don't mean that guy standing up reading the paper. That's just the mayor — a powerless man in the grand scheme of things. I'm talking about the one sitting down there in front.

They call him "Boss" because that's what he is. He's in charge of the entire city — the businesses, the housing developments, the gambling and liquor and the politics. He's even in charge of the police. Tom's Town, they call it.

Hehheh... Pen is mightier than the sword, eh?
Wow. I had no idea it all meant something...

Of course it does. Art has a function, just like a hammer or wrench.

It records the history of the people. Our ancestors could uncover this mural in 500 years and would know just how we had lived. Remember that.

Anyway, it's getting late, and your mama's probably wanting to head home.

Thank you, Mr. Benton. Good luck with the rest of the paintings.

That was very kind of him, wasn't it, dear?

I want to be an artist when I grow up, just like that guy.

Missouri's Favorite Son
“Hades” is a short graphic novel that reinterprets the sixth chapter of James Joyce’s Ulysses in light of Dante’s Inferno. Descent into a pit, animal symbolism, guilt and condemnation, and the implications of death form a few of the themes I address in the booklet. The sixth chapter of Ulysses details the journey of the protagonist, Leopold Bloom, and three other men as they ride in the funeral procession of their mutual acquaintance, Paddy Dignam. As they travel, Bloom’s convoluted internal narrative touches on subjects such as suicide, the death of his infant son, his estranged wife, and the many forms and consequences of death.

I chose to do “Hades” as a graphic novel because the medium multiplies interpretive possibilities, rather than limiting them. The author can intentionally place visual clues to interpretation when the narrative requires silence. Conversely, the author can allow the literal narrative to take a leading role when the story moves into a realm not easily pictorialized. In “Hades,” I tried to recreate the disorienting experience of reading Ulysses. Joyce never allows the reader to get “comfortable” with the text, preferring that the reader be buffeted about, as it were, just as Odysseus himself is.

Although graphic novels representing Ulysses have been created before, “Hades” breaks away from a straightforward retelling: it is a unique artistic creation in itself. As such, I hope to inspire my audience to discover, perhaps for the first time, Ulysses and Inferno.

**BIBLIOGRAPHY**


HADES

story and art
by Bethany Christiansen
based on James Joyce's
Ulysses
"Who is this who dares to go without death through death's kingdom?"

"Behold the beast with the barbed tail, that flies over mountains and breaks weapons and walls. Behold that which corrupts the entire world."
Waxlike. Only the fat though.
Wonder if it sanitizes. Keeps the maggots out.

They say many famous people have committed suicide.
The mark of a great artist.
That kind of temporary insanity.

Great weakness you mean.

Unforgivable.

Murder of oneself no less a crime, but the thing is, that it’s not punishable.

Do you suppose they become bushes or trees perhaps in the afterlife? Given a different sort of body.
Didn’t like the one they had... or they disappear, nobody at all anymore, no resurrection. Hmm...

No body to come back to.

Just twigs and branches and leaves.
Bleed if you break them. Scream too. Met him pike hoses.

Paper wrapped lump. Lemon-scented. Not lemon-scented when we go. Certain conditions underground, the body turns by saponification.
Wretched lot of crumbs in this carriage. Do you suppose...

Someone's been eating a thing or two in here.

Metamorphosis. Transformation of the body. A different kind of life. Like making love in among the headstones. Turns them on, you know...

Then life sprouts in the belly. Death to life to life.

A tree sprouts from the ground. Suicides become trees in death perhaps. Like my father:

My little one who never made it to wear the Eton suit. Only eleven days old.

Come into the world screaming bloody wizened and purplish, toothless mouth gasping first time. Sucking in air just to protest.
No easy way out. Suffering from Mother and child just breathe clear that's it. In through your nose out through your mouth.

Then once the thing is over and there you have it the mauve little protestor hiccuping in the shoebox. The little white coffin just the size of a shoebox too.

Molly didn't sleep much then. Cried for a few days. Breasts shrunk again because the milk was extra. Still beautiful though, great full buds beneath the towel as she walked from the bath.

Firm limbed fertile full breasted. Strong legs too.

Prize heffer.
Why the hell have we stopped?!

It seems they're driving cattle across the road...

Cattle? I wonder that they're like a kind of lost children.

Tribe of helpless.

But to take them out to feed them wandering, herded, rather hope they don't fall into chasms.

Unfortunate Exiles.

From Africa, I suppose down south, the heat makes their hair short can go so long without water then store it up in their backs as do camels. Taken in docile, staggering bob.
Mothers like shepherds of necessity and necessity takes them to slaughter. Economic exchange the needful slaughter of innocence.

Ruminate from at least four stomachs and to chew their cud mouthfuls and churn it like we do thoughts.

Should improve the good absorption of nutrients into the linings of the colon or or the that takes vitamins and such?

They say that growth of fingernails and hair continues after death. Digestion too, if food was in the guts.

I wonder what makes it keep growing...
I HAD NOT THOUGHT
DEATH HAD UNDONE
SO MANY.
We fear the descent.

Drowning not a pretty death; purple, a bloated floatsam.
Heart bursts in the chest.

Shudder to think that’s the way I go in the end.

Wonder what it is we see once the light of the eyes dims—tunnels like under trains or perhaps...

...like staring down into the nine-layered abyss. Final descent of the spirit.
The pain gone. Like stumbling down a long crooked crumbling road alone or maybe with the thousands others gone that day too. Thick-legged stumping one by one down the chute, the bright gleaming light towards God knows what.

Body fades.
A release.

Or just darkness, the end of the line.

Last train.

Patrick R. Dignum
And look at the jolly fellow!

? Squeak!!

Quite content to waddle down in broad day and wriggle under the plinth...

Good deal for him - the old hand knows what to do.

Just free meat to him,

Crumbling maggot-infested cold and oozing thick coated with slime.

Circle of Life, my friend.
The German women who survived the Second World War are often characterized by the familiar images of long lines of women digging the country out from underneath the rubble. However, their contributions to the rebuilding of Germany reach much further than the act of physically rebuilding the country. The sacrifices required of them for the survival of their families and themselves were tremendous. They had the responsibility of keeping what remained of their families together during the war and then shouldered the task of keeping them alive in its aftermath. Germany was left decimated on many levels and while the nation tried to rebuild itself and begin to come to terms with the devastation caused by the war, its people were left to try moving forward with their lives. Women were at the forefront of this attempt to reestablish a sense of normalcy in the lives of their families. As they struggled to do this, they faced many challenges resulting from the consequences of the war. The war on the battlefield ended long before the war at home ended for women. The challenges they faced culminated in their realization that they too have made important contributions to their country and that the myth of “man” is just that, a myth. As a result, the idea of what women’s roles meant for society changed. Their sacrifices gained them social and political acknowledgement. By the 1950’s German politicians were attempting to transform important women’s issues into ones that affected the larger German society. Women’s experiences during the reconstruction period in Germany led to a change in their perceptions of the family and the role of men and women in family.

A Woman in Berlin, written by an anonymous young journalist in Berlin in the spring of 1945, is a record of one woman’s experiences with some of the common challenges facing women at the end of the war. First published in German at the end of the 50’s, the book was not well received because the journalist chose to address the rapes that occurred in 1945 in Berlin. This was a topic that had quickly become taboo in Germany. At the author’s request the journal was not published again until after her death in 2001. Although the intended audience of the journalist is unknown, she has written a valuable historical record describing life in Germany in 1945. She describes problems that women faced such as, housing shortages, widespread hunger, conflict in relationships and violence against women. These problems remained a part of the lives of women throughout the 40’s. The journalist’s writing reflects a change in how women viewed their male counterparts and themselves.

Under Nazi rule German women lived under the Kinder, Küche, Kirche ideal, which encouraged them to stay out of the workforce in order to care for their family. They were expected to remain housewives, produce babies and care for their husbands and children. Goebbels described the role of women to be “…beautiful and to bring children...”

into the world.” A good German woman was a mother of many; to emphasize the importance of this role Hitler awarded the Mother’s Cross to those women who fulfilled their duty honorably. However, as the war continued and more men left to fight, and as the economy worsened, women were forced to take over those roles deemed by the Nazi party as belonging to men, such as working and providing for the family. By the end of the war the shortage of men meant that women would have to continue caring for and providing for their families alone. Amidst the destroyed buildings and broken streets, women did everything they could to survive. According to historian Elizabeth Heineman, this was the time when women truly learned what they were capable of doing. They had already learned that they could work both outside and inside the home, but when forced to survive air raids and the constant need to move their families around to keep them safe, they truly discovered their strength.

In postwar Germany poverty was a major concern for women as they struggled to find adequate housing for their families. Housing was difficult to find because of the destruction prevalent in so many cities. A report written by President Herbert Hoover stated that approximately 25% of the housing in cities in the combined British and American zones had been destroyed, leaving people to live in the rubble. The city of Hamburg, for example, lost 55-60% of its buildings during bombings in 1943. At the end of the war, it is estimated that as many as 14 million people were homeless. Rebuilding started soon after the war ended but because of the large amount of damage to cities, it took many months to complete. Women and children found themselves living in partially destroyed buildings because they had nowhere else to go. Klara Steiner, a woman living in the Kreuzberg district of Berlin with her children, moved back into their apartment at the end of the war but found it so badly damaged that they were only able to live in the kitchen.

The shortage of adequate housing made it necessary for many families to share living space with other people, like the young journalist. Her experience mirrors reality for many women during this time. After bombs destroyed the part of the building containing her apartment, the journalist moved in with a neighbor and her friend. This situation only worked as long as her relationship with a Russian officer provided them with enough food to survive. Once the officer left, she was forced to move out. It was not uncommon to find multiple families living together in an apartment or house that may have housed a single family before the war. They lived in spaces too small to house the number of people in their families. Children were often restricted in their play. The meaning of private property changed as people fought to use anything they could find

2 As reported in Claudia Koonz, Mothers in the Fatherland (New York: St. Martin’s Press, 1987), 56.
4 Herbert Hoover, The President’s Economic Mission to Germany and Austria: Report No 1
5 German Agriculture and Food Requirements (Washington, DC: GPO, 1947) 3.
6 As reported to Meyer and Schulze, Wie Wir das Alles Geschafft Haben, 23.
to survive. This type of living situation did not ease the burdens of women; it only made life more difficult for them.

Food shortages, problematic during the war, continued to affect women and children after the war. Restrictions may have started as early as late August 1937, although German citizens fared better than people in nations that Hitler’s armies occupied. However, once the war ended, the exploitation of these occupied countries also ended and in Germany hunger became an ever-present problem facing everyone. The journalist wrote as she was suffering from hunger, “[a]ll thinking and feeling, all wishes and hopes begin with food.” Other women describe how they went without food so that their children would have more to eat. In the West German occupied zones, the rationing system utilized by Hitler during the end of the war was kept in place. The population was divided into different groups based on differences in employment and family situation. Each group was then assigned a specific amount of calories they were able to receive. Housewives were placed in the category that received the least amount of food rations, while nursing mothers were placed in a slightly elevated category that provided slightly more provisions, like fat. However, under the ration system, people were still forced to live with very little food: “Berlin housewives could claim a daily ration of 11 ounces of bread, 14 ounces of potatoes, 1 ounce of grain, 2/3 ounce of meat, and 1/4 ounce of fat.” According to historian Manfred Enssle, calorie intake never went higher than 1,500 calories per day.11

Hoover’s report on the living conditions of Germans states that the lack of food caused cases of starvation in children and women. Despite the lack of food, women managed to support their families. They did everything they could to secure food, including bartering, buying on the black market, and traveling to the countryside where they could purchase food from farmers. A Woman in Berlin documents how, after a horse was seriously wounded, people desperate for meat, “sliced and dug at the first spot they found.” Furthermore, programs such as CARE were established by other countries, specifically to aid the survivors of the war by alleviating some of the massive hunger among people.14 These types of programs, along with the black market, were vital for survival.

Along with meeting the basic needs of their families, women also had to fear for their own safety and that of their female family members and friends. Occupying Soviet forces posed a large threat to German women and girls in the eastern part of the country. As soldiers entered cities, women reported horrifying experiences of rape, many were raped multiple times. According to historian Atina Grossmann, after the war roughly 60% of the inhabitants of Berlin were women. Her research indicates that the number of rapes in Berlin could have been as high as one out of every three of the one and a half

---

7 Enssle, “The Harsh Discipline of Food Scarcity in Postwar Stuttgart,” 482.
8 Anonymous, A Woman in Berlin, 3.
9 Reported to Meyer and Schulze, Wie Wir das Alles Geschafft Haben, 54.
10 Heineman, “The Hour of the Woman, 374.
12 Hoover, The President’s Economic Mission to Germany and Austria, 7-9.
13 Anonymous, A Woman in Berlin, 164.
14 CARE organization website http://www.care.org/about/history.asp.
million women in the city.\textsuperscript{15} Rape is the major theme in \textit{A Woman in Berlin}. The author kept records on scraps of paper, documenting her own encounters with Russian soldiers during 1945. She describes how when she grew tired physically and emotionally from being repeatedly attacked, she realized that agreeing to sleep with one officer as often as he wanted could offer her protection from other men. This tactic was utilized by other women and helped to save them from further violence. There are many reports of women hiding neighbors, daughters, and others in crawl spaces and tiny attics to save them from the Soviet soldiers. Some women write that, if a small child was present, a woman would be left alone. Others, like a woman with whom Grossmann talked, described how she tried to save her young 10-year-old daughter from the soldiers by offering herself in place of the girl. Sacrificing herself was the only option she could think of to save her child. Another mother talks about how her fear for the safety of her child, who slept in the same room, allowed her to survive repeated attacks.\textsuperscript{16}

Rape also brought the inevitable concern of becoming pregnant into the forefront of women’s minds. The journalist said while talking about this topic with another woman, “I’m simply convinced it couldn’t happen to me. As if I could lock myself up—physically shut myself off from something so unwanted.”\textsuperscript{17} Women had few choices if they became pregnant, have the child or try to get an abortion. In 1928 abortion laws in Weimar Germany had been amended to include what is known as Paragraph 218, which in simple terms banned abortions except in cases where it was suggested for medical reasons.\textsuperscript{18} The purpose behind this law was to encourage population growth. This became a prioritized goal for the Weimar government and the focus of many public relations campaigns. Later, under the Nazis, abortion laws were tightened even more, making it absolutely illegal to perform abortions on Aryan women. Anyone not in compliance with this law faced serious repercussions. According to one woman, this could include being sent to a concentration camp.\textsuperscript{19}

The exceedingly large number of women who had been raped in the months following the war forced political leaders to confront abortion laws in order to protect women. Paragraph 218 was suspended in 1945, allowing women who were raped and were pregnant as a result of the attacks to have an abortion. Many women recounted what happened to them to authorities and were able to have an abortion, no matter how far along their pregnancy was.\textsuperscript{20} The issue of abortion rights is an example of how women were able to advocate for themselves after the war. Grossmann writes that “[w]omen matter-of-factly and pragmatically asserted their right to terminate pregnancies that were not socially, economically, or physically viable—in the name of saving the family or preventing the birth of an unwanted

\begin{itemize}
\item \textsuperscript{15} Atina Grossmann, “Trauma, Memory, and Motherhood: Germans and Jewish Displaced Persons in Post-Nazi Germany, 1945, Archiv für Sozialgeschichte 38 (1998): 217, 220.
\item \textsuperscript{16} Grossmann, “Trauma, Memory, and Motherhood,” 222.
\item \textsuperscript{17} Anonymous, \textit{A Woman in Berlin}, 73.
\item \textsuperscript{18} Atina Grossmann, \textit{Reforming Sex} (New York: Oxford University Press, 1995), 8.
\item \textsuperscript{19} Alison Owings, \textit{Frauen: German Women Recall the Third Reich} (New Brunswick: Rutgers University Press, 2007) 345.
\item \textsuperscript{20} Grossmann, “Trauma, Memory, and Motherhood,” 221.
\end{itemize}
or unfit child."

Abortions were only legal, however, for victims of rape, and after 1946 the laws banning them were reestablished. Even though the law was suspended for a short time and was then reinstituted, a continued conversation and debate over abortion and women’s rights continued in both East and West Germany. Although this created a great deal of controversy within the country, it also created a climate in which women were able to push women’s rights.

These traumatic experiences became part of the collective memory of the women who lived them. Experiencing rape forced women to confront issues they had not previously dealt with publicly and brought them together to deal with the attacks. The journalist wrote, “this mass rape is something we are overcoming collectively as well. All the women help each other by speaking about it, airing their pain, and allowing others to air theirs and spit out what they’ve suffered.” Healing came in part because these women were able to work through their experiences together and because they understood what it meant to survive the attacks. However, women received little support from men, who were themselves devastated by these attacks on wives and daughters. Men did not always know how to help women who survived rape. Having either heard about what Soviet soldiers were doing from other people or from their female family members, the topic of rape became taboo when men returned home and remained taboo until the 60’s. Other men witnessed the raping of wives and daughters with their own eyes as soldiers entered homes, bunkers and other buildings.

Gerd, the boyfriend of the journalist, upon learning that she had been raped, became angry and said to her, “You’ve all turned into a bunch of shameless bitches, every one of you in the building...[i]t’s horrible being around you. You’ve lost all sense of measure.”

His reaction to these traumatic experiences is representative of the reactions of some of the men related to women who were raped.

The stress created by the fact that not all men were able or willing to fully readjust to life after the war, produced a rift in relationships between men and women. When men did return home, they were often sick or injured. They did not always understand the sacrifices their families had made to survive. They came home and found strong willed women who had become very skilled in surviving with very little. Heineman writes, “Men’s disappointment in their inability to make themselves indispensable expressed itself in sullenness and irritability, adding to wives’ emotional work.” Men struggled to find their place in their families and in society when they returned home from fighting. Also because they had not been at home during the war, men did not know how to function in the changed society, which caused women to alter how they viewed them. Men were, in some regards, helpless and very much dependent on their wives.

Women’s experiences after the war changed their perspective of men. The journalist describes seeing German soldiers coming back from the Russian front and realizing that she viewed men very differently than she had before the

---

21 Grossmann, Reforming Sex, 194.
22 Anonymous, A Woman in Berlin, 147
23 Anonymous, A Woman in Berlin, 259.
25 Heineman, 122-123.
war; she was not alone in how she felt. In her own words, she describes the change that began to take place in women as they realized that the world run by men, the world in which they had been living, was coming to an end:

We feel sorry for them; they seem so miserable and powerless. The weaker sex. Deep down we women are experiencing a kind of collective disappointment. The Nazi world-ruled by men, glorifying the strong man- is beginning to crumble, and with it the myth of ‘Man.’ In earlier wars men could claim that the privilege of killing and being killed for the fatherland was theirs and theirs alone. Today we women, too, have a share. That has transformed us, emboldened us. Among the many defeats at the end of this war is the defeat of the male sex.26

Women no longer saw the country as belonging to the men; it also belonged to women. This new knowledge empowered them and gave them a sense of pride. Hitler’s belief that women had no place in politics and in society other than to produce children and care for husbands was shattered. The same author writes about the problem of being an intelligent woman in Germany and having to downplay her own intelligence when she was around German men, who “always want[ed] to be smarter, always want[ed] to be in a position to teach his little woman.”27 As the war ended, this changed for women like Anne-Marie Fabian a divorced woman, who wanted nothing more than the chance to study. After the war she was finally able to attend college at the age of thirty, despite working long days and having a child to care for at the same time.28 She was set on succeeding in her pursuit of education. Women like Anne-Marie emerged from the ashes strong and determined to live. Women’s sense of empowerment and the change in how they perceived their own place in society exemplify ways in which the war changed how they viewed themselves.

The difference in women’s perceptions of the importance of marriage between the beginning and the end of the war was another effect of the war. As divorce rates rose, the number of young women remaining single increased, challenging the institution of marriage. It was women who were questioning marriage in ways they had not done previously. Before the war it was much more common for a man to ask for a divorce than a woman. After the war women began seeking divorce more often than they previously had.29 Sociologists Meyer and Schulze report that in Berlin, for example, divorces rose from 12,644 in 1939 to 15,363 in 1948.30 They report that West German divorces reached a high of 84,780 in 1950.31 After the war women hoped their husbands would come home and help them provide for the family. When their husbands came home, they were often unable or unwilling to help, adding a great deal of strain to already struggling

26 Anonymous, 42-43.
27 Anonymous, 118.
28 Inge Stolten, Der Hunger Nach Erfahrung: Frauen nach 1945 (Frankfurt am Main: Fischer Taschenbuch Verlag GmBH, 1983), 53-54.
29 Heineman, What Difference Does a Husband Make?, 123.
31 As found in Giesela Helweg and Hildegard Maria Nickel, Frauen in Deutschland 1945-1992, (Berlin: Akademie Verlag GmBH, 1993), 171.
marriages. For example, Charlotte Wagner, who lived in Berlin, experienced problems in her marriage when her husband returned from the war physically and mentally exhausted. He came back from battle in 1946, at the same time his wife and son were living with her mother. Charlotte recalls that her husband refused to do even those tasks normally seen as men’s work, while she worked outside the home, cared for him and the baby, and completed all of the housework. They eventually divorced because of the tension that developed between them. Men’s inability to function in the world made them an added burden for women to carry and added tension to already strained marriages. Many marriages did not survive these conditions.

An increase in social and political recognition and awareness of women’s sacrifices during the period of reconstruction is an important development in the 50’s. As life returned to normal, an increasing number of women began reporting health problems relating directly to the difficult circumstances they had faced. A pamphlet published in the early 50’s by convalescent homes for women stated: “The results of two wars, unemployment, inflation, the loss of home required almost inhuman capabilities from women.” These inhuman capabilities left their mark on many women. Carpenter believes that “women who sacrificed their own welfare to feed, clothe, and house their children as well as to care for husbands who had returned home disabled” encountered conditions that, “proved so debilitating that countless women suffered from illnesses ranging from insomnia to malnutrition.” Else Heuss-Knapp, wife of the first president of the Federal Republic of Germany, announced in 1950 that she was establishing a convalescent home for women. Various social and government entities, like convalescent homes, began to recognize that women had suffered a great deal, resulting in both physical and mental ailments that if not addressed, would place the already weakened family unit in jeopardy.

The initial idea behind the establishment of these facilities was to protect the family. Political and social views on the importance of the family and the role of mothers in the family were reflected in the creation of places like convalescent homes. To accomplish this, convalescent homes gave women a place where they could go to recover and rest for four weeks before returning home healthy to fulfill their duties as wives and mothers. It was believed that mothers were a vital aspect to a healthy family. Else Heuss-Knapp writes, “Whether there is darkness or light in a family depends entirely upon the mother.” For women, these convalescent homes acknowledged that they had needs that had been put aside while they cared for families. They were available to all German women for the purpose of taking time for themselves to rest and heal. Organizations like this helped women to overcome the immense challenges that they had dealt with for several years. They were a sign that the nation recognized that women came out of the war with their own battle scars, even if they were not always visible.

32 As reported to Meyer and Schulze, Wie Wir das Alles Geschafft Haben, 52-53.
34 Carpenter, “For Mothers Only,” 865.
35 Carpenter, “For Mothers Only,” 867.
For German women, the years immediately following World War II meant survival in the face of chaos and change. These years meant hard work, little food, poor living conditions, stress and fear for women. They carried their families through this time, despite the many obstacles that stood in their way. The sacrifices they made for their families’ survival are part of their contribution to the rebuilding of their country. Although there were a myriad of issues that they had to deal with, the change in how they viewed themselves and their role in society, marital problems, poverty, and violence all greatly impacted them. These were only a portion of the battles they faced during the rebuilding of their nation, and women often faced these trials alone. Many men did not return home from the war and others returned home after spending years in POW camps and battle but did not know how to readjust to life in a vastly different society than the one they left. This left the burden of caring and providing for the family on women’s shoulders.

The result of their experiences was their discovery that they had a voice and a right to be heard and acknowledged. Although it would take many more years for them to achieve full equality in Germany, their experiences at the end of the war showed their country that they could do more than just give birth to new life. With their sacrifices, women bought themselves more recognition from society for their social achievements and their role within the family. Despite the decision of many women to return to traditional gender roles during the 50’s, the war and its aftermath permanently altered gender relations. During this time both in West and East Germany, governments began to look seriously at women’s issues and to start making adjustments to laws and social structures to included women’s rights. This is a direct result of the challenges women overcame during the postwar years. They learned that world belonged just as much to them as it did to men. They came through this refiner’s fire with a stronger sense of purpose in a world once dominated by man.

BIBLIOGRAPHY


On January 14, 1857, George Lewis wrote to John and Lucy Fitch at the request of their son, Edward, to describe the violence and lawlessness that pervaded the Kansas Territory. Lewis had recently lost his home and all of his possessions in the aftermath of a proslavery attack on the city of Lawrence. After explaining the extent of his loss and the crimes committed by the “border ruffians,” Lewis proclaimed, “we hope for a bright future in Kansas. The proslavery party is busy at work, devising ways and means to make this a slave state: but it is too late in the day. It must be made a Free State. It shall be a Free State.”¹ This impassioned rhetoric concerning the fate of the state translated into the letters and diaries of numerous antislavery settlers. Many white emigrants, on both sides of the ideological divide, argued that Kansas held a unique and powerful position in its ability to decide the slavery question. The events of the territorial period and the ultimate entrance of Kansas into the Union in 1861 ensured that the legacy of Bleeding Kansas survived into the post-war period as the founding doctrine of the “free state.”²

This simplified and celebratory version of the territorial era has been discussed by historians in various ways. In a piece on Reconstruction violence in Kansas, Brent Campney claimed, “state leaders began promoting a Free State narrative that depicted Kansas as a land of freedom and justice,” particularly in contrast to the South.³ By focusing on the elements of race and gender, Kristin Oertel added to the argument that Free-Staters had to consider “the presence of both blacks and Indians in...their rhetorical discussions about slavery, freedom, and racial hierarchy.”⁴ Kim Warren, studying the late nineteenth and early twentieth century, termed it the “symbolic power of Kansas,” extending it beyond the territorial era and arguing, “for more than a century, Kansas has drawn people from across the nation to struggle with contentious issues that reflect problems throughout the country.”⁵ Clearly, the “Free-State” myth (as this work will refer to it) influenced movements and groups of people far beyond those who fought in the battles of Bleeding Kansas.⁶ By examining the origins and limits of the myth and extending it beyond the territorial era, I argue that the founding doctrine of the state was not the “Free-State” legacy of Bleeding Kansas, but instead a racial hierarchy that defined the limits of the myth as it encountered two racially-diverse populations in a period of forty years. Beginning with the struggle to colonize and remove the Delaware in the pre-territorial period, coupled with efforts to repress and restrict the black in population in the statehood era, white Kansans illuminated the violent

¹ George Lewis to John and Lucy Fitch, Jan. 14, 1857, Edward Fitch Collection, Kansas Collection, RH MS P249, Kenneth Spencer Research Library, University of Kansas, Letter No. 21.
² Brent M.S. Campney, “Light is Bursting Upon the World!”: White Supremacy and Racist Violence Against Blacks in Reconstruction Kansas,” The Western Historical Quarterly 41, no. 2 (Summer 2010): 178-179.
³ Kristen Tegtmeier Oertel, Bleeding Borders: Race, Gender, and Violence in Pre-Civil War Kansas (Baton Rouge: Louisiana State University Press, 2009), 5.
⁵ The terms “narrative” and “legacy” will also appear throughout the work, but will always refer back to the myth as discussed by the aforementioned historians.
complications that arose when a “Free-State” legacy clashed with a hierarchy of race.

Organization of Chapters
In chapter one, the Delaware people emerge as a representative tribe that encountered cultural colonization in the pre-territorial era, yet raised successful forms of resistance that allowed for the maintenance of sovereignty. The various forms of cultural violence that the tribe faced necessitates that the definition of violence expand to include these equally damaging and destructive forms of white aggression. Similarly, the resistance posed by the Delaware people demonstrates the agency and presence of the tribe throughout the three phases of the state’s history. While scholars have recognized Native tribes in the context of the pre-territorial period, they often disappear from the historical narrative when John Brown arrives and the territorial disputes erupt. Violence against Native peoples seems to come to a screeching halt at the exact moment when whites began fighting whites in battles that foreshadowed the national struggle.

While the importance of Bleeding Kansas cannot be denied, it must be examined as not only a struggle over Free Soil, but also, as Elliot West proposed, a question of “nonwhite peoples already there, racial outsiders beyond the government’s reach with no obvious part to play in the national life.” By exploring these violent interactions in the pre-territorial, territorial, and even statehood eras, I propose that the hierarchy entrenched itself in the minds of white Kansans as the preferred policy towards groups with competing claims to Kansas soil.

In the second chapter, the theme of violence endures as North and South collide in the isolated, yet destructive episodes of Bleeding Kansas. The rhetoric surrounding the aggression adopted an ideological tone and resulted in the white-on-white political violence that has become synonymous with the period. The individual, in this case Edward Fitch, becomes central as the definition of violence

---

6 Kohn, Margaret, “Colonialism,” The Stanford Encyclopedia of Philosophy (Summer 2010 Edition), Edward N. Zalta (ed.), http://plato.stanford.edu/archives/sum2010/entries/colonialism/. The Stanford Encyclopedia of Philosophy defines colonialism as follows: “When a power exploits a lesser power and uses the lesser power’s resources to strengthen and enrich the greater power.” Due to its equally threatening and damaging nature, I extend this definition to include threats to culture and identity, as well as physical and property-based aggression.

7 This phenomena is contributed to by the aforementioned work by Oertel, who discussed the impact of “redness” on attempts to define white identity in Kansas. However, the author mostly relegated Native peoples to the pre-territorial era, failing to fully consider the impact of the Native population in light of the pivotal events of the 1850s.

8 West, 12.
9 For an excellent account of the many intrusions of whites upon Native lands see: Craig Miner and William Unrau, The End of Indian Kansas: A Study of Cultural Revolution, 1854-1871 (Lawrence: Regents Press of Kansas, 1978)
11 Some of defining scholarship on Bleeding Kansas, particularly in reference to this thesis, is the abovementioned work by Kristin Tegtmeiër Oertel. Also see Nicole Etcheson, Bleeding Kansas: Contested Liberty in the Civil War Era, (Lawrence: University Press of Kansas, 2004). For an exhaustive work on Kansas history see, Craig Miner, Kansas: The History of the Sunflower State, 1854-2000 (Lawrence: University Press of Kansas, 2002).
“liberty” and the “Free State” narrative were created and contested during the mid-1850s. Fitch, as an active “Free-State” member, proved indicative of the party mentality when he heralded “liberty” as a cause in the territorial fight, yet simultaneously participated (both directly and indirectly) in the cultural and physical violence being carried out against the Delaware. The “Free-State” claim, made in the midst of Native colonization and removal, proved contradictory as white settlers disregarded indigenous groups in their conception of the state as a beacon of national freedom. Instead, the effort to obtain Native lands defined “liberty” in Kansas in racialized terms. The ideological battles manipulated the limits of that definition, though it never extended beyond the confines of the racial hierarchy upon which settlers, like Fitch, had constructed it in the pre-territorial era.

As the first to challenge to the “Free-State” legacy, the third chapter examines the Exodusters who fled the failed Reconstruction of the South for a “free” Kansas in 1879. This group is often portrayed in terms of the atrocities they faced in the South and the effect that had on their massive emigration to Kansas in the late nineteenth century. In terms of how this oppressed population fared in the “land of Old John Brown,” the consensus seems to recognize only race-based violence as it compares to the Jim Crow South, defined by a scale that is a direct product of Southern Reconstruction.12 When the former slaves arrived in the state, many whites Kansans utilized social, political, and economic discrimination to push the black emigrants out in an effort to maintain white dominance. Though many white settlers proudly claimed a “Free-State” legacy, what emerged in the post-war years was a state marked by attempts to justify and defend a set of racial beliefs established in the pre-territorial era.13 As the Exodusters poured into the state, white Kansans took violent and repressive measures in order to reassert the racial hierarchy and ensure white supremacy, thus effectively disproving the “Free-State” narrative.14

Taken together, these three chapters aim to expand the discussion of violence and subjugation in Kansas beyond the territorial era, reveal the racially-based justifications that supported these exchanges between whites and nonwhites, and explore the nature of white identity as it progressed through three phases of the state’s history. As Native populations encountered white missionaries, federal agents, and settlers, cultural and physical violence, justified by a set of racial beliefs, was entrenched in the state’s tradition before (and after) it bled in the name of “liberty.” When the territory entered the era of the Kansas-Nebraska Act, white identity shifted and antislavery settlers began imagining the state as a vanguard of “freedom” and “liberty,” while simultaneously colonizing and removing Native populations. The myth of the territorial era – crafted by settlers like Edward Fitch – was embraced by white Kansans in the post-war years, and then challenged by the Exodusters who, in their quest for freedom, resurrected the racial hierarchy and the return to violent measures.

The ‘Color Line’ in Kansas, 1878-1900,” The Western Historical Quarterly 14, no. 2 (April 1983).
14 For the primary scholarship on the exodus see: Robert G. Athearn, In Search of Canaan: Black Migration to Kansas, 1879-1880, (Lawrence: Regents Press of Kansas, 1978). And Nell Irvin Painter, Exodusters: Black Migration to Kansas after Reconstruction (Lawrence: University of Kansas Press, 1977). Painter ends her chapter on the Kansas Fever Exodus by arguing that the Exodusters fared well in Kansas when compared to their experience of the violent South. The work focuses mostly on their reasons for leaving and spends limited time discussing their experience of Kansas.

12 West, 12-13.
13 For a discussion of blacks in Kansas see, Randall B. Woods, “Integration, Exclusion, or Segregation?
Black Gold Rush in the Near East: A Century of Oil Relations

Chelsea Cooley

Over the course of the twentieth century, the discovery of oil in Saudi Arabia caused the United States and the United Kingdom to make military and foreign policy decisions based on the need to secure a steady supply. The Gulf States also made political decisions based on the desire to maintain the enormous influx of wealth introduced into the region with the discovery of oil. Both the US and the UK had stakes in Gulf oil since their countrymen first discovered it there at the turn of the century. Oil was discovered in Iran in 1908 by the UK’s William D’Arcy and in Bahrain in 1932 by Standard Oil of California.\(^\text{1}\) The lives of people today in Saudi Arabia, the US and the UK are shaped by events resulting from these discoveries and the economic and military necessity for oil.

Britain needed large amounts of oil during WWI, when it used the oil-fueled military tank for the first time. The enemy German army still traveled by railway. The switch to oil-powered tanks eventually helped the Allies win the war, but eighty percent of the Allies’ oil came from Standard Oil of New Jersey (later Exxon), causing US officials to fear they’d run out of the precious commodity. The government prompted US oil companies to follow Anglo-Persian entrepreneur William D’Arcy’s lead and turn to the Persian Gulf. Unfortunately, British companies already had a monopoly in Iraq, Iran, and the smaller Gulf States.\(^\text{2}\) The British Iraq Petroleum Company (IPC) had the most holdings in the Middle East, so Standard Oil of New Jersey decided to join the IPC. Other members of the IPC included Socony-Vacuum (later Mobile), BP, Royal Dutch/Shell, and the state-owned French company *Compagnie Francaise Petrole*. All members made a pact called the “Red Line Agreement” not to embark on independent exploration without the express approval of the other members. This agreement allowed British companies to maintain a great deal of control over the Mideast oil market even with the influx of new international companies in the region. The territory outside of the “Red Line” included Saudi Arabia.\(^\text{3}\)

In 1932 the American company Standard Oil struck oil in Bahrain, and island only 20 miles from Saudi Arabia, sparking US interest in the area for the first time. Standard Oil of California (Socal) chose to operate outside of the IPC and its strict limitations on exploration. When the IPC required Gulf Oil, another American company, to sell its Red Line concessions, Socal bought Gulf’s Bahrain concession for $50 thousand. After Socal found oil, both Socal and the IPC approached King Abdel Aziz for rights to explore Saudi Arabia and possibly drill for oil. In 1933, the Saudi king gave the American company the concession rather than the British-controlled IPC because he thought Americans showed less interest than the British in colonial intervention. As payment, Socal gave the king L30,000 in gold as an interest-free loan followed by L20,000 more in the next eighteen months. The king agreed to pay back the loan in future oil revenue, if it ever materialized, and he secured for himself a yearly payment of L5000.\(^\text{4}\) Unlike all other concessions thus far,
Americans owned this one exclusively, its size exceeding the combined states of Texas, New Mexico and Arizona. Socal soon formed a subsidiary company called the California Arabian Standard Oil Company (Casoc). Suddenly, there existed an alliance between at least one major American oil company and the emerging oil-rich country of Saudi Arabia. US interest in the region only increased as Saudi oil success continued.

More American companies got involved in the growing market in Saudi Arabia as more oil emerged in the country. In 1936, the IPC denied Casoc access to its consumer markets, so Casoc chose to merge with Texas Oil (later Texaco, now part of Chevron), which controlled markets in Asia but didn’t possess enough oil to service them. The deal allowed Texas Oil 50% interest in the Casoc concession. Saudi oil fields continued to prove their worth when the well “Dammam-7” at Dhahran blew in March 1938, producing more than 1500 barrels of oil per day. Saudi Arabia quickly became a major oil player, especially in comparison to the US whose wells only produced 100 barrels per day. King Abdel Aziz’s first royalty check from Casoc exceeded $1.5 million, and he quickly augmented Casoc’s exploration space by 80 thousand square miles. The new area gave the company rights to over half of Saudi territory. In 1939, Casoc averaged 11 thousand barrels per day, and within ten years, it averaged 477 thousand barrels, accounting for five percent of total world oil production and 35 percent of Middle-East production.

The ongoing oil success in Saudi Arabia showed American statesmen that companies who depended on American oil alone stood no chance of competing with the emerging market in the Middle-East. Furthermore, Saudi Arabia remained a reliable military ally to the US and the Allies during the Second World War by providing Allied forces access to essential strategic air routes across the Arabian Peninsula. President Roosevelt also came to realize the importance of Saudi oil for US success at war. These combined factors prompted the President to create the Petroleum Reserve Corporation (PRC) in 1942 “to acquire petroleum, petroleum products, and petroleum reserves outside the continental US.” Furthermore, as a result of its proven economic and military value to the US, in 1943 Roosevelt qualified Saudi Arabia for land-lease assistance. Confidence in this decision was strengthened when Saudi Arabia provided safe passage for war supplies through the Persian Gulf waterway from the US and Europe to the Soviets. Saudis found money from land-lease assistance essential, since the usual income from Muslim pilgrims making the hajj dried up during the war.

President Roosevelt wanted the US government to have a more direct role in Saudi Arabian oil, so he asked Secretary of the Interior Harold Ickes to negotiate a deal with Casoc (which changed its name to Aramco, the Arab American Company, in 1944) allowing the US government to purchase a majority of its shares. With the US government literally owning stock in Aramco, the company’s potential for growth greatly increased. In fact, between 1944 and 1950, Aramco’s gross production of crude oil increased from 21 thousand to 548 thousand barrels per day. The growth was enormous but necessary, since the reconstruction of Europe after WWII depended on this oil. Although the US at the time only imported six percent of its oil, and Saudi Arabia provided only eight percent of that amount, Western Europe depended almost entirely on Persian Gulf oil.
In February of 1945, not only realizing the importance of Saudi oil for the war effort but also concerned by the dwindling supply of US oil, FDR met with the Saudi King Abdel Aziz ibn Saud aboard the USS Quincy on Great Bitter Lake south of the Suez Canal. FDR determined that the “defense of Saudi Arabia is vital to defense of the United States.” The meeting encouraged the Saudi leader, who remained neutral in the war effort, to officially support the Allies in March 1945. The meeting also resulted in the President’s first conversation with an Arab leader about the escalating situation in Palestine. Before the meeting ended, FDR promised not to change policy in Palestine without first consulting both Jews and Arabs. He also assured the King that he would never do anything hostile to Arabs, and put the promise in writing one week before his death in April. This promise soon caused tension between the two countries, putting US oil interests at risk.

Relations between the US and Saudi Arabia became strained for the first time in November of 1947, when the UN passed a resolution supporting the partition of Palestine. This led the way for the United States to recognize the State of Israel in May of 1948. The Presidential administration in the US initially feared this might negatively affect oil relations between the US and Saudi Arabia. King Aziz saw the action as a betrayal, but did not withdraw oil concessions, realizing that they were vital to Saudi Arabia’s economic survival. The US gave the country $99 million in aid between 1940 and 1947, and it expected only 25% of the loan to be repaid. Its financial relationship with the US also played a role in Saudi Arabia’s decision to send only a small battalion into the Arab-initiated fray in the newly-declared state of Israel, even as Egypt, Syria, Transjordan, Lebanon, and Iraq invaded the state in full force. By remaining essentially neutral, the Saudi government managed to preserve its relationship with the US. His neutrality also caused Aziz to come under attack from other Arab leaders, but the King’s focus lie elsewhere.

Aramco struck oil at Ghawar in 1948, an area soon classified as the world’s largest oil deposit, and the company needed more markets to buy its new excess of oil. It merged with American companies Standard Oil of New Jersey and Socony Vacuum, who left their IPC contracts.

The King trusted the American companies; his biggest fear was that they might one day merge with the likes of British imperialists. He remained unaware that in 1949 the US National Security Council secretly approved of a plan to destroy Saudi oil fields in the case of a Soviet attack. The CIA also secretly shipped explosives into the kingdom to prepare for this possibility. Like most foreign relations during the Cold War, US interest in Saudi Arabia was linked to US competition with the USSR, and US intentions in Saudi Arabia weren’t always transparent. However, America’s perceived power over Saudi oil was not absolute for long.

Saudi Arabia began taking interest in garnering more profit from its domestic oil supply. In 1950 the Saudi king insisted on the “50/50 Agreement,” demanding an equal share in Aramco revenue. In a clever manipulation of the US tax code, Saudi Arabia increased its profits by taxing Aramco’s profits. The code said a company operating in a foreign country could deduct the amount of taxes it paid to a host government from its US taxes. In this way, Saudi Arabia increased its profits
at no expense to Aramco.\textsuperscript{22} This seemed like a mutually beneficial solution to Saudi demands, but the trend for Arab control of Arab oil continued and became widespread. In 1951, riots in Iran caused oil to be nationalized by Prime Minister Mossadeq. In September of 1960, the Organization of Petroleum Exporting Countries (OPEC) was created at the Baghdad Conference, and its founding members were Iraq, Kuwait, and Saudi Arabia, and Iran.\textsuperscript{23}

The Iranian government proved itself a threat to independently controlled oil companies, and by 1967, the US began to question Iran’s intentions concerning oil and its relationship to the rest of the Middle East. In a conversation with US government officials, the Shah insisted he found it in Iran’s best interest to remain on good terms with Saudi Arabia. He realized oil companies shared this interest, and US interest paralleled that of the oil companies.\textsuperscript{24} However, the situation with Iran intensified in 1968 when the UK announced its intention to withdrawal military support from the Persian Gulf within the next three years. Iran expressed an interest in taking Britain’s place in the military control of the Gulf; this interest had a major connection to the oil industry since Britain’s withdrawal from the region effectively ended its commitment to aid Kuwait in case of an attack. Kuwait had large oil reserves and sat in a strategic location between Saudi Arabia, Iraq and Iran. The US government admitted in an internal foreign policy document that the UK withdrawal would end “a system which has played a major political and security role for the West in the Gulf region for a century and a half.” Twenty US oil companies based their business operations in Iran and Saudi Arabia, and these companies consistently brought large amounts of money into the US, adding to concerns for the safety of the region. Furthermore, in 1968 the Gulf produced a third of the world’s oil and two thirds of the world’s crude reserves. The UK obtained 60\% of its oil from the Persian Gulf and the US obtained 85\% of its military oil from the area.\textsuperscript{25}

US fears came to fruition during the Iranian Oil Crisis of 1973. In October, (one of) the Arab-Israeli War(s) commenced. Saudi Arabia responded to US support of Israel by instituting an oil embargo and production cuts. This caused inflation in the US and concern about foreign investment from oil producing countries. Oil companies soon found themselves in a political crossfire between Iran and Saudi Arabia, both Arab countries with economic interest in maintaining alliances with the US. Officials from the US government, including Secretary of State Henry Kissinger, met with the heads of oil companies based in the Mideast several times throughout the year.\textsuperscript{26} The US considered seizing Saudi oil fields by force, but the two countries eventually patched up their relationship through a shared opposition to communism and common economic initiatives. The US eventually made a deal to continue its oil business with Saudi Arabia.\textsuperscript{27}

The association between the US and Saudi Arabia proved mutually beneficially for both countries. Saudi Arabia’s 1973 acquisition of a 25\% participation interest in Aramco increased the country’s interest in reconciliation with the US.\textsuperscript{28} The instability of oil in other countries in the Mid-East increased US confidence in Saudi Arabia thanks to the stability of its product. In 1979, the Iranian Revolution led by Ayatollah Khomeini
caused oil in Iran to be completely nationalized, and Saudi Arabia made all its excess crude oil available to Aramco (at the expense of other customers) after the Revolution caused an oil shortfall in the US.\textsuperscript{29} The US got most of its oil from Saudi Arabia that year (1347 thousand barrels per day).\textsuperscript{30} The US continued to buy a large portion of its oil from Saudi Arabia even after the latter acquired 100\% participation interest in Aramco in 1980, buying out American companies completely by purchasing almost all of the company’s assets. (The company changed its name to Saudi Aramco in 1988.)\textsuperscript{31}

Iraq eventually surfaced as the major threat to Mideast oil stability, for the first time when it entered into a war with Iran. Conditions in Iraq directly affected US foreign policy in the region because the US considered any instability in the area a threat to US interest in Saudi Arabian oil. In September of 1980, Iraq invaded Iran to reclaim Shatt al-Arab at the border between the two states. In the process, Iraq took over oil-rich Iranian Khuzestan. Neither Saudi Arabia nor the US showed opposition to this development since neither country wanted Iran to emerge victorious from the conflict – Saudi Arabia for ethnic and religious reasons, the US because of Iran’s ties to the Soviet Union.\textsuperscript{32} Nonetheless, the 1980-88 Iran-Iraq War devastated Iraq’s economy, prior to which Iraq made $27 billion per year in oil revenue.\textsuperscript{33} In 1984, the “Tanker War” between Iran and Iraq put Persian Gulf oil traffic at risk as Iran targeted Iraqi oil tankers travelling by land.\textsuperscript{34} This prompted Reagan to secretly ship 400 Stinger missiles to Saudi Arabia after Iran targeted Saudi and Kuwaiti ships in the Gulf.

In a fateful turn of events for US involvement in the Middle East, in August of 1990 Iraq invaded Kuwait over an oil dispute. US President George HW Bush, Margaret Thatcher of the UK, and the Soviet Union’s Mikhail Gorbachev all wanted to remove Iraqi dictator Saddam Hussein from power, fearing he planned to target Saudi Arabia. An attack on Saudi Arabia would put the acquisition of oil at risk for all three countries, the US especially. The UN ordered economic sanctions against Iraq and also sent forces, led by the US, to protect Saudi oil. The action was termed operation Desert Shield. After talking to then Secretary of Defense Dick Cheney, Saudi Arabia agreed to host US troops and equipment. Secretary of State James Baker received UN backing when he proposed the UN evict Iraq from Kuwait by force if Iraq didn’t withdraw from Kuwait peaceably by January 19, 1991. On that date, with UN demands unmet by Saddam Hussein, US Congress approved the use of force in Iraq. President HW Bush announced the beginning of the Gulf War which comprised of a 38-day “Desert Storm” followed by a four-day ground assault to quickly evict the Iraqis from Kuwait. This latter leg came to be known as the “100-hour War.” In total, 303 died in the Gulf War and fewer than 500 were wounded.\textsuperscript{35} The US managed to oust Iraq and its opportunistic dictator from a country very near to its precious interests in Saudi Arabia, but US forces did not oust the dictator himself. Hussein and his imperializing interest in oil proved to be a torment to the younger Bush administration 10 years in the future, a point of significance since oil continues to sustain Iraq’s economy. On average, the commodity brings in 95\% of the country’s foreign exchange earnings.\textsuperscript{36}
Saudi Arabia put its safety from Iraq to good use by increasing its strength in the oil market, a move that was beneficial to its economic relationship with the US. Aramco became the most powerful player in the Saudi oil market in 1993, when it took charge of Saudi Arabia’s domestic refining, marketing, distribution, and joint-venture interests. Soon thereafter, the Kingdom named Aramco president and CEO Ali Al-Naimi its Minister of Petroleum and Mineral Resources. US business interest became involved in this particular concentration of power in 1998 when Aramco, Texaco, and Shell established Motiva Enterprises LLC, a refining and marketing joint venture, in the US. In 2000, Petroleum Intelligence Weekly ranked Aramco the number-one oil company in the world for the eleventh straight year based on crude oil reserves and production. That same year, Aramco established Gulf Operations Ltd to manage governmental petroleum interests in the Offshore Neutral Zone between Saudi Arabia and Kuwait.

Aramco’s success and ties to the US did not help to negate the fact that 15 Saudi nationals directly participated in the terrorist attacks of September 11, 2001 in New York City. The event caused an anti-Saudi outcry among the US citizenry. President Bush quickly tried to quell the anger toward Saudis; an administration spokesperson told reporters in October that the president was satisfied with the cooperation he received from Saudi Arabia for the “war against terror.” Nonetheless, since the September 11 attacks, Aramco went to great lengths to help assert Saudi Arabia’s modernity. The company began a program to build the King Abdullah University of Science and Technology, and in 2008 it launched a project to build the King Abdulaziz Center for Knowledge and Culture in Dhahran.

Saudi Arabia is still a major US oil partner. As of 2008, Saudi Arabia led most other suppliers of oil to the US, second only to Canada. Today Saudi Arabia owns the world’s largest proven oil reserves at an estimated 262 billion barrels. In fact, one-fourth of the world’s proven oil resources exist within Saudi Arabia, and the country relies on oil for 90-95% of its total export earnings. Other oil-rich countries include Iraq, Iran, Libya, Venezuela, and Sudan, but they do not enjoy the same partnership with the US as Saudi Arabia does. This is due in part to the fact that Saudi Arabia has proven itself a “swing producer,” putting oil on the market in times of crisis. It holds 85% of OPEC’s spare capacity.

US dependency on Saudi oil continued on from the point when Standard Oil first discovered the commodity there at the beginning of the twentieth century. US foreign policy often mirrored US oil dependence, a fact exemplified by FDR and his successors’ commitment to an alliance with Saudi Arabia and George HW Bush’s entrance into the first Gulf War. The oil market also directly impacted foreign policy in Saudi Arabia, a country that did not commit to extensive military action in the Arab-Israeli wars so as to maintain its vital oil-trading connection with the US. We see from these examples that the world as we know it today is shaped by political events from the past reflecting the global need for oil.

ENDNOTES

2. Rachel Bronson, Thicker Than Oil: American’s Uneasy Partnership with Saudi Arabia (New York:
3. Bronson, 16.
5. Bronson, 18.
17. Bronson, 52.
22. Bronson, 55.
28. Saudi Aramco
31. Saudi Aramco
32. Bronson, 163.
34. Bronson, 164.
37. Aramco
40. Aramco
42. Bronson, 21.
BIBLIOGRAPHY


Thich Nhat Hanh was a proponent of peace and nonviolence at a time when speaking of such things was illegal in the country of Vietnam. Hanh spoke and wrote against war in Vietnam and the violence perpetrated by all sides, making him unpopular among US military leaders, the NLF, and the North Vietnamese army alike. However, Hanh’s unwavering support of peace made him a hero to the Vietnamese peasantry who felt the ravages of war more keenly than any other group. Although Hanh’s stance in Vietnam caused him to be exiled from his country of birth, his efforts in Vietnam caused non-violent activist Martin Luther King, Jr. to nominate him for the Nobel Peace Prize in 1967. To this day, Hanh is still a proponent of peace and the Buddhist philosophy of compassion.

Moving the hearts of the oppressors and at calling the attention of the world to the suffering endured then by the Vietnamese. To burn oneself by fire is to prove that what one is saying is of the utmost importance... To say something while experiencing this kind of pain is to say it with the utmost courage, frankness, determination and sincerity.”

Hanh explained that Buddhists believe life is eternal and not confined to a physical body, so burning oneself can be seen as an act of creative protest in the name of one’s cause.

To understand the enormous influence of Buddhism and its leaders on the Vietnamese masses, one must understand the history of Buddhism in Vietnam. When Chinese characters were introduced into the country, Zen monks were the first to learn their meanings, causing monks to be among the most highly educated in the Vietnamese population. Their ability to read texts of various subjects won the monks a great deal of respect among the masses. Popular religion in Vietnam combines both Zen practice and that of the “Pure Land” sect which focuses on mental concentration and recitation of Amitabha (“immeasurable light”) Buddha’s name. The “Pure Land” sect has five precepts which include abstention from killing, theft, wrongful sex, lying, wrongful speech, and intoxicants. By accumulating merit and performing good deeds, a practitioner can reach the “Pure Land” of absolute joy. Zen practitioners don’t necessarily harbor belief in hell, rebirth or karma.
but rather focus on their own personal experiences and the teachings of past masters. The goal is to achieve *satori* or insight. Villages in Vietnam host both a common house where a local protector deity is worshipped and a pagoda where Buddha is worshipped. Many do not see a conflict in claiming to be Buddhist, Taoist, and Confucian all at once.

In contrast to the reverence shown to Buddhism, Catholicism was seen as a foreign religion, introduced to the country by unwelcome European invaders like the French. Fanatic missionaries were known to devalue traditional Vietnamese customs and beliefs while Buddhists sought to incorporate them into their practice. Nonetheless, Thich Nhat Hanh believed in seeking harmony between varying belief systems in Vietnam, namely Buddhism, Confucianism, and Catholicism.

It was easier for the Vietnamese to incorporate various Asian religions into one belief system than it was to incorporate Catholicism, since the Church was openly opposed to the traditional worship of sages and ancestors. Furthermore, embracing Christianity was seen as embracing French imperialism, especially with the propagation of both the Bible and the French language over indigenous Vietnamese culture. For this reason, both Buddhist and Confucian forces joined in the Royalist Resistance force against the French from 1885 to 1898. When Buddhists joined this resistance movement, monks became associated with the politics of freedom, an association Thich Nhat Hanh found natural during the Vietnam War. He would also emphasize the importance of the Buddhist youth movement, initiated in 1940, to the assimilation of Buddhism into national politics in Vietnam. This movement’s publication *Giai Thoat* (Liberation) was dedicated to applying Buddhist principles to the struggle for revolutionary change.

Revolution against French colonialism broke out in 1945, and the Viet Minh took power. Ho Chi Minh was a popular leader in Vietnam, but he brought with him many who had opposed the French and had taken refuge in communist countries like China and the Soviet Union. This caused the new regime to be immediately unpopular among those Western nations opposed to communism. Furthermore, all non-communists were illuminated from the ranks of the Ho Chi Minh government while the new minister of propaganda promoted strictly communist doctrines. Since Buddhists in Vietnam had a long history of opposition to Western imperialism but very little history of resistance to communism, Ho’s government was not initially cause for mass dissent. However, Thich Nhat Hanh was outspoken about the fact that he in no way supported the ruthlessness perpetrated by the Ho Chi Minh government in disposing of non-Communists, who he believed were potential allies. This was a main theme in his philosophy of peace: he said peace might have been possible had the focus in Vietnam not been on communism but rather on national unity against imperialism. He would later say that if such a government were to surface without the support of the NLF, the NLF would lose popularity among the peasantry.

French troops returned to Vietnam in 1946 with the attack on Haiphong. This initiated the Indochina War and the return of exiled emperor Bao Dai, a western-supported puppet leader. The
war lasted until the 1954 UN partition of Vietnam at the Geneva Conference, two months after the French retreated from Vietnamese troops at Dien Bien Phu. The UN partition was meant to be temporary, but the free elections scheduled for 1956 never took place. Instead, Premier Diem, with American support, ousted Bao Dai and became president, preventing the democratic elections.

The split between Buddhists/Confucians and Catholics wasn’t helped by the Diem regime’s support of Catholicism, Ngo Dinh Diem himself being a Catholic whose brother, Ngo Dinh Thuc, was a powerful Archbishop. Hanh noted the unfortunate symbiotic relationship between the Church and the Diem regime, both of whom used the other for their own empowerment. This caused the peasantry to recall its fight against Western imperialism and associate both Diem and the Church with this foe, along with the new addition of Diem’s US ally.

Diem’s Catholic government attempted to outlaw the celebration of the Buddha’s Anniversary (called Wesak), but the attempt proved unsuccessful due to the law’s unpopularity among the Buddhist masses. The different sects of Buddhism within Vietnam had been strengthened and unified at a national congress in Hue in 1951 at which leaders from throughout the country came together to form the All-Vietnam Buddhist Association. Hanh claimed this made Vietnamese Buddhism a national religion, and the persecution of Buddhists by the Diem regime caused Buddhists to come together in opposition to the regime in the name of both religion and nationalism.

Similarly, Vietnamese intellectuals opposed the oppressive Diem regime whether or not they believed in communism, and the NLF was formed in South Vietnam in 1960 to oppose Diem. Hanh explained that peasants in Vietnam did not understand the meaning of Communism, but they did understand the concepts of both peace and nationalism. They saw the NLF as the only nationalistic force in the war, and so they supported this group above the others. Hanh argued that if a political party were to surface, opposing both Diem and communism but promoting peace and independence, the masses of Vietnam would be in support. Buddhist leaders sought to create exactly such a society.

Hanh also argued that the early US support for the French caused mistrust among the colonized peasant population, and America’s later support of the Diem regime caused the peasantry to more thoroughly support the NLF, not because of its communist stance but because of its nationalism. Meanwhile, President Johnson misled the American people by claiming that the US entered Vietnam in order to protect the South from Northern invasions. Hanh believed the US created further violence in Vietnam by feeding, clothing and arming the North Vietnamese army, as well as providing gasoline essential for its success in battle.

In the face of US entrance into Vietnam, religious leaders were hesitant to declare themselves anti-communist because it implied they sought to profit from the war. Hanh said in 1967, “In the past ten years, anti-communism has become Vietnam’s most profitable business.” Landlords evicted Vietnamese tenants in order to gain greater profit from higher-paying
American renters, and construction workers and taxi drivers also increased their prices to levels unreachable by the average population.\textsuperscript{29} Hanh said this left poor Vietnamese “without access to these American funds” in an “increasingly desperate plight.”\textsuperscript{30} Such poverty caused urban prostitution to increase dramatically as a way for women and families to make ends meet. Moreover, since the US insisted at the time that “all aid and commerce must be with the US and certain other approved nations,” Vietnam was prevented from “developing a viable economy of its own.” This provoked even more widespread poverty and was a cause for the one million Vietnamese living in refugee camps by the end of 1966. Hanh said of these camps, “Hunger is so terrible that there are places where a young girl will sell her body for a piece of bread.”\textsuperscript{31}

Hanh thought the US presence in Vietnam was illogical at best, and pointed to the futility of US bombing in North Vietnam in order to encourage “negotiation,” believing as he did that violence could only breed further violence.\textsuperscript{32} He explained that the strategic hamlets imposed by the US and North Vietnamese were also violent because peasants were herded into new areas against their will, “forced to leave villages that had been the homes of their families for generations,” causing them to “leave behind not only the graves of their ancestors but many relics and mementos, including family altars, which perished in the same flames that consumed the village.”\textsuperscript{33}

Hanh blamed much violence on the ignorance of the American troops, saying during the war that Americans “do not have any background in the culture, folklore, and the way of living of the Vietnamese people.”\textsuperscript{34} He said, “The Americans can never conceivably win a military victory in Vietnam” because “the Viet Cong, who are the American’s ‘enemy,’ look exactly like the other Vietnamese who are their ‘friends.’” From the perspective of the peasantry, Americans made an apparently undiscriminating attack on villages while NLF violence at least appeared to be directed at a proposed enemy.\textsuperscript{35} “What they see is a large force of white Westerners doing their best to kill their fellow countrymen, many of whom previously fought against the French.”\textsuperscript{36} In the volume \textit{Nonviolence in Theory and Practice}, Hanh elaborates on the doctrine of understanding, saying “our inability to understand one another is the main source of human suffering.” He says the Buddha would assert that “in order to understand, you have to be one with what you want to understand.”\textsuperscript{37} This oneness of all things was a central tenant to Thich Nhat Hanh’s philosophy.

Even as US troops showed a remarkable capacity for violence, Hanh pointed out that villagers, making up the mass of the Vietnamese population, feared retribution from all sides in the war. For example, the Viet Cong threatened dire consequences for those who refused to dig hideouts, while the government made threats to all those who cooperated with the NLF. Hanh asked one group of peasants, “Whom would you follow: the government or the National Liberation Front?” They replied, “We follow the one who can end the war and guarantee that we can live.” He said at the time, “The peasants are not concerned about ideology… With their property already destroyed, they do not fear that the Communists will take their property.”\textsuperscript{38}

When the Vietnamese people began agitating for peace, the US intentionally
directed its power against such efforts. Furthermore, the Saigon government considered talk of peace either communism or “neutralism,” the latter being outlawed by legal decree in 1964. Hanh was appalled that it was illegal in Vietnam to speak of peace, and he said the only way for there to be friendship between the US and Vietnam was for the former to provide “a road to peace and independence that does not demand a still greater price in blood and in suffering.”

“If the Vietnamese people were free to express their will about the ending of the war,” he asserted, “then the war itself, along with the presence of American troops, would lose its raison d’être.” Hanh believed “the only way out (of war) is to find a way for the Vietnamese peasant to combine patriotism and peace, which is not the way of the National Liberation Front.” According to Hanh, the war couldn’t be ended by those who supported either side, but only by those who sought peace as the main goal.

Hanh’s personal theory for peace in Vietnam was fivefold and included the creation of a temporary government with the help of the UN in order to establish free elections; the end of bombing attacks and ground offensives by the US, the NLF and the North Vietnamese; the withdrawal of US troops from Vietnam; the withdrawal of North Vietnamese troops from South Vietnam; and the eventual reunification of the country. Moreover, as one who had experienced the dark sides of both colonialism and communism, Hanh thought a democratic government was also necessary for peace. He said, “In reality peace can be achieved only if the Vietnamese people are represented in a government of democracy and freedom.” However, he admitted that the struggle for peace in Vietnam was often fought under the guise of masked terms seeking “a constituent assembly and free elections” or “the struggle for representative government.” This was due to the illegal nature of the peace movement, and Hanh, along with many others, hoped these political gains would in turn encourage peace.

A popular revolution finally overthrew the Diem regime on November 1, 1963. Hanh noticed that the revolution against Diem brought vitality to the Vietnamese people as they realized the strength of their power to dispose of an unpopular government. He realized the importance of a people’s sense of self-worth in achieving freedom. However, the war didn’t end with Diem. Hanh said in 1967, “The war has reached such a state of tragic absurdity that there literally can be no religious conscience that does not speak out against it.”

Hanh maintained a philosophy of peace during the long, deadly, and unpopular war, and he was a testament to the potential gain of fighting injustice despite threats of imprisonment and exile. Despite overwhelming tragedy, his mission of peace was marked by many acts of courage and small victories throughout the war. For example, he supported the 1963 Overseas Vietnamese Buddhist Association’s Remonstration to the UN exposing human rights violations against Buddhists by Diem. Starting in 1964, Hanh frequently visited remote villages, aiding people suffering from war and natural disaster. He also met with Pope Paul VI in an appeal to promote interfaith dialogue in the name of peace, believing both Buddhists and Catholics in Vietnam had a common interests in peace and national independence.
Hanh also joined other Vietnamese peace activists in the creation of the 1965 anthology *Dialogues* in which the authors wrote letters to proponents of peace in foreign countries. While other Vietnamese authors in *Dialogue* wrote to the likes of Jean Paul Sartre and Henry Miller, Hanh wrote his letter to Martin Luther King, Jr. He said to King of the Vietnam War, “The world’s greatest humanists would not remain silent. You yourself can not remain silent.” King subsequently spoke out against the US presence in Vietnam and later nominated Hanh for the Nobel Peace Prize. He said in his nomination speech, “Here is an apostle of peace and non-violence, cruelly separated from his own people while they are oppressed by a vicious war which has grown to threaten the sanity and security of the entire world.”

Hanh taught at the School of Youth for Social Service at Van Hanh Buddhist University. Hoping Buddhist leaders and organizations could play a direct role in the industrialization of Vietnam, the group introduced training programs and cooperative community development projects to the peasantry. Hanh’s students at Van Hanh later created a resolution in March 1966 appealing to all religious leaders in Vietnam to “stand up and call for an immediate end of the massacre in Vietnam.” Soon thereafter, students at the University of Saigon called for the end of what they called a “war of extermination.” The Worker’s Union also called it a “war of extermination” and called for the war’s end in its Declaration of Conscience in May 1966, citing also the Vietnamese people’s “right to self-determination.”

Hanh’s popularity and determination invited controversy and dislike among proponents of war on both sides of the conflict. He was disliked and mistrusted by both North Vietnamese government officials and NLF soldiers when he and other members of the clergy brought relief to villagers after wartime violence. Again, when he published his very popular book of peace poetry *Let Us Raise Our Hands to Pray for the Appearance of the White Dove*, he met fierce opposition from both the Northern Vietnamese government and the NLF. He was not alone. In his book *Vietnam: Lotus in a Sea of Fire*, Hanh mentions the violent suppression in February 1965 of South Vietnamese intellectuals who petitioned for peace between the NLF and the Vietnamese government. He also notes the suppression of subsequent peace movements initiated by monks and American activists; both groups were put down with the help of secretive North Vietnamese propaganda.

Nonetheless, Hanh was of the belief that everyone possessed Buddha nature, and the well-being of humanity depended on Buddhists fulfilling their responsibilities to the world. He said of the war, “In such circumstances priests and nuns cannot go on preaching morality; the war has destroyed not only human lives but all human values as well... Its shame is not just the shame of the Vietnamese, but of the whole world.”

In learning Hanh’s story, I came to many realizations about his philosophy of peace and the ways in which it applies to all people faced with violence. For example, when the Diem regime attempted to outlaw the *Wesak* celebration in Vietnam, rather than engaging in violent riots, Buddhists throughout the country decided to hold the largest *Wesak* celebration in history.
Under enormous pressure, Diem had to back down and allow future celebrations to take place. This is a great example of effective nonviolent protest. Later, when Hanh discussed his belief in the need for Buddhist organizations to promote cooperative community development programs, I realized the potential of cooperative organizations in any community. In my own home town, I’ve noticed the effectiveness of “buying cooperatives” in making groceries more affordable and housing cooperatives in making rent cheaper. I believe these groups in are related to Hanh’s vision of cooperative peace that works for an entire community.

As an American, I also found myself thinking deeply about Hanh’s analysis of the US presence in Vietnam. He said US troops perpetrated violence through their ignorance of Vietnamese culture. I realized this misstep could cause violence anywhere. (Are not fights between any two individuals of different races, religions, or opinions also the result of ignorance of another’s point of view?) Hanh went on to explain that with the introduction of large numbers of American troops into Vietnam came the introduction of the US dollar into the Vietnamese economy. This caused poor Vietnamese to suffer as they were unable to obtain goods and services when Vietnamese profiteers greatly increased prices to cater to the new American market. From my perspective, this is but one example of the way globalization and the spread of capitalism in the modern world has negatively affected third-world nations, a problem that goes unchecked and unresolved in the present day.

In a related section on the US, Hanh mentioned that strategic hamlets were promoted as a means to “protect” Southern Vietnamese peasants from their so-called “enemies,” when in fact they were used to isolate potential NLF suspects. This gave me insight into the power of propaganda in the promotion of violence. As Hanh repeatedly mentioned, the Vietnamese peasantry distrusted of the US due and its association with imperialistic power and dictatorial rule, and I came to realize that such behavior on the part of the US (or any country, or any party for that matter) can cause long-lasting mistrust on the part of those harmed. As Hanh said at the time, “The prestige of the United States is based upon its spiritual tradition of democracy and freedom, and grows only as the US remains faithful to that tradition.”

My favorite part of the book Vietnam was when Hanh boldly stated, “If one looks deeper one realizes that what has developed in Vietnam is an international, ideological war between the United States and the People’s Republic of China. This is true even though China has no troops in Vietnam. These two great powers are demonstrating their fears of each other.” Of course this causes the reader to infer that fear itself breeds violence, which is, I think, not just a tenant of Thich Nhat Hanh’s personal belief system but also a tenant of many Buddhists, religious thinkers, and peaceniks across the board.

I believe that Hanh’s emphasis on the interconnectedness of all life and his belief in the concept of compassion for oneself and others allowed him to remain peaceful throughout the Vietnam War. He incorporated these beliefs, obtained from his training in Buddhist philosophy, into his own personality. As an answer to all violence, Hanh says it’s important to accept rather than deny the anger within oneself. He says one must show the
same nonviolence toward oneself that one intends to show to the outside world. “In Buddhism we do not consider anger, hatred, or greed as enemies we have to fight, to destroy, to annihilate. If we annihilate anger, we annihilate ourselves.” Most importantly, “If you cannot be compassionate to yourself, you will not be able to be compassionate to others (HG 329).”

ENDNOTES

5. Ibid, 5.
6. Ibid, 12.
8. Ibid, 15.
10. Ibid, 16.
13. Ibid, 22.
15. Ibid, 43.
16. Ibid, 32.
17. Ibid, 54.
19. Ibid, 43.
23. Ibid, 60-1.
24. Ibid, 27.
25. Ibid, 45.
26. Ibid, 52.
27. Ibid, 79.
28. Ibid, 68.
29. Ibid, 73.
30. Ibid, 74.
31. Ibid, 75.
32. Ibid, 80.
33. Ibid, 72.
34. Ibid, 64.
35. Ibid, 66.
36. Ibid, 68.
37. Holmes & Gan, 237.
39. Ibid, 82.
40. Ibid, 86.
41. Ibid, 85.
42. Ibid, 77.
43. Ibid, 81.
44. Ibid, 92.
46. Ibid, 87.
47. Ibid, 90.
48. Ibid, 45.
49. Ibid, 82.
50. Ibid, 30.
51. Ibid, 65.
52. Ibid, 31.
53. Ibid, 86.
54. Ibid, 88.
55. Ibid, 89.
59. Ibid, 89.
60. Ibid, 90.
61. Ibid, 65.
64. Ibid, 10.
65. Ibid, 76.
66. Ibid, 93.
67. Ibid, 92.
68. Holmes & Gan, 329.
BIBLIOGRAPHY


