



# Beacon 2008

**CONFERENCE PROCEEDINGS**

**16th Annual Beacon Conference  
June 6, 2008**

A conference for student  
scholars at two-year colleges  
funded by a coalition of two-year colleges

Bergen Community College  
Paramus, New Jersey 07652

Table of Contents

INTRODUCTION AND ACKNOWLEDGEMENTS.....4-6

OVERVIEW OF PANELS.....7-15

OUTSTANDING PRESENTERS IN EACH PANEL.....16

**Gender Studies II**

“Embracing the Paradox of Globalization: Daughter of Africa on the Journey to Equality and Peace” .....16

By: Cristian E. Barrera

Mentor: Shweta Sen

Montgomery Community College

**International Studies and Globalization**

“Modern Musical Colonization: The Impact of Globalization on Indigenous Music” .....33

By: Daniel C. Mays

Mentor: Dawn Avery

Montgomery College

**World Literature**

“Homais and Leon: Emma’s Symbolic Prison Guards” .....46

By: Daniel LaSalle

Mentor: Nancy Hazelton

Rockland Community College

**Psychology**

“The Physical and Psychological Benefits of Extended Breastfeeding” .....53

By: Sasha Fink

Mentor: Robin Musselman

Lehigh Carbon Community College

**Social Justice**

“Unrestricted Government Surveillance” .....65

By: Sharon R. George

Mentor: Richard Rodriguez

Westchester Community College

**Business and Economics**

“The American Chocolate Industry: A Combination of Large and Small” .....74

By: Candice M. Henderson

Mentor: Creed J. Hyatt

Lehigh Carbon Community College

**American Literature**

- “Constructing Middleness: Hawaiian Identity in Deborah Idia’s Middle Son” .....85  
By: Jack D. Hildebrand  
Mentor: Geoffrey Sadock  
Bergen Community College

**Communications**

- “It Takes Millions: A Re-Evaluation of Copyright Law in Hip-Hop” .....92  
By: James Landrum  
Mentor: Richard Rodriguez  
Westchester Community College

**Interdisciplinary Studies**

- “Electronic Surveillance: Herding the Rock in a Globalized World” .....103  
By: Ivan Melyakov  
Mentor: Aram Hessami  
Montgomery Community College

**Mathematics and Science**

- “Pendulums and Physical Reality” .....117  
By: Martha Molinini  
Mentor: Neil Schiller  
Ocean County Community College

**Shakespeare**

- “The Identity Conundrums of Shakespeare’s Leaders” .....146  
By: J. Shepard Ramsay  
Mentor: Nancy Hazelton  
Rockland Community College

**Social Sciences**

- “Crisis in Japan” .....154  
By: Stephen Sakai  
Mentor: Joan Naake  
Montgomery College

**Philosophy and Religion**

- “A Synergism of Art and Reason” .....163  
By: John Sherman  
Mentor: Dwight Goodyear  
Westchester Community College

**History**

- “Andean Archaeology: Uncovering Incan Adaptive Strategies” .....177  
By: Jennifer Sylvestri  
Mentor: B. Jo Stokes  
Westchester Community College

# BEACON 2008

## **Gender Studies I**

- “A Woman’s Place: Shakespeare’s Social Control” .....187  
By: Jessica Weiner  
Mentor: Nancy Hazelton  
Rockland Community College

## **The Arts**

- “Cole’s Legacy Emerges in Landscape” .....194  
By: Maya Goer-Palenzuela  
Mentor: Beth S. Kolp  
Dutchess Community College

## Introduction

*Putting together an Honors Conference is a complex undertaking. We could not have organized Beacon 2008 without the assistance of many people. We want to thank Tom Butler and Elaine Toia of Rockland Community College, who hosted Beacon 2007, for their guidance, advice, and general assistance. We also want to thank all of the members of the Beacon Conference Steering Committee, whose names are listed in the Proceedings. Mark Altschuler, Anne Maganzini, and Geoff Sadock, of Bergen, were members with us of the in-house Steering Committee, and we thank them for all of the hours of work that they contributed in planning the conference.*

*At Bergen, we thank the members of the Board of Trustees and President G. Jeremiah Ryan, Academic Vice President Gary Porter, Vice President for Student Affairs Raymond Smith, and all the other members of the college administration for their support and assistance in the planning of Beacon 2008. We thank the members of the Bergen Honors Committee for their support. The conference could not have been a success without the assistance of all of our colleagues, both at Bergen and other colleges, who volunteered in various ways, including chairing panels, serving as judges, and showing our guests around campus. The student members of Bergen's Honors Association and of Phi Theta Kappa helped with registration at the conference and also with greetings and other matters on the day of the conference, and we thank them. The maintenance guys who helped to set up the rooms, the technical staff who assured that all the equipment worked as it was supposed to, the folks in the cafeteria who helped with the food—everyone contributed to Beacon 2008 and we thank you all.*

*Finally, we thank those people who were most responsible for the success of our contest: the students who presented their papers and participated in the Poster Session and their faculty mentors. Without your work, there is simply no conference.*

*Dorothy Altman  
Alan Kaufman  
Maria Makowiecka  
Co-Directors, Beacon 2008*

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Bergen Community College; Department of Social Science,  
Bergen Community College; Bookstore; Bedford/St. Martins; Pearson

**Overview of Panels**

**Session I: The Arts**

**Readers:** Emily Harvey, Rockland Community College; Robert Pucci, Ulster Community College; Cindy Terry, Lehigh Carbon Community College

**Judge:** Anthony Cuneo, Montclair Kimberly Academy

**Moderator:** Anne Maganzini, Bergen Community College

**Presenters:** David Foote, “Art Goes Pop”

**Mentor:** Lucy Laufé, Montgomery College

Maya Goer-Palenzuela, “Cole’s Legacy Emerges in Landscape”

**Mentor:** Beth S. Kolp, Dutchess Community College

Sara Palmer, “Impressionistic Styles: Renoir and Monet”

**Mentor:** Nancy Hazelton, Rockland Community College

**Session I: Business & Economics**

**Readers:** Kristopher Baker, Rockland Community College; Denise Francois, Northampton Community College; Doug Furman, Ulster Community College

**Judge:** Michael J. Renahan, College of Saint Elizabeth

**Moderator:** Barry Freeman, Bergen Community College

**Presenters:** Casey Clark, “Oil Effects on the United States Economy”

**Mentor:** Noreen van Valkenburgh, Westchester Community College

Candice M. Henderson, “The American Chocolate Industry:  
A Combination of Large and Small”

**Mentor:** Creed J. Hyatt, Lehigh Carbon Community College

Mary Megorden, “Going Green in a Globalized World: What America Stands to Gain”

**Mentors:** Shweta Sen & Sharon Ward, Montgomery College

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**Session I: Gender Studies I**

**Readers:** Rita Kranidis, Montgomery College; Elaine H. Olaoye, Brookdale Community College; Karen C. Rhines, Northampton Community College

**Judge:** Sally McWilliams, Montclair State University

**Moderator:** Vanda Bozicevic, Bergen Community College

**Presenters:** Jessica Weiner, "A Woman's Place: Shakespeare's Social Control"  
**Mentor:** Nancy Hazelton, Rockland Community College

Daisy Willis, "The Pestilential Miasma of Patriarchy in Divers Texts:  
"Not So Fast, Ladies!"  
**Mentor:** Allison Carpenter, Northampton Community College

Stephanie Zambrano, "Girl(s) Interrupted"-  
**Mentor:** Stacey Balkan, Bergen Community College

**Session I: Social Sciences**

**Readers:** Christine Bowditch, Lehigh Carbon Community College; Miho Kawai, Ulster Community College; Bette Petrides, Montgomery College

**Judge:** Genese Sodikoff, Rutgers University; Newark

**Moderator:** Kil Yi, Bergen Community College

**Presenters:** Nadene Cafasso: "Six Years After 9-11: America's Safety Is Dependent on Structural Reform in the FBI"  
**Mentor:** Ray Raymond, Ulster Community College

Adham Elkady, "A Discourse About A Non-Normative Sexuality in Egypt"  
**Mentor:** Elizabeth Wissinger, Borough of Manhattan Community College

Stephen Sakai, "Crisis in Japan"  
**Mentor:** Joan Naake, Montgomery College

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### Session I: Shakespeare

**Readers:** Joanne Gerken, Lehigh Carbon Community College; Stephen Burke, Rockland Community College; Christine Szymczak, Erie Community College

**Judge:** Caroline Rupprecht, Queens College

**Moderator:** Geoffrey Sadock, Bergen Community College

**Presenters:** Arthur DelPup, "Understanding and Experiencing the Bastardly in Shakespeare: An Expression of Identity"

**Mentor:** Nancy Hazelton, Rockland Community College

Amanda Raines, "The Truth about Honesty: a Study of Shakespeare's Othello"

**Mentor:** Mira Sakrajda, Westchester Community College

J. Shepard Ramsay, "The Identity Conundrums of Shakespeare's Leaders"

**Mentor:** Nancy Hazelton, Rockland Community College

### Session II: Communications

**Readers:** Christine Armstrong, Northampton Community College; Michelle L. Blease, Northampton Community College; Katie Lever, Western Connecticut State University

**Judge:** Peter Reader, Seton Hall University

**Moderator:** Thomas Jewell, Bergen Community College

**Presenters:** James Landrum, "It Takes Millions: A Re-evaluation of Copyright Law in Hip-Hop"

**Mentor:** Richard Rodriguez, Westchester Community College

Jonnah Mariano, "Propaganda as Fascism's Fertilizer: Sowing the Seeds of Hate through Indoctrination and Mind Control"

**Mentor:** Michael Bobkoff, Westchester Community College

Neslihon Waters, "Slices of Life from Italy and Iran"

**Mentor:** Robert Pucci, Ulster Community College

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**Session II: Gender Studies II**

**Readers:** Stacey Balkan, Bergen Community College; Denise M. Chaytor, Northampton Community College; Lehigh Carbon Community College; Jennifer Kaufman, Ulster Community College

**Judge:** Arlene Scala, William Paterson University

**Moderator:** Cristina Haedo, Bergen Community College

**Presenters:** Cristian E. Barrera, "Embracing the Paradox of Globalization: Daughters of Africa on the Journey to Equality and Peace"

**Mentor:** Shweta Sen, Montgomery College

Sharon Lowery, "A Quest to Be Heard"

**Mentor:** Maria Makowiecka, Bergen Community College

Michelle Rodriguez, "Observations from Outside"

**Mentor:** Alan Devenish, Westchester Community College

Agnieszka Spryszynska, "She Would Have Loved Him Too: Margot's True Nature in "The Short Happy Life of Francis Macomber""

**Mentor:** Richard Wilan, Northern Virginia Community College

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**Session II: History**

**Readers:** David R. Beisel, Rockland Community College; Dale A. Crispell, Rockland Community College; Eric DeAngelo, Lehigh Carbon Community College

**Judge:** William Roberts, Fairleigh Dickinson University

**Moderator:** Marilyn Gilroy, Bergen Community College

**Presenters:** Stephen Howe, "War 2.0: Cyberwar"

**Mentor:** Joyce D. Brotton, Northern Virginia Community College

Chad Moyer, "Tarnished Colors: History, Heritage, and the Confederate Flag"

**Mentor:** John M. Lawlor, Jr., Reading Area Community College

Jennifer Sylvestri, "Andean Archaeology: Uncovering Incan Adaptive Strategies"

**Mentor:** B. Jo Stokes, Westchester Community College

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**Session II: World Literature**

**Readers:** Suzanne Cleary-Langley, Rockland Community College; Thomas Impola, Ulster; Linda Novak, Lehigh Carbon Community College

**Judge:** Davis Ackerman, Pennsylvania State University - Berks

**Moderator:** Caroline Kelley, Bergen Community College

**Presenters:** John Hendricks, "The Fiend in Frankenstein"  
**Mentor:** Dorothy Altman, Bergen Community College

Daniel LaSalle, "Homais and Leon: Emma's Symbolic Prison Guards"  
**Mentor:** Nancy Hazelton, Rockland Community College

Konstantina Sarandeva, "Desire vs. Fear: Honor in 'The Flea' by John Donne"  
**Mentor:** René Rojas, Erie Community College

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**Session II: International Studies & Globalization**

**Readers:** Michael Paluzzi, Rockland Community College; Bethany Zornek, Lehigh Carbon Community College; Joan Naake, Montgomery College

**Judge:** Laura Ebert, Marist College

**Moderator:** Baila Zheutlin, Bergen Community College

**Presenters:** David Galbraith, "Fighting Globalization with Globalization: the Irony"  
**Mentor:** Aram Hessami, Montgomery College

Daniel C. Mays, "Modern Musical Colonization: The Impact of Globalization .. on Indigenous Music"  
**Mentor:** Dawn Avery, Montgomery College

Rachel Robb, "Solving the Mystery of Africa's Economic Failure: The Leadership Factor"  
**Mentor:** Shweta Sen, Montgomery College

**Session II: Social Justice**

- Readers:** Jack Gasper, Lehigh Carbon Community College; Rudolph White, Montgomery College; Marcia Gellin, Erie Community College
- Judge:** Mitchell Liebowitz, practicing attorney
- Moderator:** Annemarie Roscello, Bergen Community College
- Presenters:** Emma Francis-Snyder, “The Chapter that Changed the Face of Democracy”  
**Mentor:** Richard Rodriguez, Westchester Community College
- Sharon R. George, “Unrestricted Government Surveillance”  
**Mentor:** Richard Rodriguez, Westchester Community College
- Tova Horowicz, “Civil Disobedience: An Effective Tool for Change”  
**Mentor:** Elaine M. Toia, Rockland Community College

**Session III: Interdisciplinary Studies**

- Readers:** Cecelia Connelly-Weida, Lehigh Carbon Community College; Matt Connell, Northampton Community College; Stacey Balkan, Bergen Community College
- Judge:** Andrea Solomon, Columbia University
- Moderator:** Josef Mendoza, Bergen Community College
- Presenters:** Tara Braam, “Gatsby, Capone, and Declining Morality in the Roaring Twenties”  
**Mentors:** John M. Lawlor, Jr., Reading Area Community College
- Kevin M. Corrigan, “The Institution of Slavery as Presented in the Accounts of Olaudah Equiano and Harriet Jacobs”  
**Mentor:** Dorothy Altman, Bergen Community College
- Ivan Melyakov, “Electronic Surveillance: Herding the Flock in a Globalized World”  
**Mentor:** Aram Hessami, Montgomery College

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**Session III: American Literature**

**Readers:** Ashley Supinski, Lehigh Carbon Community College; Shamika A. Mitchell, Rockland Community College; Marti Robinson, Ulster Community College

**Judge:** Ellen E. Dolgin, Dominican College

**Moderator:** Alan Kaufman, Bergen Community College

**Presenters:** Kathryn DeFazio, "Suggested Through Transformation: The Characterization of Tennessee Williams in Three Plays"

**Mentors:** Kathy Malia / Elaine Torda, Orange County Community College

Dawn Gieringer, "The Historical, Political, and Philosophical Inspiration for .. The Invisible Man by Ralph Ellison"

**Mentor:** David Leight, Reading Area Community College

Jack D. Hildebrand, "Constructing Middleness: Hawaiian Identity in Deborah Lida's Middle Son"

**Mentor:** Geoffrey Sadock, Bergen Community College

**Session III: Mathematics & Science**

**Readers:** Melanie Rie, Rockland Community College; Rob Blum, Lehigh Carbon Community College; James W. Cosgrove, Montgomery College

**Judge:** John E. Hammett III, Saint Peter's College

**Moderator:** Dorothy Giglietta, Bergen Community College

**Presenters:** Michael Kulesca, "Stem Cell Transformation as a Model for Tumorigenesis"

**Mentor:** Thomas J. Butler, Rockland Community College

Martha Molinini, "Pendulums and Physical Reality"

**Mentor:** Neil Schiller, Ocean County Community College

Mirala P. Sarza, "How the Human Genome Project Helped Advance Modern Medicine"

**Mentor:** Jack Edelman, Borough of Manhattan Community College

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### Session III: Philosophy & Religion

**Readers:** Martin Lecker, Rockland Community College; Tobyn DeMarco, Bergen Community College; Harold Weiss, Northampton Community College

**Judge:** Daniel Kolak, William Paterson University

**Moderator:** Tobyn De Marco, Bergen Community College

**Presenters:** Marissa Baddick, "The Causes of War and the Promises of Yoga and Buddhism"  
**Mentor:** Ken Burak, Northampton Community College

Luke Pearey, "Understanding Gaia: Science, Perception, and the Value of Nature"  
**Mentor:** Matthew Ally, Borough of Manhattan Community College

John Sherman, "A Synergism of Art and Reason"  
**Mentor:** Dwight Goodyear, Westchester Community College

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### Session III: Psychology

**Readers:** Ann M. Fresoi, Lehigh Carbon Community College; Thomas Frangicetto, Northampton Community College; Diana Del Console, Brookdale Community College

**Judge:** Susan Trombetta, Vassar College

**Moderator:** Laura Ochoa, Bergen Community College

**Presenters:** Sasha Fink, "The Physical and Psychological Benefits of Extended Breastfeeding"  
**Mentor:** Robin Musselman, Lehigh Carbon Community College

Jonathan Silva, "Criminal Genes: Behavioral Genetics in Criminal Justice"  
**Mentor:** Elaine H. Olaoye, Brookdale Community College

Chantal Wolf, "To Age Gracefully or Not, That is the Question"  
**Mentor:** Anne S. Maganzini, Bergen Community College

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**Poster Sessions: Presenters**

Sheena May Austria, *"Even When Standing Alone"*

Mentor: Cliff Collins, Montgomery College

Caroline Canevet, *"The Illegal Wildlife Trade in Thailand"*

Mentor: Ian Newman, Rockland Community College

Jessica Cavluzzi, *"Trial of the Century: Illinois v. Leopold and Loeb, 1924"*

Mentor: Heather Ostman, Westchester Community College

Timothy Costales, *"Globalization and Infectious Diseases: an Imminent Apocalypse"*

Mentor: Sharon Ward, Montgomery College

Juan Cruz, *"From Coca to Cocaine: Bolivian Power Struggle in the Global Drug Traffic"*

Mentor: Hessami Haram, Montgomery College

Karen L. Duld, *"Women in Christian History"*

Mentor: Creed Hyatt, Lehigh Carbon Community College

Samantha Gomberg, *"Painting Techniques of Vincent Van Gogh vs. Henri de Toulouse-Lautrec"*

Mentor: Nancy Hazelton, Rockland Community College

Michael Hunter: *"Flow and Human Development"*

Mentor: Cyd Skinner, Northampton Community College

Lee Z. Ifhar: *"Much More than a Farm; Rock as an Educational Instrument"*

Mentor: Stacey Balkan, Bergen Community College

Sheila Denise Kennedy: *"A River of Depth of Two Phantoms:*

*Response to Huckleberry Finn"*

Mentor: Mark Altschuler, Bergen Community College

Heather Lothrop: *"The Difficulties Associated with Playing the Oboe"*

Mentor: Nancy Hazelton, Rockland Community College

Erika A. Maikish: *"Nature vs. Nurture"*

Mentor: Cliff Garner, Rockland Community College

Humberto Martinez and Anthony Pone:

*"New Ways Students are Coping with Higher Textbook Prices"*

Mentor: Barry Freeman, Bergen Community College

Dimitriy Nikolskiy: *"The Philosophical and Economical Evaluation of 'Green' Investing"*

Mentor: Reamy Jansen, Rockland Community College

Natalie Ramirez: *"Preserving Identity: Indigenous Art in Global World"*

Mentor: Shweta Sen, Montgomery College

Hena Shami: *"The Principles of Faith and Women's Role in Islam"*

Mentor: Bette Petrides, Montgomery College

Aminah Sheikh: *"Red Hair: A Mutation, A Royal Trait, and Sometimes a Curse"*

Mentor: Rashidul Alam, Montgomery College

## Embracing the Paradox of Globalization

### Daughters of Africa on the Journey to Equality & Peace:

Women Empowerment in Moroccan Society under Intensive Analysis Congolese Women Use  
Globalization as A Powerful Megaphone

~*Christian Barrera*

Women in all societies to some degree whether at a local, state, or national level are subjects to all kinds of violence ranging from physical to psychological abuse which ultimately prevents them from fully becoming dynamic participants in society.<sup>1</sup> The cases of violence against women and the perception of their rights vary from society to society due to cultural and demographic differences. Nonetheless, third-world women are the ones enduring a much harder reality. Women in African countries such as Morocco and the Democratic Republic of the Congo confront realities of their bleak condition resulting from restrictive cultural, religious, and ethnic codes that coexist with oppression, abuse, and rape, something that the international community is trying to address with the creation and implementation of an influential global human-rights movement. In the case of Moroccan women, the implementation of such movement through the active participation of NGOs, development agencies ranging from the UNDP to the Peace Corps, community-created women empowerment movements, and King Mohammed VI's positive attitude for their cause have left Moroccan society with the task of fusing tradition and modernity together. This proves that in today's fast advancing world the struggle for nations to address inequality issues is under an international lens, a lens much needed.

The 21st century is marked by the advent of a phenomenon that many refer to as globalization. Globalization has been perceived by many as the root cause of inequality while for others it is a way of addressing social ills such as human misery, injustice, and discrimination against women (Holton 1). In the context of women's rights, globalization plays primarily a positive role in bringing women's issues to the forefront of the current global human rights movement. The change in women's rights in Morocco is a direct result of an international community's rallying cry against social discrimination against women. The situation of women in the Kingdom of Morocco has changed over the last couple of years due to changes in their rights. These changes in Morocco are a direct

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1. *The World's Women 2005: Progress in Statistics: Chapter 5 report by the United Nations based on the Fourth World conference on Women, Beijing.*

cause of an influential globalizing world in which global consciousness of human rights has put pressure on the Moroccan government. The various components of globalization pressure governments to comply with global humanitarian values (Payne 77) and in Morocco things are changing but not without opposition along side.

While globalization has allowed for Moroccan women's issues to be exposed, addressed, and currently be under societal scrutiny, other countries' women populations are also to some extent benefiting from the issue-exposure aspect of the phenomenon. This is the case of Congolese women.

The inhumane situation of women in the Democratic Republic of the Congo has been increasingly addressed by the media and NGOs working to cease the brutalities experienced by these women at a time when the Congolese government is yet to deal with their condition. In the Democratic Republic of the Congo, where 4 million people have died in just 10 years in civil wars carried by militias, invading armies, and UN peace-troops, women are experiencing sexual violence in a manner that John Holmes, the United Nations Under Secretary General for Humanitarian Affairs, describes as "the worst in the world" (Gettleman). Due to the proliferation of faster communications around Africa, women in the Congo are using those influential tools of globalization such as the media to make their voices heard. Globalization has become the megaphone or channel through which they ask for help. Organizations such as the United Nations, Human Rights Watch, Women for Women International and the Harvard Humanitarian Initiative are helping Congolese women through anti-violence movements, leadership initiatives, and physiological and psychological assistance.

The situations of the Moroccan woman and the Congolese woman will be explored in a parallel analysis in this research paper in order to present the various effects of globalization on their situation, but more importantly to address and raise international awareness about the suffering of Congolese women with the purpose of seeking more international help and finding possible feasible solutions to the existing situation. This research paper will as well examine how the establishment of an influential global human-rights movement has created varying reactions from both nations. It will prove through given examples that the development and enforcement of a human rights "ideology" pressures the Moroccan government to comply with global women's rights efforts. This pressure becomes obvious through the changes to the Mudawwana, an increase in NGOs participation, global issue exposure, and greater participation among Moroccan women. Globalization, however, has a different impact on the Democratic Republic of the Congo where the government does not seem to be affected by such

pressure; rather it has become the role of international NGOs to help solve the situation of Congolese women. In both nations implementation of the human rights movement and participation of NGOs has positively helped the situation of women; thus Globalization can be evaluated as a positive phenomenon in the context of women's rights. Helping women cross the wall of inequality is a way to a better quality of living for all in terms of economy, education, family, and freedom regardless of which society is being discussed. Women and society are intrinsically linked; one influences the other. The sooner individual societies such as that of the Kingdom of Morocco and specially the Democratic Republic of the Congo realize this, the sooner positive change will take effect.

Last summer with purpose of getting an insider's perspective on the rights of women in Morocco, I volunteered in Rabat with Cross Cultural Solutions, a non-profit international volunteering organization. While I worked primarily at the Hôpital d'Enfants de Rabat, a children's hospital in Rabat, I was also able to take part in ongoing women empowerment efforts. Morocco at first glance, especially Rabat, seemed to be no different than what books, magazines, and newspapers said about the country. People are welcoming and show strong interest in ethnic backgrounds and are happy to talk to foreigners. It was here in Morocco that I began to observe what perhaps went unnoticed in my readings. Morocco is the epitome of a world in which traditional values from the native Berber, African, Arab-Islamic, and Western traditions have come into contact with each other and coalesced to form a complex society grounded in rich and remarkable customs and practices and in this blending of traditions women hold rights based on Muslim law.

In Morocco one is able to observe common things typically found in western countries such McDonalds, hotels, malls, night-clubs, and shopping centers. The Kingdom is a nation of contrasts and contradictions. In Rabat, McDonalds is located in very poor areas; the local luxurious Hilton hotel is near by an old and poorly equipped Children's Hospital which is infested with cockroaches; the beaches are divided between the poor and the rich; women of all ages beg outside facilities; and they wear veils and native Moroccan clothes while others wear western ones. Wherever one looks, there is contrast. Thus, Morocco becomes at a superficial level the perfect example of how the invasion, influence, and expansion of European nations into Africa left nations under economical instability. French Colonialism accelerated Morocco's commerce and industrialization creating an urban working class and an emerging middle class (Cohen xiii); something not so obvious today when you either see those women and children begging and living under alarming conditions or those

enjoying a much comfortable life. Either way, whether living on affluence or in poverty, women's lives continue to be controlled by chauvinism.

Despite the Western influence which might be obvious through French speaking citizens, Spanish-beach concerts, tourism, etc., Morocco has remained an Arab-Islamic nation. Morocco's ability to remain an Arab nation today is highly due to its struggle against Colonialism 88 years ago when such resistance took the "form of a restoration of Muslim, Arab identity, and Law" (Cohan xiv). The question then becomes can Morocco resist globalization today? Is there a way for the nation this time to bypass the influence of external nations? Morocco, since its last direct attempt to refuse international activity through the rebellion led by nationalist leader, Abdelkrim al-Khattabi, from 1919 to 1926, has welcomed international advice greatly due to its rulers. Under Islam women's rights have become a highly debated subject because the modern government has finally given in to international advice from nongovernmental organizations and political leaders and decided to help women get what is rightfully theirs- a voice, freedom of expression, and a better social status in Moroccan society. Nonetheless, there are those who oppose the change in traditional ways of thinking especially because these are viewed as violations of religious beliefs.

In an article titled "Women, Shari'a, and Oppression- Where are the voices of Conservative Muslims?" Saraji Umm Zaid makes an interesting point. According to Zaid, after the 9/11 attacks, the non-Muslim world has been focused on women and human rights in Arab nations. She feels as if the world monitors every single move made by Muslim nations regarding women and their rights. She addresses the fact that global emphasis on women's rights has made men "defensive." While this holds some validity, women's rights in Morocco had been a controversial issue even before the September 11 attacks in 2001. The Moroccan government in the year 2000 was not able to carry out its initial attempt to provide women with more rights due to a massive protest rally in Casablanca (Irvine). The government had initially set up a series of reforms to the family law, the Mudawwana, but intimidated by the hundreds of thousands of demonstrators between 200,000 and 300,000 conservative Muslims and Islamist leaders "[it] got cold feet, and abandoned the reforms" (Irvine). Where are Moroccan women standing in society that changes to their position has caused great havoc? And why has the Moroccan government really stepped into the arena?

In Morocco women live under a dual legal system (Campbell 9). Secular law and religious law are both dominant parts of the Mudawwana, Morocco's Personal Status Code or Family Law. Since 1992 the Mudawwana has been subject to reforms due to national and international agreements that it discriminates women in terms of their social, political, and personal rights. The Mudawwana is formed by constitutional articles written to address areas such as employment, political and public life, family, nationality, and women. Each one of these areas to some degree support Islamic law and therefore one could say that its establishment was inspired by the Qur'an.

It was on my third day during a women's empowerment meeting in Morocco that I heard two women natives of Rabat talk about the current situation of women. They asserted that the 21st century was certainly the time for Moroccan women to speak their mind and become equal to men. Knowing that Morocco is 98% Muslim, their statements certainly defied some aspects of the Islamic religion. According to Yahya, the author of "Women's Rights and Equality in Islam," women's rights in Islam were established by the Qur'an. Thus, Islamic texts establish the moral and religious equality women are entitled to. In the Qur'an there are five main references to the roles of women and their relationship to men; these references include men having more rights than women in terms of divorce, Muslim men being allowed to marry several wives while no such provision is made for women, Muslim men being allowed to beat their wives if they "misbehave," Muslim men being allowed to say that a man's inheritance is equal to that of two females, and Muslim men being allowed to assume that beautiful virgins are waiting for them in heaven ("Problems, Contradictions, and Odd Statements in the Qur'an").

For Muslim societies, this set of restrictive perceptions of women's rights are tradition, culture, and religion; something that must be respected. Nonetheless, women in Morocco assisted by NGOs and empowerment movements have become aware that there is much more to life than just being loyal, following rules, having to share a husband, and being beaten and it is that realization along with a global effort to cease gender inequality that have allowed for a collision of views. In Morocco the majority of the male population strongly believes in traditional Islam as a way to keep their authority over women. However, this has clashed with the global society's implementation of the universal theory on human rights- civil, social, and political (Payne 77). The global concurrence is that people should hold civil, political, and social rights, which include the right to speak freely, the right to religion, equality, property, thought, vote, security, health, education, etc. However, some

societies are troubled to recognize that every human being is entitled to these rights and thus now more than ever the need to address inequality has led to external participation by Amnesty international, political participation by developed nations, the creation of NGOs, and greater internal participation by affected parties.

Morocco has been marked by global embarrassment and it was this embarrassment that led the Kingdom to address women's issues. Amnesty International released reports of the abuse that political prisoners had been enduring under Hassan II's reign. "The existence of such abuse was denied by Hassan II when he stated that the 'notorious Tazmamart prison' did not exist" (Campbell 8). In response, Morocco in 1993 ratified the Convention on the Elimination of All Forms of Discrimination Against Women, and the Convention Against Torture and Other Cruel, or Inhuman or Degrading Treatment (Campbell 8). Morocco wanted its reputation back and addressing women's rights was a way of earning respect and a good reputation back from the international community. Since then political leaders have seen Morocco as a potential model-nation to show the rest of the world, specially the Middle East, that a Muslim nation can indeed become a place where peace and equality coexist.

In March 30th 1999, Hilary Clinton traveled to Marrakech to host a Moroccan women's roundtable discussion. The purpose of her visit was to explore women's issues in Morocco. Her visit was the political monitoring of women's rights in Morocco from the United States and it certainly became a powerful influential factor in Morocco's later endeavors. It was international pressure in practice. The United States and Morocco have enjoyed a good friendship and mutual support which got stronger during WWII and the Cold War and thus Morocco was willing to listen to what the first lady had to say. Clinton addressed her audience when talking about women's rights by saying:

[...] there are significant differences, however, in the legal, and social, political, and economic structures in which women and men live, in the world today and trying to sort out those issues—that can be dealt with directly, as Her Royal Majesty Highness said, through constitution and law, and those issues which must be addressed because they are of tradition, or family, or custom—is one of the challenges that I see women addressing...When I walked in, and I saw those beautiful young women and these two young teachers, and they stood and they greeted me in English, and then answered questions posted by their teachers, I saw on their faces the same look of expectancy, of hope, of joy that is on the look of any young woman anywhere in world who is

finding out more about herself and her capacity, and is learning and is understanding what more can be made of her life and future.<sup>2</sup>

Hilary Clinton in a very political manner sent a clear secular message to the government of Morocco. The government must create laws protecting the rights of women and provide greater education. At this time Morocco's illiteracy rate among women was 60% (48% in urban areas and 95.5% in rural areas) and according to 1999 official statistics rural women constituted 48.8% of the total Moroccan population (Sadiqi 89). "Nothing much has changed today when women illiteracy in rural areas exceeds 90% and the overall women literacy percentage is 39.6%" (Ayotte). The World fact book asserts that "Low levels of literacy and education in general, can impede the economic development of a country in the current rapidly changing, technology-driven world." The Moroccan government slowly has come to realize this fact and thus now more than ever its attempt to educate women has created a positive global image of the nation. At the same time international advice presents itself in the form of political encounters. Interactions among political leaders between nations have created a strong network of opinions and Clinton brought with her that western perspective that women must be educated and well-prepared in a humanistic nation striving for advance.

Clinton's words foreshadowed what was about to happen. As I mentioned previously the Moroccan government in 2000 was not able to carry out its initial attempt to supply women with supplementary rights due to a massive protest rally in Casablanca; thus his majesty King Mohammed VI stepped into the challenge in 2003. King Mohammed VI is a relatively new monarch who has come to govern Morocco at a time full of challenges. He is currently facing those challenges typical of developing nations such as poverty, security, education, inequality, and social unrest. Since his father's death in 1999, King Mohammed VI has engaged in a gradual process that deals with women's issues. With his religious authority as the "commander of the faithful" he has managed to get things underway in the context of women rights. After the rallies in Casablanca King Mohammed VI decided instill the reforms while letting the opposition know that "The aim [was] to draw up a modern Family Law which is consistent with the spirit of [their] tolerant religion."<sup>3</sup>

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2. *This speech was delivered by the first lady on March 30th, 1999 and was published in an article titled "Moroccan Women's Roundtable Discussion with First Lady"*

3. *King Mohammed VI delivered this speech in October 2003 and was published in a BCC article titled "Morocco Boosts Women's Rights."*

His majesty went ahead by asking the Moroccan society: “How can a society advance while the rights of women are squandered and they are subjected to injustice, violence and marginalization?”

His support of the reforms was powerful enough that in 2004 these were approved by the parliament.

The changes to the Mudawwana passed on February 2004 “overturns the old family code that allowed husbands to verbally claim divorce and chisels away at age-old traditions that give men all of the legal rights in marriage but none of the responsibilities” (Douglas). The new law rose the minimum age of marriage for girls from 15 to 18. In the old Mudawwana marriage was defined as “a legal contract by which a man and a woman are united in a commune and long conjugal life” under “the direction of the husband” (Sabir). The new reform changes “the direction of the husband” with “under the leadership of both spouses” (Sabir). The new reforms have also allowed for polygamy to be made more difficult since men would have to face a judge for approval. While I was in Morocco a taxi driver mentioned that the government is not what it used to be; he insisted that men are losing their say. This I believe to be one of the core issues leading men to oppose the reforms. Men tend to believe that the reforms to the Mudawwana undermine their authority and leave them with fewer rights. In order to address such perception King Mohammed VI’s government must deliver clarifications and sustain the idea that as “Commander of the Faithful” King Mohammed VI is doing what must be done. His majesty’s legislations are “meant to reconcile lifting the iniquity imposed on women, protecting children’s rights and safeguarding men’s dignity.”<sup>4</sup>

How can the situation of women improve? Better yet how would such improvement positively impact Moroccan society? According to Cohen and Jaidi, authors of *Morocco: Globalization and Its Consequences*, “The Mudawwana is really a type of violence, judicial violence, against Moroccan women. It entirely goes against the reality of Moroccan women by not including them as part of society, by not allowing them to participate in development in all areas- political, economic, social, and cultural” (87). While Morocco’s situation is clearly understood, ironically the Kingdom must keep acting through the document that restricts women from fully becoming dynamic participants of society-- the Mudawwana.

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4. *King Mohammed VI's explanation for reforms delivered in October, 2003.*

By doing so Morocco's society will benefit economically, socially, and in the long run the pressure from the international community will be released as rights become more prominent. It is not a secret that when the Mudawwana was created in 1956, this family code was drawn from Islamic law and Secular law. While a hasty separation of these two laws would cause widespread chaos, gradual additional reforms are needed so that women can earn an education and therefore be more productive through greater participation in the Moroccan economy. According to Patricia J. Campbell, "Moroccan society is relying on women to keep its economic sectors viable" (10). It has been stipulated that allowing for women's rights would impact the Moroccan economy in such a way that the Kingdom would finally enjoy its unique location and natural resources.

According to Cohen and Jaidi access for women to paid and industrious activity has not engendered deep changes in mentalities (105). The effects of the Moroccan economic crisis and the impact of illiteracy (Morocco currently holds the 11th place for countries with the highest women illiteracy rates in the world compared to male illiteracy rates) have toughened social inequality. This is another aspect that must be taken into consideration; the higher a country's illiteracy rate, the wider the gap between women and men, the more the economy suffers. Cohen and Jaidi correctly point out that in Morocco, it is necessary to create an "economic infrastructure with appropriate, competent social services and to give to women and to men the means of realizing their potential and fulfilling themselves in their professional and civic lives" (105). The benefits will not only include greater freedom through income, the protection of law, and a better educated population, but also greater solidarity among women (Cohen 106). Thus, education is essential for Moroccan economy to improve.

Islamists and Liberals can make the greatest impact. In the process of interweaving modernity with Islam, "women's empowerment movements place their concerns for greater rights in Morocco within Islamic law" (Cohan 105). A call from the Moroccan government to discuss possible agreements between liberals and Islamists while leaders from both sides are present could be an effective approach. Although this has been "tried" before, Islamists have been more effectively represented and thus new possible reforms have not been enforced. Education for women, governmental support, participation of NGOs and Islamist tolerance are the key elements for a better quality of living in Moroccan society. The government must instill clarifications between the secular and religious law. Men and those who oppose must understand that since Morocco is founded upon

a mixture of the two, women have the secular or legal right to be individuals and to live their lives under a system which allows them to grow.

According to the UNFPA's *State of World Population 2000* report, around the world "at least one in three women has been beaten, coerced into sex or abused in some other way" (Siomen). According to Mari Simonen, Director of Technical Support Division UNFPA, this type of violence has been viewed as a private matter for such a long time that not until recently was finally accepted as a human rights violation. Simonen states that the aggression women around the world endure today brings public health concerns with social, cultural, economic, and psychological proportions (5). When Simonen says that "Still, gender-based violence is shrouded in silence and shame" she is partially right when thinking about a nation that is a "hell on earth for women"-The Democratic Republic of the Congo. In the Congo gender-based violence is a practice performed as often as taking a shower, eating food, or brushing one's teeth; women's outcry for help has broken that silence and caught the international community's attention. While most human beings feel ashamed after taking part in an action socially identified as immoral, the male population engaged in conflicts in the Congo does not seem to know such feeling. Violence and discrimination against women in Arabic nations are often embedded into legal systems fused with religious beliefs (such is the case of Morocco) while for other societies it is rooted in their social structure as in the Democratic Republic of the Congo.

If I told you that in Morocco the stories of rape, killings, abuse, war, chaos, and destruction exist, would you believe me? Morocco homes women who have faced a parallel yet very different reality from its native women. They are the immigrant women from Sub-Saharan Africa. Between 65,000 and 120,000 sub-Saharan Africans enter the Maghreb (Mauritania, Morocco, Tunisia, Algeria, and Libya) yearly (Haas). The government has estimated that 20, 000 illegal immigrants from sub-Saharan Africa live in Morocco today (Dilday). On the first weekend in Morocco, I met one of these 20, 000 immigrants. When I was traveling to the southern city of Ouarzazate which has increasingly become a place of heavy tourism, I met a Sub-Saharan immigrant woman from the Democratic Republic of the Congo. This French speaking woman shared her life story with me and fellow travelers because she wanted "people to know" about her life of struggle and fear. This is what she said:

I lived down south. The men came into my house at night. They [were] soldiers with guns who took my sister and when I tried to fight back they hit me hard. Then they took me with them too. They touched my vagina and made me have sex with them. I escaped. I am here now. I am happy

because I am away. I work here and I don't get beaten up. Men respect me here. I want you to know my sisters are still there, but I am here. I came here by car and I loved the music... it was new to me. The irony is itself a contrasting paradox in Morocco. While the Moroccan woman has realized that there is much more to being obedient to her husband, the immigrant woman is satisfied with the "respect" that a man provides her with in Morocco and identifies the Kingdom as a safe-haven. This woman's story was something I had never expected to hear, especially in Morocco. I spent my trip trying to understand her story and not until now have I been able to put it into perspective. Her story is just one among hundreds of others!

Telecommunications, the decline of the Westphalian sovereignty, travel, trade, migration, growing interdependence, and the weakening of national boundaries have all contributed to a firm commitment on human rights by the international community (Payn77) and in the Congo the United Nations has deployed 12, 068 soldiers (second highest number of peace-troops sent to Africa) in order to help address the monstrous situation taking place at this very moment. To put things into perspective, humanitarian intervention such as the one being carried by the United Nations comes under extreme cases; "when human rights violations shock human conscience" (Payne 91). While there are two kinds of humanitarian interventions, consensual and imposed, the Congo undergoes an imposed intervention. But what exactly is going on in the Congo that its women and visitors to the nation are leaving saying that they have lived or been to hell?

Rene Lefort, Author of *Congo: A Hell on Earth for Women*, discusses the conflict when he says that "War, ethnic conflict, and the greed of neighboring countries have turned the eastern part of Democratic Republic of Congo into an utterly lawless place. And as if massacres and systematic plundering by armed bands weren't bad enough, the horror of rape is everywhere, too." According to Lefort, the situation of women, men, and children today started in 1994 when Rwanda's Patriotic Front gained power over the Congo and stopped the genocidal attacks against the Tutsis. According to Lefort, the conflict between the Hutus and the Tutsis left 800,000 Tutsis dead. The situation in the Congo, however, is much more complex today. After the Hutus escaped to the Congo, they launched attacks against Rwanda which led the Rwandan government to invade and bypass Congolese territory to stop the Hutus themselves since Congo's ruler Mobutu had sheltered the perpetrators instead of deporting them. The United Nations then accused neighboring nations such as "Rwanda, Uganda and Zimbabwe of using their intervention in DR Congo as a cover to loot its huge mineral wealth - especially diamonds" (Q&A: DR Congo Conflict).

The conflict in the Democratic Republic of the Congo involves rebel armies and militias from Zimbabwe, Burundi, Sudan, Namibia, Angola, Rwanda, and Uganda. These militias and rebel groups are well armed and have “shifted alliances, split apart and regrouped under other names” (Kem). Nonetheless, according to Kathleen Kem, author of “Corporate Complicity in Congo’s War,” they all have something in common; they target civilians and use rape as a weapon of war. In the Congo such act has become truly an epidemic worse than the black plague in Europe. Rape in the Congo is not something new for it has been part of wars throughout history such as the case of Japanese soldiers in WWII who sexually enslaved Korean women. Similarly in the Congo, sexual violence is used as a tool of ethnic cleansing. Sexual violence is “used to humiliate and destroy families and communities, to terrorize members of a particular ethnic group, and to force people to flee an area” (Payne 97).

The United Nations and some European countries demanded Uganda and Rwanda to remove their troops or existing beneficiary relationships would end. Both nations did; however, their influence is still present in tribal divisions within the DRC and thus the ethnic cleansing still continues despite efforts by the UN to end it. Due to their geographical location, Ituri, and the North and South Kivu provinces are the most affected regions. Goma and Bukavu also experience a chaotic situation at this very moment. In Bunia, Ituri’s capital, “The corpses of men, women and children lie rotting, burning and abandoned in Bunia’s streets. The ethnic violence claimed approximately 800 lives in the town over two weeks” (Left). In this complicated situation women are being raped, slaughtered, enslaved, tortured, discriminated, and excluded from societal acceptance. Indeed in our “advanced” and “humanitarian” world, the DRC has become hell on earth for these women.

According to Lefort, sexual violence and rape as a weapon of war have been features of the conflict in which 70% of women and girls between the ages of ten and thirty have been raped and their sexual organs mutilated. Lefort also reports that in the town of Uvira, on average 40 women were raped every day between October 2002 and February 2003! Jeanne, the head of the Protestant Women’s Society of North Kivu, in an interview with Kathleen Kem, shared some of the most compelling stories she has ever heard and witnessed:

One young woman delivered a stillborn baby the day after her three-year-old child had died. She was too weak to move when five armed men entered the house and her husband fled. They gang-raped her with the cadaver of the stillborn in the room. She needed five operations and will never have children. The husband married someone else.

The stories of women are as diverse as the continent's tribal communities; something must be done to help these women in the Democratic Republic of the Congo. In today's globalizing world such statistics and women's outcry for help invite the assistance of multiple NGOs and UN programs to address the widespread horror. The situation of women in the Congo led Harvard's Harvard Humanitarian Initiative to launch the Panzi Hospital Project. Last November a group of doctors traveled to Bukavu to first-hand experience the situation currently taking place there. Among this group of doctors was Dr. Susan Bartels with whom I had been working on a possible trip to Bukavu. Dr. Bartels visited the 334 bed hospital which was established in 1999 by Dr. Denis Mukwege. While the hospital accepts 9-12 raped victims every day, it would not be unusual to admit up to 450 sexually abused victims to the hospital at a certain time.<sup>5</sup> The project is directed by Dr. Julia VanRooyen and focuses on the surgical treatment for raped women. What else could be done to help these women? Due to the lack of assistance from a troubled and frozen government, it has become the international community's duty to help the Congolese women. No one but multilateral human rights NGOs such as Amnesty International, Human Rights Watch, and international human rights-based institutions such as the International Criminal Court, Women for Women international and the UN Commission on Human Rights can protect the lives of these women. One must realize that human rights in such extreme cases are no longer seen as an entirely national issue, but "one of global magnitude and scope" (Payne 103). In the case of Women for Women international, they provide women with access to capital, psychological assistance, and help them learn how to read and write. While these organizations take part in the reconstruction of the DRC as a nation, the nation must take the next step.

Why isn't the government stepping in? According to Sarah Left, the DRC never really recovered from the vacuum of power that Mobutu left when he fled the country 11 years ago. The current and constant interests of other nations make the DRC hard to govern especially since the nation's infrastructure in the eastern side has been destroyed by war. The Democratic Republic of the Congo needs a true leader. While the current leader sees no chances of giving the nation a peaceful existence, a new leader might just make the difference.

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<sup>5</sup>. *These statistics were provided by the Harvard Humanitarian Initiative*

This leader would have to ask for international military intervention to drive unwanted, invading, and manipulating parties out of the Congo. Followed with a strong commitment to create a “Congoese identity” among its people, the nation might start witnessing changes. The government then would have to instill reforms in which school systems and the family can help children grow with a new mentality. By doing so, the new generations of Congoese people would be far more peace-oriented. Could this be actually achieved? Congo is rich in natural resources and it must learn how to use these as tools for progress. While the resources at this point are what attract neighboring nations, these could also be the key to progress in the future. Peter Biro, the author of “Helping Women Heal in Congo” takes an interesting approach to the situation of Congoese women. According to Biro, in 2003 the International Rescue Committee (IRC) established a program to support survivors of the attacks. In 2006 the IRC had already counseled 15, 000 women! The IRC has also trained local groups and lawyers to stand up for themselves. In 2006, 20 rapists were brought to court to be punished for what they had done. This is another way that the government could cease the rape of women; by constructing a set of strict laws that make rape illegal. Men regardless of their affiliations will be brought before justice. It took Morocco about 47 years to act through law and I believe the Congo must immediately attempt something similar. While organizations such as the International Rescue Committee are helping, much more needs to be accomplished. Senator Joseph Biden and Senator Richard Lugar recently introduced “bipartisan legislation, called the International Violence Against Women Act - S.2279, which would make violence against women a key priority in U.S. foreign assistance programs” (“End Violence Against Women”).

This is a time in which the sense of our common humanity must prevail in order to aid the Congoese women. By supporting such legislation, the United States will be able to step in at time much needed—that is the beauty of being interconnected, we all get a chance to help those in need.

In the context of women’s rights globalization is slowly helping individuals find their voice and stand for their rights. The Moroccan women are fighting for their rights under a religion that suppresses them while the Congoese women are perhaps enduring the most painful, and inhumane lives of all times but have finally realized that the international community is their friend. In the age of globalization, its most worthy challenge is to help women across the inequality wall so that future generations look upon us as the champions of human and women’s rights.

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## **Musical Colonization: The Impact of Globalization on Indigenous Music**

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During the European colonial period, music of the West was widely disseminated throughout the non-Western world. Ethnomusicologist Bruno Nettl observes that “the first intensive exposure of non-Western societies to Western music was through church music” (Nettl 7). According to Nettl, European missionaries introduced natives of the West Indies to European hymns, and as the Christian faith was accepted by some of the natives, these songs were adopted into their musical tradition. As the hand of European imperialism stretched to nearly every corner of the globe, only few cultures remained untouched by the influence of Western music.

Musical colonization occurred during the European colonial period, but the primary evidence of European influence was geographical and broader cultural domination. In the indigenous music traditions of today, a modern form of musical colonization has emerged employing, not missionaries and explorers, but technology, mass media, and additional global tools to quickly accomplish its end. Modern musical colonization conforms indigenous music to the Western musical paradigm of rock’n’roll and the pop diva; and in doing so, Western culture and music are glorified. As a result of this modern musical colonization, unique change has occurred in indigenous musics across the globe. This change has had various global effects on cultures under Western influence; different cultures have responded or adapted to the West in unique ways.

Ethnomusicologist Timothy Rice defines music as “a form of human behavior created within a coherent cultural system, and therefore possesses structures analogous or homologous to other culturally constructed forms encoded as art, architecture, everyday speech, ideas about natural sounds, and cosmological or religious beliefs about the nature of the world” (Rice 102-103). Rice’s definition both clarifies how music functions within a society and sheds light on how music can be changed through broader cultural influence from outside. His definition also provides the context for understanding how modern musical colonization operates within whole cultures.

Modern musical colonization typically occurs through a process by which indigenous musics are conformed to Western musical or cultural standards by means of global interaction via technology

or the media. This process may result in a diminishment or even elimination of indigenous tradition. However conformation can also take place through the simple application of Western technological elements to indigenous music, i.e. studio recording and the radio, in a way that preserves the old tradition. Further, there are cases in which Western music and technology have been thoughtfully and skillfully employed to promote indigenous tradition, a process which has given it new life and enabled it to function on an international scale.

As a global phenomenon, modern musical colonization is the result of several coinciding and inter-related factors. One primary factor is the commodification and dissemination of pop music in the West. Within the last fifty years, Western music, especially that of the U.S., has become a functioning industry in the capitalist free market. Music is offered as a commodity to be sold on a shelf, in concert venues and through cyberspace. In a money-making endeavor, the entertainment industry markets its products internationally and makes great profits as part of the global economy. Like many other aspects of Western culture, the popular music of both Europe and the United States is widely embraced throughout the non-Western world. During the second half of the 20th century, the music of superstars like The Beatles, Michael Jackson, and Madonna was heard by individuals in almost every culture world-wide. This mass dissemination is the result of the record companies' aggressive use of advertising and mass media and the advent and global distribution of inexpensive playback devices.

In the *Journal of Ethnomusicology*, author Krister Malm describes the global dissemination of Western pop as cultural imperialism (Malm, 343). Malm defines cultural imperialism as the dominance of a culture "augmented by the transfer of money and/or resources...from the dominated to the dominating cultural group." Prior to the current age of globalization, most people in Non-Western societies had little access to Western popular music. Because of the current global interest in Western culture, the influence of mass media, and the advent of the internet and low-priced playback devices, Western pop has now become the "pop" of many cultures across the globe.

Malm discusses another form of cross-cultural interaction which explains the broader interaction between Western and Non-Western worlds. Cultural dominance occurs when a powerful society dominates another society by labeling the culture (traditions of music, rituals, religion etc.) of the dominated society as inferior. Cultural dominance encourages the people of that society to forsake the traditions they previously held and adopt the cultural traditions of the dominant society

(Malm 342). Today, Western cultural dominance occurs through the seduction of mass media which projects images of celebrated rock stars and scantily dressed pop divas to non-Western peoples. This kind of cultural dominance results in the glorification of Westernization. Consequently, Western cultural influences are being embraced by non-Western cultures, often in a way that causes the diminishment, alteration, or elimination of the traditional music. I will define this kind of dominating and destructive musical colonization as negative.

Because of the global power of the West and the potent seduction of mass media, modern musical colonization can seem a powerful and destructive force; however, musical colonization does not only result in the elimination of tradition. In some cases, the traditional musics of non-Western cultures have been synthesized with Western cultural values and musical practices. From this synthesis, hybrid music traditions have emerged in these non-Western societies through the incorporation of Western cultural ideas, instrumentation, and technology. In other non-Western traditions, there has been change, not in what music is played, but in how that music is displayed and performed, e.g. the radio and use of microphones and recording studios. When Western music and technology are adapted in these ways, often the indigenous traditions gain wider popularity and add to the musical diversity on the global music scene. I define this kind of modern musical colonization as positive in its effect on indigenous music because it helps tradition to flourish on an international scale.

The positive impact of musical colonization can reach so far as to revive nearly forsaken music traditions before a global audience. In these situations, the adaptation of Western musical instruments and the use of recording technology and the media has brought old traditions out of the forgotten past and onto concert stages and into the iPods of individuals across the globe. As these particular traditional musics are revived, they are also being adapted to function in an increasingly globalized and technology-dependent world and have consequently been made more accessible to native cultures and the public.

In this paper, I will examine these different examples of musical colonization and discuss how Western influence has affected indigenous traditions. Through various case studies, I will explore apparent positive or negative effects of Westernization to determine whether modern musical colonization has caused indigenous music to flourish or diminish in the current global environment. To begin, I will discuss how the West has impacted the Agbadza-Ageshe drumming music of Ghana. The change brought about by musical colonization is not evident in the audible sound of the music;

rather, Westernizing forces have brought change to the core of its meaning to the Dzodze people.

Ethnomusicologist James Burns has studied the tradition and recent changes of Agbadza-Ageshe, the funeral music of the people of Dzodze, a region in southern Ghana. He explains that the drumming patterns of Agbadza-Ageshe, known as vugbewo, have specific, intelligible meaning which can be translated into words (Burns 300). These drumming patterns have deep religious and cultural significance for the Dzodze people.

One of Burns' main points of discussion is the period of transition in Dzodze culture between "traditional beliefs and practices and those associated with Christianity and Western education" (Burns 302). In the colonial and post-colonial environment that continues to shape Dzodze society, the traditional practices of drumming, dancing and religious ceremonies have been labeled heathen and primitive. Religious traditions continue to be practiced in traditional form by some, but many of the Dzodze have modernized these traditions, synthesizing them with Christian practices of the West, while others have completely adopted Western culture and religion and have forsaken their own cultural heritage.

Burns also discusses the influence of the Westernized urban centers of southern Ghana on rural Dzodze culture (306). Because urban centers draw people from various villages and regions, different traditions of vugbewo from each region are shared between musicians. When these musicians play together, they use many different drumming patterns from various localized traditions. The musicians also incorporate Western themes, such as reggae, changing the rhythms in their drumming patterns. These various traditions and Western musical influences are disseminated back to the rural areas when the urban musicians return to their home village. Because of urban influence, musicians of the village possess new and different drumming patterns. According to Burns, these local musicians are playing less traditional, religious vugbewo, and more novel, secular vugbewo which is heavily influenced by the styles of urban musicians (306).

Burns gives specific examples from Agbadza songs which show the significant effect of musical colonization on the vugbewo tradition. Overt sexual references have become popular in vugbewo, and secular themes are replacing religious ones. Surprisingly, these new patterns are still played at funerals, and the vugbewo translation is sung along, creating a stark contrast between contemporary style and cultural tradition. These examples show that "the process of secularization has transformed the sacred traditional music genres into new forms that resemble popular [Western]

music with all its openness to experimentation and its willingness to break social taboos and barriers” (313). Though, on the surface, the sound of the music, and the method of instrumentation has not changed (317), the core meaning of these drumming patterns has changed and a once celebrated tradition has been all but lost.

In a book on the impact of the West on world music, leading ethnomusicologist Bruno Nettl includes a field work essay written by William Belzner on the musical changes of indigenous societies in Ecuador. When Belzner first visited the settlement of Macuma, which was inhabited by the native Shaur Indians, he noticed stark incongruities clashing around him. “I...saw more lovely houses occupied by missionary families, toured the well equipped radio station and equally impressive machine shop, and traversed the well-tended ground surrounding the community. Quite different from the lifestyle of the Shaur” (Nettl 132). At the time of Belzner’s visit, the Shaur people were still living their traditional lifestyles. But because of the missionaries’ influence, the Shaur had slowly begun to adopt tools and traits of Western lifestyle into their own lifestyle (132).

“They have learned to use bits and pieces of the modern world in order to forge new identities in situations where traditional values cannot suffice, and they often walk a fence between their two worlds” (132). The Shaur have a rich musical repertoire, but since much of their traditional music is based on “pagan” rituals, the missionaries have encouraged, even forced the Indians to forge a new musical identity based on Christian and Western standards, centering every part of Shaur tradition on the West. Belzner states that the hymns taught to the Shaur “violate every element of traditional Shaur music” (132-33). This is an example of what Krister Malm defines as direct and intentional cultural dominance as the missionaries repress tradition through musical colonization (Malm 342).

Though some of the Indians seek to preserve their tradition, the prohibition of much of their repertoire has resulted in a loss of tradition in Shaur culture. They are encouraged to learn how to play the guitar and to sing hymns and they are told to reject their former, “pagan” songs. Shaur music tradition has been so badly damaged that some natives who attempt to play traditional songs are unable to do so with any skill or integrity to tradition (134).

Musical colonization can take place in very tangible ways, as is evidenced in the field work of ethnomusicologist Ashenafi Kebede, who has performed extensive field work in the Ethiopian cities of Addis Ababa, Harrar and Dessie, studying the impact of Westernization on indigenous Ethiopian music. Prior to musical colonization in Ethiopia, one of the most practiced musical traditions was the

music of the *azmari*, a “strolling poet-musician”. *Azmari* music is deeply rooted in the vocalist’s poetic ability and often draws on his ability to improvise (Kebede 296). Professional *azmaris* were respected social critics and would improvise on sophisticated texts (Shelemay ii). The *masinko*, a traditional one-stringed fiddle made from animal gut, accompanies the vocalist, sometimes along with a drum or lyre. In *azmari* performance, there would often be interaction between the performers and the audience, especially as regards what was being sung (Kebede 296).

Musical colonization began operating in Ethiopia during a period of cultural Westernization in the early 20th century. Mass education was one of the primary means by which Westernization was accomplished in Ethiopian culture. Traditional schools were transformed to fit a more European mold, and some students were sent to Europe to receive higher levels of Western education (289). Kebede points out that “change in music is frequently brought about by the social, political and administrative conditions of a country” (289). This implies that the music of a people is inseparably connected to their past and present experiences. When significant change occurred in Ethiopian society, significant change inevitably followed in their musical traditions as well.

In the early 20th century evidences of Westernization were seen through the performance of music on stage, the charging of fees for performances, the birth of four-part choirs singing songs in Western harmony, and later the advent of studio recording (290). In addition to the adoption of European modes of performances and harmonic theory, traditional Ethiopian instruments were altered to more closely conform to Western instruments. The *masinkos* used both in *azmari* music and in the traditional *yebahil* orchestra were modified to sound more like European violins and consequently lost much of their indigenous quality. The *begena* (a traditional box-lyre) had been used only to accompany traditional sacred verse; but in the process of Westernization, the mode of playing this lyre changed to imitate American-style jazz bass (292). Along with these instrumental alterations came the gradual disappearance of *azmari* music (294). Because of the emphasis placed on staged performance and studio recording, Kebede notes that the “artistic interaction between performers and audiences through spontaneous improvisation has been discontinued in contemporary musical practice” (296). The lessening of tradition brought about by musical colonization is particularly significant to the Ethiopian people because “*bahil* (tradition) often assigned specific roles, extra-musical symbolisms, and concepts to musical instruments” (292). Unfortunately, these important connections between music, ritual and traditional culture have been broken and are slowly fading into the past.

Musical colonization can negatively affect traditional music by stripping it of its authenticity as a cultural tradition either through alteration of ritual meaning or through a process of conformation to Western music theory, instruments and practices. Still, musical colonization does not eliminate cultural authenticity in every case. Many indigenous traditions have been creatively combined with Western music, creating a cross-cultural hybrid. One such example is given in a 2001 article in the *Popular Music* journal, in which ethnomusicologist Paul Greene details his research of the music in the Kathmandu Valley region of Nepal. At the outset, Greene references practices of borrowing and adapting foreign (mostly Western) sounds to indigenous music so that “contrasts between different musical elements are smoothed over so that they can be integrated into unified musical expressions” (Greene 169). The practice of blurring the lines between Western and non-Western, foreign and indigenous, by adapting Western styles to traditional music created a phenomenon all throughout Asia known as “mix” music. This phenomenon became widespread in the early 90’s with the global marketing of the Alesis ADAT, an affordable eight-track recording device (170). Greene found that by 1993, “there were many new multi-track recording studios in the Kathmandu Valley, and studio production costs began to fall within the budgets of middle- and upper-class students in their teens and twenties” (170).

In the current context, Greene puts stylistically blurry mix music in the past. A different kind of mix is being produced in Nepal, one which “employs the latest sound studio technologies in order to reproduce more precisely than ever before the precise timbres, rhythms and tunings of sound bites of both foreign pop and indigenous music” (169). This use of technology would presumably be a positive boost for Nepali tradition as it produces a more authentic sound. But Greene is quick to add that “as these foreign and indigenous sounds are coming more sharply into focus in Asian soundscapes, their meanings and histories seem to be going out of focus” (169). Surprisingly, as the crisper, more authentic sounds of indigenous and foreign music are mixed in Nepal, there is less clarity of the true meaning of both the indigenous and Western music. Greene defines this phenomenon as “detachment;” though heard clearly, the sounds are detached from their traditional context. This kind of detachment could be seen as negative because, although the sounds remain, the deep meaning once understood in the music is lost.

Detachment from tradition and the blurring of sounds between foreign and local embody a common feeling among Nepali youth in Kathmandu. Greene notes that “as they journey towards professional identities, they contemplate the many contradictory worlds—both traditional and highly westernized—in which they are expected to live and work in the new urban Nepal” (170).

Though detachment in mix music is significant, it does not paint the whole picture according to Greene. As the sounds of Western and indigenous music are more accurately represented through modern recording technology, the contrast between them can be more clearly identified; thus, a greater contrast is felt between that which is Western and that which is traditional.

Modern musical colonization is only a small part of the greater effect of globalization and Westernization in Nepal. Once reached by these global powers, the people of Nepal are faced with a choice of how to adapt their music, culture and lifestyles to globalization. Greene concludes that “although the new mix sound is self-consciously Western-influenced, it is not accurate to conclude that young Nepalis are trying to recreate a Western society in Nepal.” The people of Nepal must find an identity amidst the change brought with globalization. Mix music is a means through which Nepalis can contrast the traditional and novel, the global and local within their one place of existence. Greene’s final analysis is that “the music functions as a thought provoking backdrop for identity-exploration in a changing, cosmopolitan Nepal” (171).

Though traditional Nepali music has only been “mixed” with Western sounds, the effect of modern musical colonization cannot be defined as neutral. Both Western and traditional Nepali sounds are heard clearly in modern mix music, and Nepali tradition is more genuinely represented through modern technology. For some, this is a step forward as the sounds of traditional music are carried on and can now be accessed more easily. Yet for others, modern mix music may be seen as a display of Nepali tradition which has been tainted by the West. The phenomenon of Nepali mix music shows that the impact of modern musical colonization is dialectical.

As can be seen in Nepali mix music, the adaptation of Western music is often accompanied by the adaptation of Western technology. Yet modern musical colonization can take place through the adaptation of technology in a way that does not audibly change or alter the indigenous music. One such example is traditional Indonesian gamelan music. In comparison with the West, Gamelan is unique in almost every respect. Gamelan music utilizes an orchestra of mainly metallic instruments, such as gongs, cymbals and xylophone-like instruments. These instruments are tuned

according to either the pélog or sléndro tuning systems, neither of which is parallel to or synchronous with Western tuning. Modern musical colonization has not reduced the contrast between Western music and Indonesian gamelan tradition; however gamelan music has indeed changed in a subtle, yet powerful way.

In an article on the Western influence on the gamelan tradition, ethnomusicologist Judith Becker contends that “the word influence cannot be limited in interpretation to mean only simplistic adoption. Influence also includes the impact of the technology and Western concepts” (Becker 3). The musicians of Indonesia have not abandoned the tuning standards and have not replaced traditional gamelan instruments, but Becker’s research shows that many Western technological and methodological standards have been incorporated into the gamelan tradition and have made subtle changes in the tradition itself.

Gamelan music is an oral tradition, i.e. methods and repertoires have been passed on through generations via oral transmission. One evidence of musical colonization in gamelan is the adoption of the Western system of notation. Those outside the exclusive court network of gamelan orchestras can now play the same pieces as those within the court. The adoption of Western notation has allowed a greater number of people to play the same gamelan compositions. Becker notes that the incorporation of notation has “introduced the concept of standardization and uniformity which in some gamelans has severely limited the autonomy of the individual musician” (4). The practice of improvisation, within the confines of the composition, is a valued tradition in gamelan music, but with the use Western notation standards, individual gamelan music is becoming less unique and more akin to the standardized classical music played in the West. In this way, the adoption of Western notation has resulted in greater homogeneity of gamelan styles (4).

Though Western musical instruments have not been incorporated into live performance of gamelan, Western technological instruments have been. The most widely used of these is the microphone. According to Becker, the gamelan orchestra is designed to produce a balanced sound, with no single instrument being dominant in volume or power over any others. With the incorporation of the microphone in gamelan performances, a soloist-and-accompanist structure has emerged. Becker notes that, typically, a microphone is given to the female singer, making her the soloist and the other instruments the accompaniment, a practice very similar to that of the West (4).

In addition to notation and the use of the microphone, recording and radio broadcasting technology have been used to more widely distribute gamelan music throughout Indonesia. The radio has become a popular medium through which all Indonesians can hear the style of gamelan that had formerly been played only in the courts before a small audience (4). Like the adoption of notation, the use of recording technology and the radio has produced greater homogeneity of method and has reduced differences between court styles and regional styles.

Gamelan tradition is changing through the global dissemination of Western practices and technological advances; but the sound of the music remains mostly unchanged. The tradition has been adapted to globalization and modern technology, and as a result, gamelan music is more widely accessible throughout Indonesia and subsequently throughout the world. Therefore, in the context of globalization, many view modern musical colonization as a positive influence on the gamelan tradition because the appropriation of Western technology has enabled gamelan to be heard by a wider audience.

Modern musical colonization has the most positive impact on indigenous music when it enables the tradition to come into greater focus in a global environment through the employment of non-traditional music, modern technology or both. Independent scholar Michael Peluse has performed extensive study of the Tsugaru shamisen tradition of Japan. Peluse's essay on the subject describes how Western music and technology were applied to a fading tradition in a way that not only revived it, but brought it before a global audience.

The shamisen is a three-stringed fretless lute that has been played in Japan for hundreds of years. It is said that blind beggars first developed the subgenre of Tsugaru shamisen as they performed on doorsteps for money (Peluse 61). These beggars were not unskilled musicians; in fact Tsugaru shamisen has a very structured form, one which takes much skill to master. The music's popularity as a cultural tradition in Japan fluctuated during the second half of the 20th century; by the early 1980's, Tsugaru shamisen had lost much of its popularity and faded into the dim light of the past for over a decade (63).

In comparison with other shamisen styles, Tsugaru shamisen is more rhythmic and has a lively, energetic quality (64). The music is based on the folk songs of Tsugaru region of Japan. Peluse explains the significance of this connection in that, "these songs were transmitted orally, not through an institutionalized system, resulting in more compositional and improvisational freedom" (63). These unique characteristics show Tsugaru shamisen to be "dynamic, individualistic, spontaneous,

and energetic, defying Western stereotypes of Japanese traditional music” (58).

During the 1980’s, while Tsugaru shamisen was fading from popularity, two young brothers, Ryôichirô and Ken’ichi Yoshida, began receiving lessons in Tsugaru shamisen. As they entered their teenage years, they quickly became prize-winning performers in their area. The Yoshida brothers went on to win nationally televised contests and became renowned throughout Japan (66). Following their rise to national fame, they were soon asked to sign to a record deal with Victor music (67).

Another young Tsugaru shamisen player who was equally influential rose to fame around the same time as the Yoshida brothers. Agatsuma Hiromitsu grew up near Tokyo and began experimenting with the shamisen at a young age. His early practice took place in secret because, as he puts it, “basically shamisen was for older people, grandmas and grandpas who did it in their leisure time, and young kids would never even think of touching a shamisen” (68). Although his passion was not popular amongst his peers, Agatsuma continued to play the shamisen and became quite proficient in the Tsugaru tradition. Like the Yoshida brothers, he won many contests and gained popularity throughout Japan. During the early 1990’s, Agatsuma began blending rock music with his Tsugaru shamisen (68). This experimentation inspired him creatively and in late 90’s and early 00’s, Agatsuma recorded several albums which “fused Tsugaru shamisen with diverse musical styles from techno to the blues” (68).

In 1999, the Yoshida brothers released their first album, *Ibuki*, which only features the shamisen. This debut album is mostly comprised of songs from the standard Tsugaru repertoire, but it also contains two original pieces (67). Their sophomore attempt, *Move*, was released a year later and incorporated more musical creativity. Over half of the songs on *Move* are original compositions, and several other instruments—both Western and Japanese—are heard on the recording. Over the next 3 years, the Yoshida brothers released two albums *Soulful* and *Frontier*, both of which brought them to new heights of creativity and popularity. In these albums the appropriation of non-Japanese instruments can be clearly heard. According to Peluse, the Yoshida brothers added “synthesizer, piano, strings, harp, drums, bass, and shakuhachi to the mix to create lush New-Age style pieces and more of a full band sound” (67).

In 2003, both Agatsuma and the Yoshida Brothers released their first internationally distributed album with Domo Records. Agatsuma’s *Beams* and the Yoshida Brothers’ self-titled project were only the first of many widely successful modern Tsugaru shamisen albums distributed globally in record stores and through cyberspace. *Yoshida Brothers* was produced as a compilation

project, combining the best of their most musically expansive albums, *Soulful* and *Frontier* (74). Their international popularity indicates that their use of Western music and technology made Tsugaru shamisen more globally noticeable and accessible.

Since the international release of their albums, both Agatsuma and the Yoshida brothers have been on a global tour, giving many performances in the U.S. (75). “Time will tell,” Peluse says, “if the new Tsugaru shamisen music will find long-term success outside Japan” (75). Since 2005, when Peluse wrote his essay on Tsugaru shamisen, both the Yoshida Brothers and Agatsuma have continued to release internationally distributed albums. iTunes® and Amazon.com® are just two of the many means by which the new Tsugaru shamisen music can be accessed by listeners around the world. The Yoshida brothers have become so popular that one of their hit songs, “Kodo,” was used in a 2-minute commercial for the Japanese-made Nintendo Wii® video game console.

Agatsuma and the Yoshida Brothers have adapted Western music and applied Western technology to Tsugaru shamisen tradition to bring it into the international spotlight. Their courage to record original pieces and use non-traditional instruments is a reflection of the individualistic, improvisational tradition of Tsugaru shamisen. The non-traditional sounds they incorporate do not eclipse the time-honored beauty of the shamisen—on the contrary—these creative elements enhance the tradition, making it pulse in a multi-cultural encounter for every listener.

“The Yoshida Brothers and Agatsuma have challenged the traditional image of the shamisen player. Their active attempts to change the way the public views Tsugaru shamisen are helping keep it alive in Japan.... [They] have brought their brand of Tsugaru shamisen to a huge number of people in Japan. They are models for how a once old-fashioned music can come alive for young people.” (76) Tsugaru shamisen has not become “better” as a result of modern musical colonization; it has become popular in the global market as it flourishes before a global audience.

Though the global success of the Yoshida Brothers and of the Tsugaru shamisen tradition is undeniable, it could be argued that the true identity of Tsugaru shamisen is being lost in a homogenized mixture of predominantly Western sounds. A similar perspective could be held regarding the changes in traditional Indonesian gamelan music as it is recorded and played on the radio like the music of the West. Though these opinions are valid, it must be recognized that in the context of globalization and the global audience, the impact of modern musical colonization can be positive for an indigenous tradition.

It could be further argued that, as Western music and technology are globally embraced, all world music will one day dissolve into one homogenous mixture which lacks any diversity or true cultural identity. Jocelyne Guilbault, Professor of Ethnomusicology at the University of California Berkeley, addresses the question of homogenization versus global function in a study of the “local” in world music. Her perspective is that “the appropriation by the small locals of the skills and resources of the dominant traditions must be seen as a part of the necessary strategy...for differentiation to emerge within the realm of commodity aesthetics” (Guilbault 139). In this way, it seems important that Western music and technology be adapted to indigenous traditions, at least to a certain extent, so that global diversity in music can be sustained. In regard to this adaptation, Guilbault states that “world music takes of the skills and resources of the dominant traditions: it appropriates the latest technology and know-how in its production, marketing, and distribution and features many of the musical characteristics of the mainstream musics heard on the global market” (ibid).

The global manifestations of the modern colonization of indigenous music are diverse, ranging from cultural domination, coexisting cultures, stylistic adaptation and technological appropriation. In each case there are unique factors involved in how music, tradition, technology, and the West are viewed and how local individuals respond to change in their music traditions. Yet, one thing is clear; modern musical colonization is a powerful force that can act to vitalize or eradicate indigenous music traditions.

Though the negative effects of modern musical colonization can be repressive to tradition, Western music and technology can be adapted to enable indigenous music to function in a globalized world and illuminate tradition before a global audience. Specifically, it is in the context of globalization that musical colonization can have the greatest positive impact. Dr. Aram Hessami defines globalization as a phenomenon which “stands for the empowerment of the individual challenging the traditional holders of power.” In the history of musical colonization, the traditional holders of power have culturally dominated many indigenous music traditions; but in this age of globalization, indigenous traditions are empowered to be heard on a global stage and are challenging Western definitions of music and aesthetics.

## Homais and Leon: Emma's Symbolic Prison Guards

~Dan LaSalle

Gustave Flaubert's *Madame Bovary* (1857) makes a mockery of many romantic maxims especially the ability to persevere through tribulation to attain glory and love. Emma Bovary tries to resist the economic and cultural tides of pre modern France for said goals, but fails. Two of the many societal constraints that prevent Emma from selfactualizing are the bourgeois caste and the nature of womanhood in mid nineteenth century France represented by the characters of Monsieur Homais and Leon Dupuis respectively.

Stirling Haig, a literary critic and a French historian, argues that equality in premodern France was still a relatively new concept. Although the French Revolution of 1789 expunged several factors that prevented social mobility, unfair taxes and property distribution, an increase in social standings would never augment until after World War I (126). Emma Bovary's desire to earn prestige on her own and through her husband is anachronistic. Emma can never return to the Vaubyessard ball or maintain a relationship with the elites of Yonville. Flaubert uses Homais to represent this component of the status quo that Emma will never escape.

Homais substantiates the motif of the circumscribed bourgeoisie during the plot development of the entire novel. But, in two critical scenes his role seems to be solely as a depressing reminder to the reader that Emma is a slave to the status quo. The dinner scene serves as the first of two scenes. Homais invites Emma and Charles to attend dinner with his companions, Leon and Abbé Bournisien. This is the first extended dialogue of the scene, in which Homais shares inconsequential gossip about the town (Gans 90). He comes across as a pompous windbag embarrassing his conventional townspeople. The superficial conversation provides Homais a chance to befriend Charles in hopes that Charles may look the other way when his pharmaceutical practices fall below par (Porter 76). Leon and Emma sunder themselves from the shallow conversation with talk of Romantic notions, which will be discussed in greater detail later.

A pharmacist in mid nineteenth century France portrays the quintessential bourgeois position (Porter 25). Eric Gans goes on to suggest that the position of apothecary requires little schooling.

Traveling doctors could never count on a knowledgeable pharmacist in every town, so they often schooled themselves in primitive pharmacology and dictated to the available apothecaries what drugs must be used (Gans 45). The first exchange between Homais and Charles begins when Homais makes the pejorative remark, "The practice of medicine isn't particularly arduous in this part of the world" (Flaubert in Lawall 1084). Homais' remark to Charles appears conceited and belittling a poor attempt by Homais to convince his company of his transcendence from the middle class.

Laurence Porter in *Approaches to Teaching Madame Bovary* (2003) builds on the idea introduced by Gans. Economic status alone is not the only indication of aristocratic identification. Diction, etiquette, and certain formalities earn a person acceptance among the most elitist people (25). The American reader can easily overlook the conversation between Charles and Homais as trivial. Under closer examination, the reader can discern that Homais tries not to reflect his position in society to Charles. Thus, Homais adopts a sophisticated facade (27).

Homais demonstrates his pompous and hypocritical personality by a direct criticism of the poor when he himself constantly fears financial ruin from his slothful pharmaceutical practices. He detests the stolid nature of the peasants' "adherence to the old ways" (Flaubert in Lawall 1084). Talk of hydrogen, ammonia, chemicals, electricity, and other esoteric terms (especially in pre modern France) comprise his colloquial tirade. If Homais' personality may elude Emma, but certainly not the reader: Emma remains bound at the table with Homais, as she remains bound to the middle class caste throughout her life.

The dinner conversation with Charles is a clear indication that as middle class citizens, the most exciting life gets is when the wealthy do something that is worth talking about (Gans 93). The chains of middle class bondage become clear after Homais pontificates, "Monsieur Leon sometimes doesn't come in till seven, or even halfpast... there's a great difference you know, between someone who's been properly brought up and a tax collector who got his only schooling in the army" (Flaubert in Lawall 1080 1081).

By the end of the novel the reader realizes that Flaubert, although not advocating this style of life, does suggest that mediocrity is the key to surviving and maybe with a little bit of recognition (Gray 18). Hence, Homais receives the Legion of Honor in the final scene of the novel. Not even the doctor from Rouen receives it after saving the life of Hippolyte from the cursory surgery Charles performed under the guidance of Homais. According to Eric Gans, Flaubert surmises that "to succeed

in the world is to be unable to stand above it, and the example of Homais shows that the most successful are the most monstrously conformist" (45).

The concept that Homais serves as a reminder to Emma of the bourgeoisie is further evidenced in Flaubert's layout of the scene. The dinner is a synecdoche: Emma's conversation with Leon represents her conscious and deliberate separation from reality to the disillusion of romance. The "reality" is the platitudes and mediocrity represented by Charles and Homais. Flaubert often interjects opinions during the narration of a scene or dialogue. But, Flaubert clearly removes himself from this scene in order for the synecdoche to take place.

The middle class manifests itself in Homais again during the club foot operation. Hippolyte, a crippled servant at the local inn, falls victim to Homais' persuasion. Appearance after appearance, Homais spews clichés demonstrating little autonomous thought as greed consumes him. Fame transcends even the well being of Hippolyte (Porter 110). The apex of this occurs before the operation when Homais regurgitates every persuasive argument for Hippolyte to submit himself to the operation:

It's not for my sake that I'm urging you, but for yours out of pure  
humanity.. Are you a man or aren't you? Think what it would have been  
like if you'd had to serve in the army and go into combat. (Flaubert in Lawall 1141 1142)

Homais even has the crassness to type an article on the success of the operation before it even begins. In *Madame Bovary's Ovaries; a Darwinian Look at Literature*, David Barash remarks that "so little has changed since Flaubert's France. Today, ninetyfive percent of the working class think they can become the next Bill Gates they try and fail. Homais is a reminder that even back then these disillusioned hopes existed" (104)

Laurence Porter suggests that Hippolyte's operation is the greatest reminder to the reader that Emma is bound to middle class standings. By this point during the plot development Flaubert has made it clear that Emma is board with Charles: "Charles' conversation was flat as a sidewalk, a place of passage for the ideas of everyman" (Flaubert in Lawall 1060). Porter suggests that the personality of Homais has degenerated into Charles. Homais knows nothing of compression or blood circulation, or anything behind the cast they affix to the club foot. And, Homais' ordinary mind can not think abstractly when he needs to devise a drug to abate the gangrene (40). He is only trained in ordinary medicine. Homais has become the thing Emma hates an unimaginative mediocre person, just like Charles.

Eventually Doctor Cavinet amputates the club foot. The failure of Homais and Charles further demonstrates that two mediocre students of medicine are inferior to a single expert in medicine (Dumesnil 122).

The second force that prevents Emma from reaching fame and prestige is the stereotyped perception of women. As a woman in pre modern France, the only path to glory is by latching on to a successful man. In fact, the quality and prominence of the man is the only thing that allows a woman to be distinguished (Haig 56). The only other options for recognition as a successful woman include nuns, wet nurses, and servants (Haig 59). Leon is the character who represents the caste of womanhood in two critical scenes as well: the dinner with Homais and Charles, and the affair in the carriage.

Leon and Emma quickly digress into a shallow conversation as soon as Homais and Charles begin theirs. Leon and Emma exchange ideas and opinions on jaded "Romantic" notions (Flaubert in Lawall 1084). Clichés of sunsets, the seashore, the opera, and poetry fill the conversation. Flaubert introduces an element of humor when the two characters reflect on their conversation and think it quite profound. Henry Levine, a literary critic, suggests that Leon and Emma are anti Romantic. The exchange of platitudes and conventionalities suggest that their concept of Romanticism does not span any further than simple concepts that Emma read about in the convent (46). The idea that Leon leaves the dinner in love with such a woman is laughable because she hardly demonstrated any such attribute of sophistication, class, or romance (Dumesnil 32).

Levine goes further to compare Madame Bovary, the story of a mock romantic, to Don Quixote (circa 1612), the story of a mock hero. Both Emma and Don Quixote are famous protagonists that defame a society. In his essay, Levine suggests that the character of Leon causes the change in view from Emma as prospective romantic to just a casuist (48).

Although this scene does not directly reflect on Emma's restrictions as a woman, an interpretation clearly shows Emma's insubordination. After the dinner, Emma returns to her house with Charles and grows depressed with the state. Obviously the romantic talk with Leon revealed to her that her life is not nearly as opulent as she would like. A more charming and sophisticated man than Charles appears, and she begins to revamp her house. The reader assumes Emma is compelled to furnish the house so that the people of Leon's standing would approve. The scene with Leon reminds her of dependence on the coterie of her husband in terms of prestige.

Emma's move from one affair to another, initially sparked by this encounter with Leon, indicates that she even admits the only way to gain prestige is through association with the elite of Yonville. One may think that if Emma was so concerned with her image, why would she keep her affairs a secret? Eric Auerbach negates this objection. He advocates that Emma fills the thirst for self-actualization by living extravagantly with her partners. The neighbors regularly gossip about her affairs with distaste. Emma only thinks about the present, because she knows nothing will come of it in the future. She temporarily quenches her thirst for opulent living as she spends Charles' money on extravagances with Leon and Rodolphe (140).

Flaubert makes it clear that this marks the end of Emma's tranquility with the loss of her greyhound. The greyhound symbolizes fidelity, which Emma will soon relinquish on a quest to satiate the desire for illustriousness by attaching herself to other men. The detail that Emma's dog is a greyhound one of the fastest breeds of dog indicates that her loyalty will diminish rapidly.

The affair with Leon marks the scene that demonstrates the ultimate strength of the restrictions of womanhood (Lambros 39). Flaubert reminds the reader that Emma is a slave to her gender in nineteenth century France in two distinct ways: First, she fails to resist Leon's embarrassing persuasion. Then, when she tries to assume the male role in the relationship she fails to keep her lover. Flaubert makes it clear that women can not escape the forces of their milieu.

Leon has changed significantly from his time in Paris. After encountering Emma at the opera, and later in the hotel room and church, Leon appears to be more sophisticated. He grows more concerned with appearances, often congratulating himself after a suave remark (Porter 46). Leon's lust for Emma reignites and he takes this encounter as time to demonstrate his sophistication. Although Leon is in love with Emma, he recognizes that seducing Emma would be another merit to his name (Auerbach 140).

Emma once again envelops herself in the relationship to provide a sense of prestige, spending extravagant amounts of money. Flaubert pokes fun at Emma's attempts Leon is no more august than before. He is still a law clerk, and he obviously did not have the character to make it in Paris because of his facetious attitude: he claims that in Rouen (where Emma and he meet) the people are too bucolic for his liking (Porter 47). The reader knows that Rouen is constantly referred to as a smaller Paris. The most accomplished doctors, Cavinet and Lariviere, reside in Rouen. Emma finally thinks she is with a distinguished man, but the reader knows better.

In *Importing Madame Bovary*, Amann focuses on analyzing the language of Flaubert. At first Leon is the superior in the relationship. Because Leon successfully supplicates Emma to stay in Rouen, Amann suggests that: Although Emma obtains the dominant role in the relationship, Leon unskillfully forces a promise out of Emma to see him again. Flaubert characterizes Emma less as an autonomous woman and more of a snake to be charmed. (128)

If Amann characterizes Leon as a snake charmer, then he must not have been a very good one, just a lucky one. The following passage indicates that even the timid and desperate Leon can manipulate a woman: "Ah! Now you're laughing at me! Please don't! Have pity on me: let me see you again. Once just once" (Flaubert in Lawall 1180). Flaubert characterizes Emma as weak and forceless. She even prays to God for strength to decline this beggar's offer, but she can not. Her consent eventually leads to Leon's greatest accomplishment the consummation of the affair in the carriage ride in the novel's second synecdoche.

Emma quickly assumes the dominant role in the relationship. She is determined through this adulterous relationship to project her feelings onto Leon as a way of surviving her trauma with Rudolphe. Rudolphe manipulated, terrorized, and dominated Emma. Emma in turn does the same to Leon (Lambros 39). However, Leon, unlike Emma, was able to escape the masochistic role at his own will. When Leon suddenly leaves Emma, he goes into a state of shock (Haig 32). Eric Gans suggests that the reader should see Emma's dominance as anachronistic. Thus, Flaubert's message becomes clear. The attempt at a more equal relationship leads to Emma's unhappiness because it is impossible for a woman to do such a thing during this time in history (114).

The quest for identity and recognition comes at a price for Emma death and financial ruin for her family. Homais and Leon each represent a coercive force that keeps her stuck to the predetermined role as a slave to the status quo. Homais represents the middle class vis à vis the dinner and the operation scene, and Leon represents the restrictions of being a woman in the dinner, as well as the affair with Leon.

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## The Physical and Psychological Benefits of Extended Breastfeeding

~*Sascha M. Fink*

When queried about breastfeeding a toddler, random anonymous Livejournal bloggers (friggasgirl, 2007) reflected the general opinion of most Americans. "...I think 5 years would indicate that something is unhealthy going on mentally or developmentally..." "...anything after two years old is gross," and "Yick, yick, yick..." were the typical comments. The question remains, however, whether or not Western society has been misinformed about extended breastfeeding. Despite the social stigma of breastfeeding an older child, breastfeeding beyond one year provides continued nutritional and psychological benefits for both mother and child.

Breastmilk is an extraordinary food. It is a complete nutritional package for infants from birth to about six months. An infant is rarely, if ever, allergic to his/her mother's breastmilk. If any allergies occur, it's usually a result of food the mother ingested. Breastmilk contains calories, immunities, protein, vitamins, fats, and growth factors (Newman, 1999). While certain basic nutrients can be artificially reproduced in infant formula, substances such as immunoglobulins of the mother cannot be synthetically duplicated in any way.

Recommendations for the duration of breastfeeding are often culturally determined. All are in agreement, however that breastmilk is the best nutrition for an infant. The World Health Organization (WHO) recommends that children breastfeed for at least two years and beyond (Newman, 2006; Rosenthal, 1998). The American Academy of Pediatrics recommends exclusive breastfeeding for six months and continuation for at least one year. It is noted that breastfeeding can continue as long as mutually desired. In 1990 The United States Surgeon General stated that "it is a lucky baby who continues to nurse until the age of two" (Bonyata, 2006). The Canadian Paediatric Society recommends breastfeeding for at least two years and specifically states that the mother may continue beyond two years (Newman, 2006).

Unbeknownst to most people, modern formula was never intended for widespread use or for regular feedings. It was created only as a life saving food when there was no other way to feed an infant. When maternal/fetal/infant healthcare became dominated men by the 19th century and the

concept of “germs” was taking root, breastmilk began to be viewed as a means of germ transmission. It was believed that certain diseases such as syphilis, a common 19th century illness, were passed through breastmilk. Today, scientists and physicians agree that certain diseases such as AIDS (Acquired Immune Deficiency Syndrome) and certain drugs do pass through breastmilk to the child. For many mothers however, depending on disease and/or medication, breastfeeding is often safe. Due to the lack of scientific knowledge in the 19th century, physicians were unable to differentiate safe from unsafe conditions concluding that breastfeeding on the whole was dangerous (Rosenthal, 1998). Subsequently the practice and culture of breastfeeding was significantly damaged. To this day it has not recovered.

Formula itself has a dubious history. The term “formula” was from the doctors who created it. They would experiment with different “formulas” in an attempt to duplicate breastmilk. These doctors would attempt to tailor formula to each individual child’s needs. Unfortunately, in 1888 it was noted that what “nourished one baby may kill the next baby” (Rosenthal, 1998). While the practice of individualized breastmilk creation was abandoned due to inconvenience, the term “formula” was retained to give scientific credibility to generically consistent artificial milk (Rosenthal, 1998).

According to the WHO, the use of formula is responsible for the death of approximately 4000 infants daily. In addition to these infants, approximately 33,000 children under the age of five die from malnutrition and the use of unsanitary water which carries disease. Formula companies entice Third World mothers to use formula stressing it will be safer than passing on possible diseases such as AIDS. The risk versus benefit of breastfeeding with AIDS in a Third World country is something that is hotly debated however statistical data supports breastfeeding. According to International Lactation Consultants Association as quoted in an article by Celia Farber, “1,500 children per day are said to be infected with HIV, 33,000 children under the age of five die each day from preventable diseases and malnutrition, ‘against which breastfeeding can provide an essential defense’”(Farber 1998; Rosenthal, 1998). Breastfeeding in these countries reduces the risk of infant/toddler death even when the mothers are infected with HIV or AIDS. The risk of transmission from mother to infant is less significant than the chance the child will die of malnutrition or water-borne illnesses if nourished on formula.

Unlike formulas, breastmilk is tailored to a child’s specific needs. Depending on the specific dietary and physical needs to the infant breastmilk automatically changes composition. Milk from

mothers of pre-term infants and milk from full term infant mothers illustrates this phenomenon. Pre-term breastmilk has increased calories, anti-infective properties, lactose, and an increase of intermediate-chain fatty acids. These extra additives significantly reduce a pre-term infant's susceptibility to often fatal complications such as necrotizing enterocolitis (Merenstein & Gardner, 2002).

As pre-term and mature infant's caloric needs change, so too does the structure of breastmilk. At seven days, the caloric content is almost identical at 74 kilocalories per deciliter. Fat content also stays consistent for both at approximately 6.5 grams per deciliter. At approximately 14 days, pre-term infants begin to burn more calories as they struggle to grow and breathe. It is at this critical stage that the composition changes. Healthy infants expend less energy. Pre-term milk contains approximately 75 kilocalories per deciliter and 3.5 grams of fat per deciliter whereas healthy infants receive only 72 kilocalories per deciliter and only 3 grams of fat per deciliter (Merestein & Gardner, 2002). Without significant trial and error, it is very difficult to tailor formula to each baby's individual needs in an attempt to replicate what nature has already perfectly provided. While artificial milk should be used where there is no other way to feed a child, pre-term or full term, to do so by choice is to possibly compromise the health of the child.

A toddler's nutritional needs are significantly different from that of an infant under a year. Toddlers are generally more active, therefore in addition to caloric intake from solid and adult food, breastmilk contains increased calories and immune factors necessary for toddlers to maintain their high energy levels. Between the ages of 12 and 23 months, breastmilk contains 29% of a child's energy requirements, 43% protein, 36% calories, 75% Vitamin A, 76% Folate, 94% Vitamin B12, and 60% of a child's Vitamin C requirements (Bonyata, 2006).

In a popular parenting manual *What to Expect the Toddler Years*, Arlene Eisenburg, Heidi Murkoff, and Sandee Hathaway (1994) support the belief that toddler breastmilk contains no nutritional value. They state that it no longer has "optimum benefit" and breastfed toddlers do not fair as well as weaned children. Throughout the scientific world, it is accepted that a child cannot exist exclusively on breastmilk after approximately six months. The delay of solid food introduction can have severe health consequences. Additional sources of iron and protein are needed (Lawrence, 1999; Newman, 2005). However, in addition to solid foods necessary for a growing body the continued nutritional benefits of breastmilk are evident by an examination of its content and contribution to the recommended daily allowances of vitamins and nutrients required by a toddler.

Between the ages of two and three years old, toddlers tend to be finicky eaters. Breastmilk adds a significant additional source of nutrients and compensate for what a toddler's diet may lack. Many sources believe that breastfed toddlers can become malnourished. If the mother's diet lacks in fat and fibers and the child is breastfed exclusively after six months, it is possible that a child's weight gain and nutrition will suffer. The language of these studies can be confusing to a new mother who lacks significant understanding of scientific jargon. To this end she may erroneously believe that any extended breastfeeding may cause malnourishment (Bumgarner, 2000). As referenced in Kelly Bonyata's article on breastfeeding a toddler (2006), author Sally Kneidel refutes an additional misconception that states a breastfed toddler will reject other foods and breastfeeding will interfere with normal appetite. There is no research or studies that support this position.

Toddlers, through normal exploration of their world, are also exposed to more microorganisms than infants. The immunities received from breastmilk reduce the frequency, duration and severity of infections. This is due to additional protective, digestive, epidermal and nerve growth factors, and carbohydrates, (Newman, 2005; Lawrence, 1999) found in mature breastmilk. A child does not reach comparable adult immunocompetence until the age of six (Lawrence, 1999) so the longer he/she nurses, the better the child will be able to fight off infection or disease. Between 16 and 30 months of age, there is a significant decrease in infections and an overall better health in breastfed toddlers as opposed to those children that did not continue breastfeeding (Lawrence, 1999).

Physical benefits are not exclusive to the nursing child. According to many sources including Kelly Bonyata (2006), a nursing mother reduces her risks for breast, ovarian, uterine and endometrial cancers. Breastfeeding protects a woman from osteoporosis (the decalcification and weakening of bones) and reduces the chance and severity of rheumatoid arthritis. Diabetic women who breastfeed have lower insulin requirements. Dr. Rima Strassman states that girls who have been breastfed actually reduce their chances of developing breast cancer as adults (personal communication, September 17, 2007). Breastfeeding naturally suppresses ovulation and can be used to delay fertility and pregnancy. This method of birth control is often used in Third World countries that have no access to additional forms of birth control. A woman breastfeeds until she wants to have another child. At that time the older child is often weaned (Bonyata, 2006; Margulis, 2000).

Extended breastfeeding has shown great cognitive and psychological benefit. Research conducted on the relationship between extended nursing and Intelligent Quotient (IQ) score has indicated that the greatest gains are that of children who have breastfed the longest (Bonyata, 2006). While correlation does not necessarily indicate causation, this research shows a definite relationship between intelligence and breastfeeding. It can be reasoned that a breastfeeding mother is more dedicated to her child therefore supporting intellectual gains. Alternatively it could be reasoned that breastmilk has an effect on the growing brain (Rappold, 2007). Either hypothesis does however, support continued breastfeeding.

There are numerous misconceptions regarding the possibility of psychological damage associated with toddler nursing. One of the most prevalent misconceptions is that extended nursing will cause homosexuality. According to Bumgarner (2000) there is no correlation between homosexuality and extended breastfeeding. She provides one report in which a breastfeeding mother reported that her gay son actually nursed for less time than her heterosexual children. In regard to the vast number of children worldwide that are breastfed beyond one to two years, the accuracy of this myth is suspect. The prevalence of the homosexual population would be well above the approximate 8-10% of homosexuals suggested by Alfred Kinsey (Kinsey Institute, 2007).

Another myth about extended breastfeeding is that these children will become over dependent on the mother. According to Eisenburg, Murkoff, and Hathaway (1994) extended breastfeeding will keep the toddler from “letting go” and moving forward in life. The AAP has found no evidence of psychological or developmental damage from breastfeeding into the third year. In reality, studies suggest that breastfed toddlers achieve independence more securely than those who are “forced into independence prematurely” (Bonyata, 2006).

Studies have shown that breastfed toddlers are secure and are well adjusted socially. They have an overwhelmingly positive memory of breastfeeding. (Bonyata, 2006; Margulis, 2000). These children receive comfort from the breast and are better able to cope with life stressors. Eisenburg, Murkoff, and Hathaway (1994) believe that weaning should occur while the child is young so that they will not “cling to fond memories of the breast, which could make weaning more painful.” Breastfeeding soothes stress, makes a child secure, and allows them to achieve independence at their own pace. Critics argue that extended breastfeeding stunts the independence of a toddler. By their very nature, toddlers are not independent. Breastfed or not, all toddlers are dependent on

their parents for warmth, support, encouragement, and basic life necessities. Research even indicates that tendencies for conduct disorders decline significantly the longer a child nurses (Bonyata, 2006; Newman, 2005).

There has been erroneous information circulating that breastfeeding, as well pacifier use and thumb sucking will damage the mouth of the child. Eisenburg, Murkoff, and Hathaway (1994) cite the recommendation of pediatric dentists and pediatricians to wean a child at a year to avoid dental damage. This information is in direct conflict with research that indicates the act of extended breastfeeding actually reduces a child's need to suck a thumb or pacifier, thereby reducing the amount of damage done to the mouth. Nursing for more than a year actually reduces incidents of malocclusion (abnormal tooth alignment) and malformation of the soft palate. One study indicates that children breastfed for less than one year are 44% more likely to suffer from malocclusion than their breastfed cohorts. In response to the proper alignment of the jaw and teeth, breastfed children have better speech development (Bonyata, 2001; Bumgarner, 2000; Margulis, 2000).

Toddlers are often known to wean themselves in a stress free manner. As opposed to the sudden cessation of a pacifier or a bottle, child-led weaning is not as emotionally traumatic. Milk production tends to decrease incrementally as a toddler begins to add more adult food into his/her diet. Milk let-down tends to be harder and it is often more difficult for a toddler to get milk flowing. This does not indicate that a mother should wean her child. What this indicates is that nature will eventually help a toddler wean in a comfortable way. Many children lose interest in nursing between two and four years but those who do not should not be discouraged from continuing if the mother is willing (Lothrop, 1995; Newman, 2005).

Significant research has been done by noted anthropologist Katherine Dettwyler, Ph.D. and outlines the relationships between humans and their closest primate relatives in regard to length of breastfeeding. Kelly Bonyata (2006) refers to Dettwyler's belief that human children are meant to be nursed anywhere from 2.5 to 7.0 years. According to Dettwyler's research, gorillas and chimpanzees are 98% genetically similar to the modern human. By studying non-human primate behavior, Dettwyler argues that primates provide five indicators which establish toddler weaning practices: "birth weight, progress toward attaining adult weight, average adult body size, gestation length, and the timing of the eruption of the first molars." If human children were to follow the time frames indicated by these primate parameters and culture played no significant role, they would not

be weaned until at least the age of six (Margulis, 2003).

In addition to scientific support for extended breastfeeding, cultural and religious practices often strongly suggest or even require the breastfeeding of toddlers. The Talmud, one of the Judaic holy texts, indicates that breastfeeding should continue for at least two years. It is suggested that breastfeeding should continue for at least 24 months or risk the death of the child. If the mother and child wish, it can be extended to four years old and if the child is sickly nursing should continue until the fifth year (Bumgarner, 2000; Newman, 2006).

While the books of the Christian Bible do not give a specific age when weaning should occur, Biblical scholars point to several passages that reflect the cultural norm at the time. Through Biblical study, it is believed that according to 1 Samuel and 2 Chronicles, a child should be nursed until he is able to work in a temple. Scholars agree that the age a child would be able to enter into religious service would be at the very least three years old (Smith, 2001).

While not considered a Christian canon, the Apocryphal books are viewed as supplemental Biblical readings and part of the Jewish sacred writings. Overton (2001) directly quotes the following verse from the Apocrypha:

“My son, have pity on me. Remember that I carried you in my womb for nine months and nursed you for three years. I have taken care of you and looked after all your needs up to the present day” (2 Maccabees 7:27).

The Koran, the Holy Book of Islam, has a very specific passage in regard to breastfeeding. “Mothers shall give suck to their children for two whole years if the father wishes the sucking to be completed” (The Koran, The Cow: 2:233). Nursing a toddler until the age of two is done with the complete consent of the father, the mother, and the child. If at any time any chose to discontinue, it is acceptable.

Historically many cultures support extended breastfeeding. In ancient times Egyptians would nurse for three years. In the 1900's Chinese and Japanese citizens nursed from between four and five years old. In Burma in the 1940's, breastfeeding continued for three to four years. Kenyan mothers, during the 1950s, breastfed for up to five years. In ancient India it was commonly believed that the longer a child nursed, the longer he/she would live. Ancient Indians were known to breastfeed upwards to nine years (Colletto, 1998).

Recently it is not unheard of to see a 30 to 42 month old Mexican child nursing. The average weaning age in Bangladesh is currently around 22.5 months. In modern India, the average age of weaning is 12 months however, 72% of the rural mothers wean at around 21 months (Bumgarner, 2000).

Nursing mothers in Western culture face a cultural uphill battle. Aside from the misleading and mythical information concerning the nutritional content of toddler breastmilk, the concept of extended nursing is considered distasteful and a sign of sexual deviance. It is uniquely Western belief that the breast is a sexual object and an obscenity. Due to indecency laws throughout the United States, many nursing mothers are arrested for nursing in public (Eiger & Olds, 1999).

Many modern psychoanalysts and child psychologists perpetuate the myth that breastfeeding is a sexual experience for the mother. As recently as 2003, a prominent French psychoanalyst named Marcel Rufo was quoted in *LeSoire* by saying, "One does not share the breast: to extend breastfeeding past seven months is without a doubt sexual abuse" (Newman, 2006). Eiger and Olds (1999) made reference to distinguished Boston pediatrician Perri Klass who stated in a *The New York Times* article that extended breastfeeding is, "...an affected earth-motherism that flies in the face of common sense." (1996)

Marcel Rufo was quoted again in *The Express* (2003) as stating that, "When a child touches his mother's breast, she should say to him, 'No, leave me alone. These are your daddy's and mommy's toys. You have a toy car'" (Newman, 2006). Eisenburg, Murkoff, and Hathaway (1994) state that extended breastfeeding can drive a wedge between a husband and wife. The mother is indicating to the husband that she does not want to resume a sexual relationship. They go on to say that continued breastfeeding indicates that the mother loves the baby more than the father. Despite current research to the contrary, some literature available to new mothers, such as *What to Expect the Toddler Years*, continue to provide erroneous information. The 1994 edition of this book, without any revisions, is the current edition available.

In most other parts of the world conversely, breasts are not considered sexual objects. Human rights activist Richard Nsanzabagawa of Africa states that women who breastfeed are respected. They are free to do so in public or in private; wherever the need arises. Nsanzabagawa himself remembers nursing until the age of five and believes that it is a physically and intellectually positive practice (Margulis, 2003).

Even well meaning childcare books are guilty of perpetuating the lack of importance in regard to extended breastfeeding. Of the five books used for this paper (all of which are popular and available to new mothers) the average amount of information devoted to the practice of extended nursing totaled only one and a half pages. A search on Amazon.com (a popular and leading book ordering website) for the word “breastfeeding” yielded approximately 35 different books available for order. When the term “toddler breastfeeding” were searched, the results included only two full books devoted to nursing a toddler and two articles available for download. While there were a significant number of books retrieved in the “toddler breastfeeding” search, the majority of these hits only had paragraphs or single chapters devoted to nursing a toddler.

The prevalence of breastfeeding in America is not very high compared to other countries such as Nepal where the percentages of breastfeeding mothers can reach as high as 87% (Kahlenburg, 2003). 38% of American women have never tried breastfeeding at all. Of those who have breastfeed, 25% breastfeed for six months and only 15% did so for up to a year (Neifert, 1998; Rosenthal, 1998). Of the women who continued to breastfeed beyond one year, the numbers fell an additional 20% (Kahlenburg, 2003). As low as these numbers are, they are a large increase from 7.5% of children breastfed to one year in 1980 and the 6.2% of children in 1990. The culture of breastfeeding appears to be slowly recovering. It has recently become a matter of pride and status as mothers compare with one another the time devoted to nursing their child (Kahlenburg, 2003).

A mother who chooses to extend breastfeeding into toddlerhood must have strong resolve and be well informed. The lack of support from some pediatricians, dentists, therapists, family and friends who are ill-informed and unfamiliar with the benefits of extended nursing can destroy any attempt to extend breastfeeding. For those mothers who do practice late nursing, it is often done in secret and called “closet nursing.” A child who wants to nurse for hunger or comfort is relegated to using code words and taught by society that nursing is wrong because it must be done in secret (Neifert, 1998). Of the fifteen anonymous bloggers who responded to the extended breastfeeding query only one showed complete support. The response was, “It’s natural, it’s healthy, it’s easy and environmentally friendly. It’s good for mother and child and community. What more can I say? We live in a seriously [expletive deleted] up society” (friggasgirl, 2007).

The odds of a mother nursing into the toddler years are very low at best. This is not because extended breastfeeding is not beneficial. It is because society assigns stigmas that result from misinformation and unfounded evidence. If Western society was better informed would extended breastfeeding be accepted or is the damage to the idea of breastfeeding beyond a year permanent. Hopefully as the world cultures begin to become one through globalization, Western society may eventually embrace the loving and physically nurturing gesture between mother and child.

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## BEACON 2008

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## Unrestricted Government Surveillance

~Sharon George

*“Men born to freedom are naturally alert to repel the invasion of their liberty by evil-minded rulers. The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”*  
- Former Supreme Court Justice Louis D. Brandeis

### Introduction

“Now equipped with 3-way calling. You, whoever you are dialing, and the government.” - announced an advertisement in the April 15, 2001 issue of the *New Yorker* and the April 16, 2001 issue of the *New York Times*. The ad, featuring a large photo of a cell phone, made a bold public statement. It made people aware of the fact that when you dial a person’s number, the caller and the recipient are not the only ones involved in the conversation – the government could very well be listening in on you. With better surveillance technologies coupled with weakening of the laws that protect our privacy, we could very well be on our way to a total “surveillance state.” Today, with legalized government spying with help from acts that “constitutionalize” spying under the pretext of national security, the need to protect our privacy and preserve our civil liberties is more urgent than ever. I believe that the government must not track individuals or violate privacy unless it has evidence of wrongdoing. It is essential for a democracy to keep the government power under check. This problem calls for all the citizens of this great nation to exert pressure on the government to revoke the laws that have weakened the Constitution and, in effect, the American democracy.

### Contemporary relevance

The issue of unauthorized government wiretapping had flared up last year. Publicity since has died down, but it provides absolutely no reassurance regarding the fact that spying does not go on unabated. The September 11 attacks had a longstanding effect on the American psyche. After the 9/11 tragedy, Americans in general, and the government, in particular, have become paranoid about the possibility of more terrorist attacks. The government has made use of this very platform to justify unrestricted government surveillance of American citizens, in the process, denying them their fundamental constitutional rights. Several laws enacted post-September 11, like the USA Patriot

Act and the Homeland Security Act, infringe upon and deprive American citizens of their civil liberties. Though the issue has been bothering civil rights activists for a long time, it is only recently that there has been a strong public opinion against unrestricted government snooping – probably due to increased public awareness of the long-term consequences of such powers of the government.

### **Methods**

With the advent of powerful cameras, sensors, satellites, and other technologies, we have begun to see the reality of the surveillance society that George Orwell fictionalized in his novel 1984. Today more people are being bugged, taped, tailed, probed, watched, and investigated without their consent, than most of us would ever have thought possible. How often and on what system this is done, can only be guessed (LeMond vii-viii).

Miniature sensitive transmitters, that function even when the instrument is not in use, may be used to bug telephones and faxes. Similar devices may be used to bug anything ranging from table lamps and clothes to even pets, food, or the individuals themselves. Powerful close circuit cameras may be taping all your moves. A prospective employer may have hired a private eye to “know you better” before deciding to hire you. All your dealings with any agency or business-firm are recorded in vast private or federal databases (LeMond ix-xvi). Internet users leave an information trail when they use online services or visit sites – this information is compiled and stored in databases. Infrared photography equipment allows pictures to be taken from behind opaque surfaces like walls. Black box computers in cars use global-positioning satellite technology to track and map a vehicle’s travels (Lewis).

The Government can also use thermal imaging to measure heat emanation from buildings – this technique is usually used to convict people like marijuana growers (Godoy). Electronic eavesdropping has advanced to the point where police can sit in a van outside the house and tell what a person is typing on a computer inside (Belsie). Surveillance devices aimed at humans are proliferating at an unprecedented rate, from lasers that can monitor the members of a crowd for abnormal vital signs, to biometric scanners that pick out individual travelers at a distance and link them to vast commercial and government databases containing their detailed personal information (Lewis). There are numerous devices in use already. As science progresses, we can only expect the development of more efficient surveillance technology which is sure to pose greater threats to personal privacy and civil rights.

### **How the system works**

The tradition among businesses and service-providers of maintaining the confidentiality of their customers' information is breaking down, leaving consumers' financial, medical, and individual privacy in a very sorry state. They gather details about their customers' financial, medical, library and internet records and increasingly see those details as a valuable resource from which they can extract some profit [one common example is the use of information by e-mail providers like Yahoo!] (Yahoo!). They either use their clients' information to advertise their services or sell it to interested agencies, which in turn may use it for marketing their products. When it becomes possible for government agencies and business to combine and collate this information, it will result in a gigantic database that contains confidential information of all the people who have used their services. Even if the government claims not to create dossiers on you, there are probably pages of information about you in some obscure database waiting to be retrieved with a few keystrokes.

### **Historical background**

Interception of telephonic and telegraphic messages has been done ever since the technology to do so had been invented. Interception of the Zimmerman telegram by the British was a decisive factor in convincing America to join World War I (Brinkley 624).

Has government monitoring of its citizens been limited to the stray incidents that have been publicized by the media? Did government surveillance of its citizens begin as an anti-terrorism effort following the September 11 attacks? Or, has government snooping been continuing unhindered, thanks to the citizens' ignorance and impassive attitude?

The answer is evident if we look not so far back into history at the scandal that rocked the Nixon administration. Watergate was only the first instance of illegal government snooping that was uncovered and exposed. At that time, infringement on the right to privacy was considered a crime and this forced Richard Nixon to step down as President (LeMond 235). However, if the same thing were to happen today, now that unrestricted government monitoring has been legalized by the Bush administration, I wonder if the post-scandal scenario would be anywhere close to Watergate. In fact, a worse crime may go unpunished and be hailed as a patriotic anti-terrorism effort instead of the crime it really is (Alter).

### **The Post 9/11 World**

If we were to look at the big picture, we would discover that there have been several developments in the fields of technology, law, and politics. A closer look would reveal that these developments go hand in hand, i.e. together, they are capable of causing great damage to the democracy that is the U.S.A. As citizens of the world's greatest democracy, it is then, our duty to remain alert and protect our democracy from all that would weaken it in the long run. Of the many changes in government policy post 9/11, two of the major show-stealers were the "USA PATRIOT Act" and the "Homeland Security Act."

Congress reacted swiftly to the horrors of 9/11 by drafting and enacting the USA PATRIOT Act in October 2001 as part of the government's "War against Terror." The name of the act is an acronym standing for "Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism." The act has dramatically expanded the surveillance and imprisonment powers of the federal government. In the aftermath of the September 11 attacks, the act was passed through Congress within six weeks, with very little opportunity for informed debate. Some provisions of the Act have already encountered constitutional problems. As time passes, issues will undoubtedly arise about more of its provisions, including those related to surveillance and database tracking. If the passage of the act has led to anything positive, it would be the fact that it has led to an intense national debate over the new restrictions on intellectual freedom, civil liberties, and human rights—all in the name of national security (The USA Patriot Act).

The Homeland Security Act (HSA) was passed by the Congress, in a hurry, in the months following 9/11, presumably to "organize a government that is fractured, divided and under-prepared to handle the all-important task of defending our great nation from terrorist attack." "The 484-page Act prescribed the biggest change in the federal government in over 50 years. Its passage, on November 25, 2002, consolidated more than 20 existing federal agencies into a single Homeland Security Department, including the Federal Emergency Management Agency (FEMA), the U.S. Secret Service, the U.S. Customs Service, the U.S. Coast Guard and the Immigration and Naturalization Service (INS). Not since President Truman created the Department of Defense in 1947 has the federal government undergone such dramatic restructuring. The presented aim of this consolidation was to detect and eliminate emerging terrorist threats by removing information firewalls between government agencies, and centralizing the unprecedented flood of surveillance

data made possible by the USA PATRIOT Act. However, civil liberties groups have objected strongly to the Homeland Security Act from the start, contending that it is characterized by three disturbing trends: reduced privacy, increased government secrecy and power and strengthened government protection of special interests “(9-11 Research).

### **The Government’s Justification**

“Guard against the impostures of pretended patriotism.” - George Washington

Our founding fathers probably did not foresee a danger of the present scale. Nevertheless, they did not discount such a possibility and provided for the protection of privacy in the Bill of Rights. The government’s excuse for exercising the power of unrestricted surveillance is that it will help them identify patterns of behavior that appear to be threats to national security and prevent a disaster of the 9/11-scale from recurring (Pentagon). The government has also asked for prominent internet search engines to hand over information regarding their users’ search requests under the flimsy excuse that a list of search requests would help it to understand the behavior of web surfers. The revelation raised an outcry about the protection of privacy. Another reason cited by the government to justify its demand for users’ search requests is that the search requests will also help prove that Internet filters are not strong enough to prevent children from accessing online pornography and other potentially offensive websites (Google). Is the present government stand on the issue far from what could be described as an “imposture of pretended patriotism”?

### **Surveillance post-9/11**

“... the September 11 attacks have led some to embrace the fallacy that weakening the Constitution will strengthen America,” said Barry Steinhart, Director of the American Civil Liberties Union’s [ACLU’s] Technology and Liberty Program (ACLU). The government wants to ensure that similar attacks do not occur in future and hence have launched an offensive war against terrorism. The government hopes to strengthen its intelligence capabilities and monitor all people alike in order to detect the precursors of a terrorist attack and nip in the bud any attempts to disrupt peace in the U.S. Unfortunately, many innocent Americans are finding themselves at the receiving end of anti-terrorism campaigns by the government. In the effort to detect terrorism by surveillance, many Americans have lost their fundamental rights of safety and privacy (Lyon 45).

### **Public opinion**

Probably since the memory of the September attacks is still fresh in the people's minds, a survey conducted in November 2001 – just two months after the attacks – shows that most Americans believe that cyber cops will play a crucial role in the anti-terrorism war and that more than half are willing to forfeit some online privacy in order to thwart terrorists. However, there is no consensus on the proposal for national identity cards (Roy). Advocates of privacy believe that government access to the citizens' e-mails, phone calls, financial, medical and educational records and search queries would provide an unprecedented glimpse into the people's private thoughts and habits.

### **Legislation in support**

The *New York Times* of 13 April 2006 carried an article, which reported an AT & T technician saying that the company cooperated with the National Security Agency in 2003 to install equipment capable of “vacuum-cleaner surveillance” of e-mail messages and other internet traffic (Markoff).

The Patriot Act that was passed just six months after the September 11 attacks revised the nation's surveillance laws and vastly expanded the government's authority to spy on its own citizens while simultaneously reducing the checks and balances on such powers of the government. It reduced the power of judicial oversight, public accountability, and the ability to challenge government searches in court. It infringes on many of the rights and freedoms granted by the Bill of Rights namely, the First, Fourth and Fifth Amendments. The fourth amendment particularly states: “The right of the people to be secure in their persons, houses, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.” The USA Patriot Act has, in effect, overruled the Fourth amendment and authorized arrests without any warrant or judicial supervision whatsoever. The act was challenged but reauthorized later with some minor changes. The Bush Administration overrode the modest but meaningful changes that would better protect the privacy and civil liberties of all American residents and limit the reach of the Patriot Act by placing better checks and balances into the law (Abramson).

### **A Crisis of Freedom**

From using a cell phone to sending e-mail over the internet, Americans' right to information privacy is in danger. The development of better and more intrusive technology calls for stricter checks and controls to prevent unauthorized use. However, legislation post 9/11 such as the Patriot Act has only loosened the existing restraints and made it easier for the Government to exercise unrestricted surveillance. Michel Foucault points out in his book *Discipline and Punish* that the success of Jeremy Bentham's design of the Panopticon is due to the illusion of constant observation. Similarly, we only know that at any given moment, we might be under observation but we never know if we actually are being observed. This element of fear is favorable to the atmosphere of strict control.

The government decides what is legal and illegal, constitutional and unconstitutional, acceptable and unacceptable, or democratic and undemocratic. However, who decides if the government is doing the right thing? In other words, who will watch the watchdogs? Judicial control over the government is an essential part of a democracy. President Bush has arrogated to himself the unconstitutional power to ignore the requirement of the Foreign Intelligence Surveillance Act (FISA: 2001) of judicial oversight over all wiretapping of US persons. President Bush's instigation of warrantless eavesdropping on Americans by the National Security Agency violates the Americans' Fourth Amendment rights and demonstrates a total disregard for the rule of the law. This is an extreme view of executive power. Our democratic system of government requires that the power of any President must not be allowed to grow unchecked. Presidents must faithfully execute the laws passed by Congress and cannot simply ignore those laws. Congress must restore the rule of law and insist that the Americans' rights be protected. America can, and must, be made both safe and free (ACLU).

### **Need for awareness**

"This will be the best security for maintaining our liberties . . . *a nation of well-informed men*, who have been taught to know and prize the rights which God has given them, cannot be *enslaved*, It is in the regions of *ignorance* that *tyranny* begins." - Benjamin Franklin

It seems as though what was fiction in the past is being transformed into present-day realities. There was a time when Big Brother surveillance was the stuff of movies and fiction books. Now it is a reality and most people have still not realized its full potential. Educating the public about the wide-ranging consequences of this trend will help generate public opinion against government policies that allow unwarranted snooping and thus pressurize the government to revoke or amend these unconstitutional laws. Only informed public opinion can help to improve the situation. The people must awaken from the 'slumber of ignorance', overthrow the 'tyranny' that is in the guise of patriotism, and refuse to be 'enslaved' in the true nature of a nation of well-informed men.

### **Conclusion**

Supporters of surveillance argue that people who have nothing to hide have nothing to fear, but it is at odds with the legal and constitutional norms we have always taken for granted. Indeed, surveillance technologies appear to be developing faster than legal safeguards to protect the privacy of citizens. How sad it is that we have done away with some of our freedom and privacy just for a promise of safety and security. In making the safety-for-freedom swap, we have not just dishonored the dead of 9/11 – we have helped something else die too – our freedom and privacy (Cothran 165-166).

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## **The American Chocolate Industry: A Combination of Large and Small**

*~Candice Henderson*

Chocolate has become a staple of American culture to such a degree that many American holidays have become closely tied to this delicious treat. For example, Easter would not be the same without little chocolate eggs wrapped in bright foil or without the classic milk chocolate bunny mould. Nor would Valentine's Day be the same without its traditional heart shaped box of chocolates. Chocolate has also gained a large presence in Halloween bags, even though this day has traditionally been associated with candy. Even Christmas, with its advent calendars and gift boxes and baskets, has been closely tied to chocolate in various ways (Bainbridge, 2006). Chocolate has not only been important during holidays, however. As America's "favorite flavor" (Kimmerle, 2005, p.29), it has also tended to play a major role in children's birthday parties and other celebrations in the form of chocolate cake or chocolate ice cream. Additionally, during the cold winter months, many Americans have enjoyed hot chocolate as a delicious drink to warm themselves up.

Chocolate has not become a special treat enjoyed only on special occasions, though. Over the years, it has become a common indulgence in American daily life. In 1914, "[t]he annual average of U.S. candy consumption per person," including chocolate, was almost six pounds (Kimmerle, 2005, p.40). According to Doutre-Roussel (2006), the average American consumes 11.6 pounds of chocolate each year (excluding candy) (p. 23). Home to "The Sweetest Place on Earth" - as Hershey, Pennsylvania has famously dubbed itself - America has become the world's largest consumer of chocolate (Space Daily, 2007). Although many European countries presently consume more chocolate per head (Doutre-Roussel, 2006, p. 23), America still consumes more chocolate as a whole, "eating more than three billion pounds...each year" (*Space Daily*, 2007).

Because of America's chocolate obsession, this indulgent treat has not only become a major part of American culture, but also the American economy. Each year, Americans spend \$13 billion on chocolate (Space Daily, 2007). The chocolate industry has grown so much over the past hundred years that it has actually become quite distinct from the candy industry, although it has remained

connected in many ways (Coleman, 2006, Interview with Kimmerle). The chocolate industry has also been connected with other industries and markets, such as the cacao industry, the dairy market, and the sugar market.

Within the American chocolate industry, various kinds of producers, differentiated by both size and production techniques, strive to meet an assortment of consumer demands. Although a number of similarities exist between the large, corporate companies and the small, artisan operations of the chocolate industry, there are actually more differences between these companies as they satisfy different kinds of demand with their products. It is the relationships between consumers and the different kinds of producers that have made the American chocolate industry quite complex.

### **Terminology**

Microeconomics is a branch of economics that studies individual firms and industries, rather than the economy as a whole. The definitions for some common economic terms used throughout the paper are as follows. Inputs, or factors of production, are the resources of land, labor, capital, and entrepreneurship that are used in the production of some final or finished good or service (Case and Fair, 2007, p. 26). In general, capital refers to anything that is used to produce other goods or services. However, for the purpose of this paper, the word capital-intensive is used strictly to refer to a production process that uses more machinery and equipment than it does labor. Based on Case and Fair's (2007) definition, economic globalization is "the process of increasing economic interdependence among countries and their citizens" (p.747).

The chocolate industry also has a number of specific terms that will be defined here. Cacao, pronounced "ka – kow" (Coleman, 2006, Interview with Wolfe), is a fruit that grows on trees in tropical regions around the world such as Brazil, Ecuador, Venezuela, the Ivory Coast, and Indonesia (Hershey's, 2007; Kimmerle, 2005, p. 51-52; Young, 2007). Cacao beans, the seeds of the fruit pods, look like almonds, but taste very bitter (Kimmerle, 2005, p. 52). Without their outer shell, these beans are called cacao nibs (Coleman, 2006, Interview with Wolfe). According to Kimmerle (2005), cacao "nibs are the heart of chocolate" (p. 52). Cocoa butter is "yellowish-white vegetable fat extracted from pure chocolate liquor" that has a melting point close to body temperature (Kimmerle, 2005, p. 52). It is cocoa butter that gives milk chocolate the quality of melting in one's mouth (Coleman, 2006, Interview with Kimmerle). Dark chocolate is chocolate with a cacao content of 50%

or higher, while milk chocolate is softer, milder, and sweeter, having at least 10% chocolate liquor and at least 12% total milk ingredients (Kimmerle, 2005, p. 55-56). According to Dobil, Jr. of Josh Early Candies, ultra dark chocolate refers to chocolate with a cacao content over 71% (personal interview, March 28, 2007). Flavonoids “are potent antioxidants that fight disease-causing free radicals” (Kadey, 2006). Cacao beans are full of flavonoids (Sweet Dreams, 2005); as a result, “dark chocolate (70% or more cocoa) has twice the antioxidants” of milk chocolate (Kadey, 2006). Organic chocolate is produced with beans that are grown in a way “that respects the soil in which plants are grown”; the “[f]arms and plantations using organic methods do not use chemicals or sprays, including pesticides and chemical fertilizers, in farming, thereby producing clean and organically grown produce” (Kimmerle, 2005, p.56). Fair Trade is a term used to describe a “certified method of production and plantation management which assures that the workers who grow and harvest the raw cacao product are treated well and fairly compensated ...[and] that environmental standards are adhered to” (Kimmerle, 2005, p.55). According to Dobil, Jr., an enrober line is a piece of equipment that coats (or enrobes) candy centers in either milk or dark chocolate (personal interview, March 28, 2007).

### **Demand**

Between 250 and 1500 A.D., the Mayas and the Aztecs were the first to grow cacao and use chocolate on a widespread basis. They did not have access to sugar, so they added other ingredients like “vanilla, allspice, chiles, and honey” (Kimmerle, 2005, p.31). The chocolate was usually consumed as a hot liquid (Coleman, 2006, Interview with Kimmerle). Hernando Cortes was the first to take this “exotic” bean to Europe, introducing it to Spain in 1528. It eventually became popular in France, Italy, and Austria, especially among Europe’s elite (Kimmerle, 2005, p. 32-34). According to Kimmerle (2005), “[b]y the mid-eighteenth century, chocolate secured a place on the list of items that became fully integrated into European and colonial life” (p.21). In this sense, chocolate has always been a part of American life.

Throughout U.S. history, the reasons for chocolate’s popular demand have remained fairly consistent. Americans have valued and continue to value chocolate as an indulgent treat for its richness, sweet taste, and supposed health benefits, as well as for the social values that it is has become associated with, such as “decadence, celebrations, and romance” (Kimmerle, 2005, p.7, 21-22). Part of what has made chocolate so special, even magical, to many Americans is the consideration that it

is more than just a snack or tasty treat. Instead, chocolate has been considered an experience that “can both stimulate and calm the senses” (Kimmerle, 2005, p.7). It can also evoke feelings, emotions, and even memories. This kind of experience is what has set chocolate apart from other foods, including candy. Candy is essentially just a sugar product that sometimes contains other ingredients like nuts (Coleman, 2006, Interview with Kimmerle). But chocolate has much more substance compared to candy; it is much more complicated, intricate, and intense. Milk chocolate, for example, is sweet and melts quickly, but pleasantly in one’s mouth; while the more earthy, nutty, and bitter flavors of dark chocolate provide a more raw and intense experience. Even the smell of chocolate or cacao can provide an experience like no other food. Although American demand for chocolate has primarily been the result of changing tastes and preferences, the decrease in chocolate prices in the early 1900’s, had a major impact on increasing America’s demand. The decrease in chocolate prices was caused by cheaper input costs of mass-produced chocolate (Kimmerle, 2005, p.27).

For years, milk chocolate has remained an American favorite. However, America’s demand for chocolate has recently been trending toward dark, gourmet, organic, and fair-trade chocolate (Moran, 2006). These trends caused the chocolate industry as a whole to grow by 28% between 2003 and 2005 (White-Sax, 2007). Consumer preference for dark and “ultra dark” chocolate has been the result of two factors. The first factor is that Americans have been developing richer tastes, but the second, and perhaps stronger, factor has been the emergence of the possible health benefits of eating chocolate. Many recent studies have found that cacao beans are extremely rich in anti-oxidants (Sweet Dreams, 2005), thereby supporting the claim that dark chocolate is good for, and maybe even better for, people than red wine or green tea (Wolfe, 2006). However, what most people have not realized is that many of these studies have been funded by the larger chocolate companies, who of course have a vested interest in the results (Wolfe, 2006). The funding for these studies has created an obvious bias and has reduced the reliability of the supposed findings. In addition, a number of studies, such as the report in Tufts University Health & Nutrition Letter (2005), claim that although cacao is rich in flavonoids, most chocolate products do not contain enough flavonoids for them to be truly healthy because these flavonoids are stripped during the production process. It is the raw cacao that contains the antioxidant health boosters (Sweet Dreams, 2005). Nonetheless, it has not been difficult to convince consumers that a product as delicious as chocolate is “good for them.” Because of this current message, Americans have continued to increase their dark chocolate purchases. According

to Wolf (2006), in 2005 alone, “Americans spent more than 1.5 million dollars on dark chocolate...” And in 2006, the dark chocolate sector grew by 16%, even though chocolate sales as a whole remained relatively flat (Pacyniak, 2005).

Just as dark chocolate has seen much growth within the chocolate industry, gourmet or premium chocolate sales have also increased significantly within the last few years. According to Packaged Facts, “gourmet chocolate sales reached \$1.3 billion” in 2005 (as cited in Moran, 2006). The gourmet sector currently “accounts for roughly 10% of overall chocolate sales” (Moran, 2006). Like dark chocolate, gourmet chocolate sales have also been “growing faster than the [overall] chocolate market” and are expected to continue to grow by 6.4% between 2005 and 2010 (Moran, 2006). Once again, there have been two primary reasons for the growth in this market: change in consumer tastes and lower prices. According to White-Sax (2007), “At the same time consumers' tastes are becoming more sophisticated, quality mass gourmet chocolate products are becoming more affordable. It's the perfect scenario for a chocoholic to indulge as frequently as possible.” In addition, Americans are also becoming more willing to pay for the more expensive gourmet chocolate. Instead of paying one dollar for a Hershey's traditional milk chocolate bar, Americans have become willing to pay two or even three dollars for a bar of dark or gourmet chocolate (White-Sax, 2007). (See Table 1 and Table 2 below for a comparison of common chocolate brand prices.)

A third trend in the demand for chocolate has been the increasing consumer preference for organic chocolate. Although this trend has developed more recently and is currently rather small, it has much “growth potential” due to its potential health benefits (White-Sax, 2007). According to Ellek, “[o]rganic products as a whole are growing over 20 percent annually” (as cited in White-Sax, 2007). However, organic chocolate sales have been growing even faster -50% annually - according to Moran (2006). This trend has been a result of organic chocolate's potential health benefits, as well as the consumer's increasing ethical concerns about the environment (Moran, 2006). The fourth and final trend in chocolate - Fair Trade chocolate - has been similar to the trend in organic chocolate because it has been a result of consumer's increasing ethical concerns about how globalization has affected cacao growers in third world countries (Moran, 2006).

### Supply

While the trends in demand are relatively straightforward, the supply side of the chocolate industry is more complicated because of the different kinds of suppliers and the relationships that exist between these suppliers. For example, in the chocolate industry, companies tend to either grow really big or stay small. There are no longer many chocolate companies that exist “in between” because they are more likely to get bought out by the larger, global brands (Coleman, 2006, Interview with Kimmerle). So essentially, two kinds of suppliers now exist in the chocolate industry – the smaller, more artisanal businesses and the national or global corporate companies. Apart from size, the biggest differences between these two kinds of suppliers are in their production processes.

The smaller producers share quite a few similarities in their production processes. For example, most of the smaller businesses produce their products with more labor intensive methods, rather than with automated machinery. The smaller companies do use some machinery, such as an enrober line, but their production methods are largely labor-intensive (Coleman, 2006, Interview with Kimmerle). These companies also tend to produce their products in small, hand-made batches with higher quality ingredients (Wolfe, 2006), follow their company’s original recipes, and, according to Dobil. Jr., are less likely to take short cuts in their production process (personal interview, March 28, 2007). This results in a higher quality chocolate product that tends to be more expensive than mass produced chocolate, but much better in taste and texture. Many of these smaller companies also make candies along with their chocolate in order to either “stay afloat” or to set themselves apart (Coleman, 2006, Interview with Kimmerle).

An important difference among these smaller companies is that some of these chocolate producers actually make their own chocolate on their premises, like Wilbur Chocolate Co. (Kimmerle, 2005, p. 142), while some selectively purchase a finished chocolate product, melt it, and combine it with their other products and/or create their own chocolate moulds, like Josh Early Candies (personal interview, March 28, 2007). However, each company still produces the final product on the site of their retail store.

Even though there are a few differences in production among the smaller chocolate producers, there are many more differences between these “boutique chocolatiers” and the national or global brands (Wolfe, 2006). The largest difference is that the larger companies mass-produce their product (Hershey’s, 2007). Because of the more-automated production methods, many short

cuts are taken, which results in a cheaper and usually lower quality product. For example, although Hershey’s uses quality ingredients, has carefully developed its production process, and still uses its special recipe to create its unique Hershey’s taste in each of its products, the fact that most of its production is done by machine means that the same personal care and attention to detail are absent from their products (Hershey’s, 2007).

Brand	Price	Price per oz.
Nestle 5 oz	\$0.99	\$0.20
Hershey's 5 oz	\$1.19	\$0.24
Cadbury 4 oz	\$1.59	\$0.40
Dove 3.53 oz	\$1.49	\$0.42
Ghirardelli 3 oz	\$1.99	\$0.66

**Table 1: Milk Chocolate Prices**

Brand	Price	Price per oz.
Hershey's Special Dark 5 oz	\$1.19	\$0.24
Hershey's All Natural Special Dark (60%) 5.1 oz	\$2.89	\$0.57
Hershey's Reserve w/Nibs (65%) 3.53 oz	\$2.19	\$0.62
Cadbury 4 oz	\$1.59	\$0.40
Dove 3.53 oz	\$1.49	<u>\$0.42</u>
Ghirardelli 3 oz	\$1.99	\$0.66
Ghirardelli Intense Dark (72%) 3.5 oz	\$2.00	\$0.57
Theo (Fair Trade) (75% or 84%) 3 oz	\$4.79	\$1.60

**Table 2: Dark Chocolate Prices**

Despite these important differences in production, there are two other important markets that play essential roles in the inputs of both large and small chocolate producers - the cacao and labor markets. As one of the most important ingredients (or inputs) in the production of chocolate, the amount of cacao supplied is closely tied to the amount of chocolate supplied. Yet, an interesting characteristic about the cacao tree is that, unlike most other trees, it bears fruit year round. This means that the cacao bean is always in season, which makes it very hard, if not impossible, to exhaust the supply (Coleman, 2006, Interview with Wolfe).

However, the supply of cacao beans can still be affected by disease. In 2006, there was concern that three diseases - frosty pod, black pod, and witch’s broom - would spread outside of Latin America and into Africa, and thus severely affect the cacao supply. Despite the concern, these diseases did not have a major impact on the American chocolate industry that year. Even if the diseases had impacted the American chocolate industry, it would have been unlikely that a chocolate shortage would exist, at least not immediately, because the international chocolate industry has an 18 month to 2 year supply of these beans. A worldwide increase in chocolate prices would have been more likely than a shortage (Plant diseases, 2006).

One other factor that can impact the cacao supply is the process of growing the beans according to Fair Trade standards. Currently, there are a few chocolate bars on the market that are Fair Trade certified, such as Theo chocolate which sells at nearly \$5 per bar. However, more Fair Trade chocolate brands can be expected to develop in order to meet consumers' increasing demand for Fair Trade products (Moran, 2006).

Just like in any other industry, the labor market plays an important role in the production of chocolate. Even though Josh Early Candies is a smaller, private chocolate producer, it still employs an average of 30 to 50 people full-time, depending on the season (personal interview, March 28, 2007). And Premise Maid, another small, chocolate company located in Breinigsville, Pennsylvania, similarly employs between 30 and 45 people (www.premisemaid.com). While these numbers may not be comparable to the numbers of a large company like Hershey's, they still reflect the significant contribution that the smaller businesses make in providing jobs in their local economy.

Although Hershey's employs thousands of people, and thus contributes more jobs to the labor market than a smaller company does, it is also more likely to be affected by globalization because of its size. As a result, it tends to create less stability in the labor market, rather than more. Within the last couple of months, Hershey made the decision to "reduce production lines by a third" in the United States so that it can open a plant in Monterrey, Mexico (Salerno, 2007). This reduction in United States production has already resulted in one American plant closing in Reading, Pennsylvania, but Hershey may continue to close more plants. According to Salerno (2007), this "three year restructuring will eliminate 1,500 jobs," but it is also "expected to save Hershey as much as \$190 million a year by 2010." Hershey is moving its plants to Mexico in order to cut costs, increase sales, and stay globally competitive. This decision follows a 10% drop in Hershey's fourth-quarter earnings in 2006. Hershey's plan is to transfer 10% of its production volume to its new Monterrey plant because it costs Hershey much less to operate in Mexico than in the United States (Salerno, 2007). (See Table 3 for a comparison of cost differences between the two countries.)

**Table 3: Cost differences between the U.S. and Mexico in the production of chocolate**

	<b>In Stockton, CA</b>	<b>In Mexico</b>
<b>Total Costs</b>	\$31.1 mil	\$17.6 mil
Hourly wage per person	\$16.81	\$2.77
Cost per lb of sugar	\$0.21	\$0.11
Annual sugar costs	\$4 mil	\$2.5 mil

Table 3 makes obvious the major difference in labor costs. However, what may be less obvious is that the total costs for a Hershey plant in Mexico are only about half of the total costs for a similar plant in California. It is also important to note that the American government plays a major role in creating these price differences with minimum wage laws, and “regulatory mandates” for sugar prices (Salerno, 2007). But considering that input costs are much cheaper in Mexico, what is stopping all of the large American chocolate companies from moving to Mexico - or rather, what is causing them to even consider remaining in the United States? There are a number of factors, but the most important is location. The Stockton, California Hershey plant was purposely built in a location that makes its production efficient. First of all, it is close to the dairy and almond farms that provide some of Hershey’s major ingredients. This close proximity to suppliers ensures fresher ingredients (Salerno, 2007). Second, this plant was built in a location so that its “[p]roducts can be easily distributed to Pa-cific [sic] Rim countries and the lucrative California market...” (Salerno, 2007). Thus, its current location in the United States can reduce transportation and shipping costs. For this specific plant, there are other considerations, as well, such as “affordable, business-friendly energy rates,” clean water, and area tax breaks (Salerno, 2007). However, the ultimate deciding factor for whether a company will move overseas or across the border is what is best for the company in the long run (Salerno, 2007).

### Conclusion

No matter what the size of a company is, making chocolate requires many steps and much work. At the smaller company level, this production process is especially detailed and laborious (Coleman, 2006, Interview with Kimmerle). The difference in production techniques is the key factor that sets these smaller companies apart from the larger brands. The smaller companies produce a higher quality, more artisanal product because their production process is more detailed and labor-intensive (Coleman, 2006, Interview with Kimmerle). According to Dobil, Jr., in order to stay true to the company’s roots, Josh Early Candies is committed to quality products, not low prices (personal interview, March 28, 2007). Unlike the larger, global brands that must minimize costs and keep prices low in order to stay competitive, Josh Early Candies’s “number one objective is quality” – not lowest cost (personal interview, March 28, 2007). Dobil, Jr. refuses to alter anything in Josh Early’s production process that would alter its products from how they have been produced, because he understands that customers purchase Josh Early products because of their consistency of product over the years (personal interview, March 28, 2007). Customers do not buy

Josh Early chocolate because it is cheaper; they buy the products because they are the quality products that they have come to know, enjoy, and appreciate.

Consequently, there is more competition between the larger companies, like Hershey's and Mars, than there is between the larger and smaller companies. According to Bainbridge (2006), "The trading up phenomenon has created space in the market for niche and upmarket brands as well as Fairtrade products, though mass-market manufacturers have also tapped into this trend." But even though the larger brands like Hershey have recently developed new lines of "higher quality" chocolate, there is still a large difference in the quality of these mass-produced brands and the quality of the products produced by artisan or boutique chocolatiers. Once again, the reason for this comes down to how the product is produced and whether or not any short cuts are taken in the production process. A quality, labor-intensive production process produces a superior product that cannot be equaled by a mass-produced product. So even though the global and national brands have developed their own "artisan" or "premium" chocolates (Pacyniak, 2005), smaller companies that stay true to their artisan roots should have little competition from these larger companies. If consumer demand continues to trend toward dark, artisan, and gourmet tastes, these smaller companies will be able to continue to fill their unique niche markets that mass-produced products are not able to compete against.

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## Constructing Middleness: Hawaiian Identity in Deborah Iida's *Middle Son*

~Jack Hildebrand

Deborah Iida's *Middle Son* (1996) is the life story of Spencer Fujii. The second of three sons born during the 1940s to a working-class family on the Hawaiian island of Maui, Spencer grows up torn between loyalty to his family's traditions and the temptation to leave ethnic consciousness behind, to become westernized: a real American.

This sort of internal struggle is typical of the *Bildungsroman*; indeed, depicting the development of an authentic self may be viewed as the genre's *raison d'être*. But Spencer's task of self-definition is more complex and more difficult than most characters face. Spencer Fujii is Japanese-American, a member of an ethnic minority. His family is part of the socioeconomic underclass. And he is born in Hawaii, a postcolonial society in which the underclasses have self-destructively adopted the norms and values of the ruling class -- "a self-doubt that makes them feel inferior to a system that is not only foreign to them but that is dangerous" (Barsamian 96).

Spencer eventually rejects both of the paths that life presents to him. He chooses to forge a third path, and in that choice he serves as the model for an ideal of uniquely Hawaiian identity: neither isolated by ethnicity nor absorbed into the American mainstream, but effectively in the middle -- distinctly Hawaiian. In *Middle Son*, Iida offers a solution to the riddle of postcolonial Hawaiian identity.

Most novels with postcolonial settings are concerned with characters who are members of the native ethnic group. Iida's employment of an ethnically Japanese character, rather than a character of native Hawaiian descent, begs for explanation.

The archipelago now known as the Hawaiian Islands entered world history on January 18, 1778, when Captain James Cook of the British Royal Navy sailed HMS *Resolution* and HMS *Discovery* into Kauai's Waimea Harbor (Kuykendall and Day 7). In addition to 172 sailors and officers, the ships carried stowaways whose impact upon Hawaiian natives would prove devastating: tuberculosis, typhus, typhoid fever, measles, smallpox, and -- most cruelly of all -- the venereal diseases syphilis, genital tuberculosis, and gonorrhea (Najita 171).

Hawaiians had no immunity to venereal illnesses, and their typically Polynesian sexual freedom ensured that the diseases spread widely and quickly. In this unprotected society, venereal disease left women unable to carry babies to term. Modern estimates place the Hawaiian population at about one million at the time of Cook's landing in 1778. A century later, the government census of 1876 revealed a population of 54,000 -- a reduction of almost ninety-five percent (Najita 171). Pre-contact Hawaiian history was lost (the Hawaiians had no writing), the outlawed gods were forgotten, and the native arts fell into disuse. The remaining Hawaiians were too busy burying the dead even to keep their language alive.

Indeed, the Hawaiian language survived only due to the efforts of Christian missionaries, who developed an alphabet and spelling system for it, but it was not spoken, nor taught in schools. "Our language was banned in 1898," says Haunani-Kay Trask. "I grew up speaking and reading English, but I never had an opportunity to speak and read my own language. The Hawaiian language was unbanned -- for tourist purposes -- in 1978" (Barsamian 98). Activists in the contemporary Hawaiian sovereignty movement are attempting to revive the language, much as the Zionist movement has succeeded in establishing a modern, conversational version of biblical Hebrew in Israel. It is the continuing use of Pidgin, however, that has most directly represented contemporary Hawaiian resistance to mainland values and colonial usurpation of "native" folkways. In sociological terms, reports Gail Y. Okawa, Pidgin has replaced Hawaiian as the genuine language of the Hawaiian people (16).

As the number of natives dwindled, the need for field laborers was increasing. The United States was a ready market for sugar grown on Hawaiian plantations, but the American plantation owners couldn't find enough healthy Hawaiian laborers to do the backbreaking work of cultivating and harvesting the sugar cane. The solution? The owners imported workers from countries around the Pacific Basin. Japanese, Chinese, Filipino, and Korean workers came to the islands in successive waves (Takaki 7).

As each new group arrived in Hawaii, its members were welcomed into working-class society (Fenton 159). Intermarriage, which was unthinkable for the *haole* (Caucasian) elite, was all but inevitable in the barracks and cabins of the cane workers. The language of the masters was English, but the workers spoke a Pidgin that incorporated elements from all of the islands' ethnic contributors (Aspinwall 7). One's status as Hawaiian thus arose from shared membership in a subjugated underclass, not a strict decoding of genetic background. To this day, the Hawaiian notion of Hawaiian-ness is based not upon a DNA-based racial model, but upon an inclusive genealogical model that, as Susan Najita puts it, "valorizes multiple interpersonal relationships more reflective of the Hawaiian sense of group belonging" (167).

Unlike other postcolonial environments, therefore, in which characters struggle to reclaim their native culture, Hawaii requires its own to invent a culture: to synthesize native, Oriental, Polynesian, and Western influences into a workable *Weltanschauung*.

It is appropriate, therefore, that Iida's ideal Hawaiian is not a pure-blooded descendant of the islands' original Polynesian residents. Such an exclusive view would limit Hawaiian identity to those who were born with the proper genes. Instead, Iida shows that Hawaiian-ness can be a matter of choice and character. Spencer's grandparents were immigrants who hoped to work in the cane fields only long enough to fulfill their three-year contracts. They dreamed of accumulating enough money for "a proud return to Japan" (22). Spencer's parents were born on the islands:

My parents taught me to refer to . . . first-generation immigrants as *Issei*. It is almost as if their identifying characteristics -- age, preference for Japanese language, adherence to traditional customs -- have blended into one man, one woman, and been given a name. The second generation, first to be born on Hawaii soil, we call the *Nisei*. My parents were born amid the rows and pungent smells of sugar cane, and there my father also died . . . I am of the *Sansei* generation. We are the dreams of our parents, dreams scarred with the thorns of cane leaves and pineapples. My own children are *Yonsei* . . . My daughter Teresa does not care for rice (22-23). *Middle Son* is presented as a frame story. As the book opens, Spencer is arriving at the Maui airport after a short flight from his home on the Hawaiian island of Oahu: "My mother is dying," he begins.

We live on different Hawaiian islands, and I fly to hers on the weekends, sometimes with my wife and children but more often alone. My mother and I have begun to talk about the past, now, more than we consider the future. Much of a parent-child relationship lives in the past. On the second day of an infant's life, the parent reminisces about the first (1).

We learn about Spencer's life as he and his mother relive their past. Spencer is taking a final opportunity to learn the things only his mother can tell him, and his mother is entrusting to him her last gifts: family secrets and her most prized possession, a Buddhist altar.

The family discussions gradually reveal the irony of the book's title. Although Spencer is the second of three sons, he spends most of his life as an only child. The first son, Taizo, died at twelve years old, when Spencer was just ten. And William, the family baby, is given at the age of one month to Spencer's aunt and uncle, who cannot have children, to raise as their own.

The transformation of Spencer from middle son to only son turns the book's title into a puzzle. If Spencer is not the middle son by virtue of family structure, then in what sense is he "middle"?

This question proves to be central to the definition of Spencer's character and a key toward understanding the novel as a depiction of prototypical Hawaiian-ness. To be Hawaiian, Iida shows us, is to be middle.

The three Fujii sons are named Taizo, Spencer, and William. Only the first is given a Japanese name. Taizo represents the insular Japanese identity. "My mom says that when Taizo was born, she wanted him to have one English name," Spencer says in adult conversation with William. "My dad said no. The oldest boy cannot forget tradition."

The boys' father, Hiroshi, is a stern and stoic patriarch whose silent disapproval and high expectations are depicted as stereotypically Japanese. As Taizo grows up, he self-consciously adopts his father's stern silence and self-discipline. He takes a parent's responsibility for his younger brothers -- his brother and his cousin, as the family fiction would have it -- and this sense of responsibility eventually leads to his death.

Taizo's death is symbolic of his Japanese essence and its relationship to Hawaii. Spencer and William have gone swimming in a forbidden reservoir while Taizo, who cannot swim, stands lookout. A storm rises and the rain makes the reservoir's steep bank too slippery for the young boys to negotiate. Taizo jumps into the water and boosts the boys to safety, then finds himself unable to get a grip on the land to pull himself out of the reservoir. It is as if the island itself rejects him, tossing him again and again into the water. Taizo drowns as ten-year-old Spencer runs for help.

Taizo's symbolic separation from the land is reinforced at his funeral. The plantation custom calls for burial, but the boys' mother insists on holding a Japanese-style Buddhist ceremony first. Taizo's body is cremated and his ashes consigned to an urn in the Buddhist temple. At the Western-style funeral, an empty casket is buried. The separation between Japanese Taizo and the Hawaiian land is complete.

William represents the opposite choice. We learn that William is no longer close to either of his Hawaiian families. He has moved to Seattle and is no longer Hawaiian, but simply Japanese-American -- emphasis on "American." When he arrives for a reunion on Maui shortly before his birth-mother's death, he no longer speaks the Pidgin that the rest of the family uses. He dresses and speaks as a tourist, and he claims to remember little of his childhood on the island. The mainland represents a sort of secular materialism to Hawaiians of all ethnic groups, a place where one can blend in and escape from

the claustrophobic expectations of family and neighbors (Chi 65).

Spencer takes neither of these routes. He enlists in the U.S. Army after high school instead of taking the money his parents have painstakingly saved for a college education. The army episode -- a chapter named "Perspective" -- represents Spencer's attempt to escape not only the disparate elements of his ethnic heritage, but his Hawaiian identity as well. Upon induction, Spencer and his fellow recruits, all wearing festive floral leis from their families and friends, take a short bus ride to the barracks. A drill sergeant calls them into formation as they step off the bus, and Spencer's transformation begins: "I threw my leis from my neck to the dirt. Hundreds of others also threw their leis, tearing them in haste. We trampled the leis as we scrambled into formation" (139).

Later, a fellow Hawaiian serviceman named Kenneth attempts to enlist Spencer in preparations for a luau at the conclusion of boot camp. Spencer evades the task, challenging Kenneth regarding his status as an American:

His smile was calm. "Look my uniform, Spencer. Must mean something."

I shook my head slowly. "Sometimes I wore my grandpa's kimono, and that never mean nothing."

"Nothing?" asked Kenneth. "Must mean something. You one Japanese."

"Not exactly," I said, slipping away before Kenneth could say anything more about the luau. Right then, when the whole American continent was coming into view, I didn't want to focus on Hawaii (144).

Later, recruits from across the United States quiz Spencer about his background, one guessing that

he is Mexican and another rejecting his claim of Japanese heritage because he was born on U.S. soil. When the southerners and midwesterners finally understand that Spencer is Hawaiian, they demand a hula dance; a threatened and humiliated Spencer complies (149).

The final scene in Spencer's experiment in ethnic denial takes place in Saigon, where he and a soldier of mixed Portuguese and Filipino descent consider whether they would be recognized as American if they were killed in action and their government-issue clothing somehow destroyed:

"Maybe they can recognize you," said Winston . . . "Someone would shout, 'Get one American over here.'" "You think so?" I asked, but when pressed that far, Winston fell silent. I opened my mouth to ask again, but he shook his head to stop me (154). When his term is up, Spencer finds that returning to Hawaii is an easy decision to make. He finds his way to Honolulu and employment as a newspaper photographer. He meets and marries a woman whose blonde hair and round eyes are -- in the happily mixed-blood tradition of the Hawaiian working classes -- of no particular consequence. And he sets out to raise a brood of Hawaiian children.

It is not only in adopting a cultural background that Spencer embodies middleness. There is also the issue of language.

English is the official language of Hawaii; it is the language of courts and contracts and government debates. Some Hawaiians of Japanese descent speak Japanese by preference, living in Japanese communities and isolating themselves from Western Hawaiian life. Between these two poles is the *lingua franca* of the Hawaiian underclass, Pidgin: the same Pidgin that evolved on the plantations to allow Chinese and Japanese and Filipino co-workers to share jokes and stories as they rested after a long day's work in the sugar fields. Except for his conversations with William, Spencer speaks Pidgin throughout the book. His fluency stands in contrast to his mother's:

Her parents spoke Japanese, and her children spoke English. My mother has told me she feels fluent in neither. I understand her confusion. I, too, am a person of two languages: the oral and the written. Pidgin, the language of my childhood, inhabits my voice, and my lifelong love of reading lives in my writing. When I must speak textbook English, my mind visualizes the written words and forwards them to my mouth (7).

Taizo would have spoken Japanese as an adult. William has opted for standard English in his life in Seattle. Spencer's Pidgin is the middle choice, and once again middleness marks him as Hawaiian, a true native of a land that lies -- coincidentally, surely -- in the middle of the Pacific Ocean.

Middleness in the Hawaiian sense is not a rejection of East and West, but a synthesis of them, a way of honoring both traditions.

In the Western tradition, ideals of ethical behavior come to us from Aristotle (387-322 BCE), who defined the middle path as virtuous in the *Nicomachean Ethics*. "[M]oral virtue is destroyed by deficiency and by excess," he wrote, and "cultivated and preserved by the avoidance of too much and too little, that is by the pursuit of the mean" (129-130).

Middleness is likewise an ideal of the Eastern tradition as expressed in the Siddhartha Gautama's first sermon: "Avoiding . . . extremes, a Tathagata [enlightened one] discovers a Middle Path, which opens the eyes, which bestows understanding, and which leads to peace of mind, to wisdom, to full enlightenment, to Nirvana. And what is that Middle Path? It is the Noble Eightfold Path" (39).

In exemplifying middleness, the character of Spencer Fujii is making a life that brings together the East and the West, the Japanese and the American, the worker class and the *haole* overseers. In *Middle Son* -- and, the reader cannot help but be convinced, in real life -- it is the middle son who is the true Hawaiian.

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## **It Takes Millions: A Re-evaluation of Copyright Law in Hip-Hop**

*~James Landrum*

Creativity and originality are two of the most important values in art. Without them, we would have no progression in style, no development in technique, and really no new works at all. In addition, every artist also has his own tools and sources of influence to which he owes much of his creativity and inspiration. In the case of music, which is the art of sound, the tools for creation would be whatever instruments the musician uses to create sounds, as well as all the equipment used to amplify, record, effect and sequence. The sources of influence for a musician include mostly the work of other musicians, including every performance attended, every recording listened to and every score read.

When an artist creates an original work, however, he will often feel protective of his work and may want to claim ownership. A musician who writes a song, for example, may not want a significant part of the melody and lyrics to be appropriated in another song unless he receives some of the benefits. For this reason, copyright was made into law that allows individuals to own “intellectual property,” granting them protection from others who may want to copy that work and pass it off as their own. These individuals who own copyrights legally have the exclusive right to decide who may perform, distribute or appropriate their works.

But what about when those sources of influence, such as records, also become the tools used in creating the work? In Hip-Hop, this is exactly the case. Hip-Hop is based upon the practice of sampling, using portions of other musical recordings as a part of a new recording or performance. DJs, the original Hip-Hop musicians, used records in new, creative ways by manipulating them as a part of a live performance. They would use techniques such as endlessly repeating a short, rhythmic section of a record – known as a “break” – by switching between two copies of the same record, cueing one record back to the beginning of the section while the other plays. These DJs also developed the technique of moving the record back and forth under the needle to make a “scratching” sound. With the invention of the digital sampler in the 1980s, Hip-Hop musicians recorded pieces of these records to reconstruct in new ways and to combine with samples from other records.

In this way, the influence was also being used as a tool for creation. This is not necessarily because Hip-Hop artists could not play instruments, though that may also be true. It was primarily because they could create new, interesting sounds that no musician would have been able to replicate otherwise. As Joseph G. Schloss, Lecturer in Music at Tufts University and winner of the Society for Ethnomusicology's Charles Seeger Prize, writes, "Simply put, sampling is not valued because it is convenient, but because it is beautiful" (65).

Still, some musicians criticize Hip-Hop for not being creative or original. They accuse those who create tracks from samples, often known as "producers" or "beat makers," of copying or stealing the work of other artists instead of creating their own original work. The fact that they may use some of the work of others as the pieces may be true, but it does not mean that what they create with those pieces is not creative and original. First of all, the choice of the sample can be creative: a piece of the recording that may contain an incidental sound or an improvised riff that may not appear anywhere else in the track. Exploiting these pieces that may appear unimportant in their original context suddenly take on a new meaning when put in a new context with other sounds and samples. Pieces of the recording can also be rearranged so that new melodies and chord progressions emerge. Sometimes, the original sample can barely be recognized in its new form.

However, what is creative or beautiful from an aesthetic point of view is not always what is legal. The 1976 Copyright Act, Title 17 in the United States Code, lists "sound recording" as one of the works which are protected under copyright. This is in addition to "musical works, including any accompanying words" as well ("Copyright Law of the United States"). This means that sampling a record often violates two forms of copyright: the song, which is also known as the "publishing rights" in the music business, and the recording, or "master rights" (Schloss 175). The copyright law also lists "derivative works" as rights reserved to the copyright holder ("Copyright Law of the United States"). This would mean that unless a sample can be proven as "fair use," which is defined as the "use of a copyrighted work... for purposes such as criticism, comment, news reporting, teaching... scholarship, or research," any Hip-Hop producer who samples a recording must obtain a license.

This is why Hip-Hop producers have to go through the ordeal of "sample clearance." This is the process of acquiring a license for the rights to use the sample in another creative work. Since sampling typically appropriates two types of copyrighted works, this means whoever wants to appropriate a sample in his work must receive clearance for both. The "publishing rights," which are for using the song or

composition, are usually owned by the composer and the lyricist, or their publishing company (Schloss 175). The “master rights,” for the recording, are usually owned by the record company (Schloss 176). If the work alters the song enough to be unrecognizable or if the sample is too small, the producer may sometimes be able to get away without clearing the publishing rights since he is not using any of the original composition. However, any piece of the recording is protected under the master rights, no matter how small (Schloss 176).

A precedent has already been set in the courts to allow sampling of small portions of the recording without infringing on the publishing rights. The Beastie Boys sampled jazz flutist James W. Newton’s recording of the piece “Choir” for their 1992 song “Pass the Mic.” The Beasties actually cleared the master rights, but did not receive a license for the publishing rights. Newton, whose “composition” consists simply of three notes and no rhythm, decided to sue the Beastie Boys because he claimed that his performance technique was distinctive, and that a substantial enough portion of the song – about 6 seconds – was enough to constitute a copyright infringement (“Newton v. Diamond”). After a legal battle that cost the Beastie Boys a half-million dollars (LeRoy 46), Ninth Circuit Judge Susan Graber ruled in 2003 that the Beasties Boys had not infringed on Newton’s copyright because his copyright was not substantial enough (“Newton v. Diamond”).

Hip-Hop artists did not always have to worry about clearing their samples. In fact, when digital samplers first came out in the early 1980s, producers didn’t even think about clearing their samples most of the time. Chuck D of Public Enemy, a group known for pioneering the art of sampling, recounted this time in his interview with “Stay Free!,” a magazine devoted to examining issues concerning politics and mass media: “At the time, [sample clearance] wasn’t even an issue. The only time copyright was an issue was if you actually took the entire rhythm of the song... But we were taking a horn hit here, a guitar riff there, we might take a little speech, a kicking snare from somewhere else. It was all bits and pieces” (McLeod).

Public Enemy released the album *It Takes a Nation of Millions to Hold Us Back* in 1988, and this album is often cited along with the Beastie Boys’ *Paul’s Boutique* and De La Soul’s *3 Feet High and Rising*, both released in 1989, as being among the most influential and revolutionary displays of the diverse and creative potential of sampling (LeRoy 78). As Dan LeRoy, writer for *The New York Times* and *Rolling Stone*, says of *Paul’s Boutique*, “...producer Eric B once claimed he could have created fifteen albums with the ideas from *Paul’s Boutique*. Even the late Miles Davis reportedly once said he never tired of that record” (121-122).

However, that worry-free era of sampling ended in 1991 when Second Circuit Judge Kevin Thomas Duffy ruled that Biz Markie's "Alone Again," which sampled the piano intro to Gilbert O'Sullivan's "Alone Again (Naturally)," was an infringement of copyright. Duffy, who is one of the most often reversed judges in the Second Circuit, even ruled that Biz Markie was in violation of the Seventh Commandment, "Thou shalt not steal." Duffy based his ruling on such poor evidence as the fact that the defendants somehow proved they were guilty by first attempting to contact O'Sullivan in order to obtain a license, therefore acknowledging they were aware of the infringement. But what Duffy failed to address was whether the use of three words and a piano intro, which is all Biz Markie used of Gilbert O'Sullivan's original song, is sufficient grounds for copyright infringement. Furthermore, the fact that Duffy asserts that Biz Markie's only aim was to "sell thousands upon thousands of records" and that "others in the 'rap music' business are also engaged in illegal activity" shows a strong bias against Hip-Hop and sets a remarkably blind precedent in copyright law ("Grand Upright v. Warner").

Because of this ruling, it became virtually impossible for records like *It Takes a Nation of Millions*, *Paul's Boutique* or *3 Feet High and Rising* to ever be made again. Hank Shocklee, one of the main producers for Public Enemy, explained the cost of sample clearance:

[Making a record like *It Takes a Nation of Millions*] wouldn't be impossible. It would just be very, very costly. The first thing that was starting to happen by the late 1980s was that the people were doing buyouts. You could have a buyout – meaning you could purchase the rights to sample a sound – for around \$1,500. Then it started creeping up to \$3,000, \$3,500, \$5,000, \$7,500. Then they threw in this thing called rollover rates. If your rollover rate is every 100,000 units, then for every 100,000 units you sell, you have to pay an additional \$7,500. A record that sells two million copies would kick that cost up twenty times. Now you're looking at one song costing you more than half of what you would make on your album (McLeod).

Even *Paul's Boutique*, released before the landmark ruling in 1991, reportedly cost a quarter-million dollars in sample clearances (LeRoy 46). One of the album's producers, Mike Simpson, says of making *Paul's Boutique* in today's legal climate, "You could do it as an art project, if somebody gave you a couple million dollars to make a record like this... But commercially, I don't think you could ever do it again" (LeRoy 47). This is a big reason why many popular Hip-Hop songs today contain as little as just one sample, because the cost is simply too great to use any more (McLeod).

There are many companies which thrive solely on profits made from the exploitation of copyright. Bridgeport, one such company, makes much of its money from lawsuits. Columbia Law School professor Tim Wu comes out strongly against Bridgeport in his article, “Jay-Z Versus the Sample Troll.” Bridgeport, which is a one-man company run by former record producer Armen Boladian, has amassed many publishing rights to many 1970s funk and soul recordings. In the era of Hip-Hop, these copyrights have proven to be a goldmine for Boladian, who in 2001 filed nearly 500 lawsuits against approximately 800 defendants, taking the stance that any uncleared sample, no matter how small or unrecognizable, is an infringement of copyright. Just a few of Boladian’s copyrights involved in these lawsuits are those of George Clinton records, which Boladian actually acquired illegally by forging Clinton’s signature (Wu). After a 15 year legal battle, Clinton finally won his copyrights in court in 2005. Boladian, who had been the plaintiff so many times, now found himself in the defendant’s chair, accused of stealing copyrights that he had accused so many others of stealing (“George Clinton awarded Funkadelic master recordings”).

But before he lost those rights to George Clinton, who is not only a fan of sampling but also a good friend of the musicians in Public Enemy (Clinton), Boladian located every use he could find of these and other recordings to which he owned the publishing rights. One such use was in an N.W.A song called “100 Miles and Runnin’,” which sampled the George Clinton song “Get Off Your Ass and Jam,” one of the copyrights Boladian had acquired illegally (Wu). The sample in question is an effected, high-pitched guitar riff which plays for about three seconds at the very beginning of the track before the real song begins (Funkadelic). In “100 Miles,” this sample is lowered in pitch, slowed in speed, looped for about seven seconds, played very low in the mix and repeated in five separate places in the song. The effect is barely recognizable, even if you know what sample is being used and where (N.W.A). In the context of the original song, the sound is sort of psychedelic and builds tension before the song. N.W.A uses the sample in an entirely new context; it functions almost as a police siren, which is appropriate since the subject of the song is police brutality.

The judge’s decision in this case is a very interesting analysis of the copyright of a musical recording by Sixth Circuit Judge Ralph Guy in 2004. Guy definitively argues that sampling of any kind without a license does infringe on the rights of the copyright holder of the sound recording and of the musical composition, no matter how the sample is used. Guy points out that the law reserves the right to create a derivative work exclusively to the copyright holder. Since any sample clearly uses the

copyrighted work and does not just create something that may be unintentionally reminiscent of another work, it is a derivative work. To prove copyright infringement with any other work, such as a musical composition, there must be a “substantial similarity” to the original in the new work. This does not apply to a sound recording since the source is often clear (“Bridgeport Music v. Dimension Films, et al.”).

The only case where a derivative work may be made without a license is if it qualifies under “fair use.” An article by lawyer Lloyd Rich explains in depth the factors considered when deciding fair use: “the purpose and character of the use,” which include if the work is intended for commercial or non-commercial purposes, if it conforms to the purposes listed above or if the new work is transformative; “the nature of the copyrighted work,” or whether the copyrighted work is of an informational or creative nature; “the amount and substantiality of the portion used in relation to the copyrighted work as a whole,” specifically if the portion used was just substantial enough to achieve its purpose; and “the effect of the use upon the potential market for or value of the copyrighted work.”

While sampling may be a transformative work that only uses a small portion and has no negative affect on the value of the original record – it may even make the original record more valuable – it is still difficult to claim sampling as an example of fair use. This is mainly because Hip-Hop is almost always commercial and the original copyrighted work is often of a creative nature. One example where the court ruled a sample as fair use was in 1994 when the Hip-Hop group 2 Live Crew sampled Williams Dees and Roy Orbison’s “Oh, Pretty Woman” in their song of the same name. The 2 Live Crew song was a comedic rendition of the original, with new lyrics and a slightly different musical structure. The Supreme Court ruled that the song qualified as fair use since it was a parody of the original (“Campbell v. Acuff-Rose”). Parodies often fall under fair use. However, it is difficult to prove that any sampling, other than in the case of a parody, qualifies as fair use. Using a sample in a song that is transformative of the original only makes it a derivative work, and does not necessarily mean it is a comment.

Judge Guy’s ruling in the case involving Bridgeport and N.W.A does not, however, even entertain the idea that this example of sampling might be fair use. His statement is, “Get a license or do not sample. We do not see this as stifling creativity in any significant way” (“Bridgeport Music v. Dimension Films, et al.”). He clearly has never heard of Paul’s Boutique. His ruling shows a similar bias against Hip-Hop to that of Judge Duffy, who proclaimed, “Thou shalt not steal.” In a similarly blanket statement, Guy asserts, “the producer of the record or the artist on the record intentionally sampled because it would (1) save costs, or (2) add something to the new recording, or (3) both” (“Bridgeport Music v.

Dimension Films, et al.”). Never once did he consider that the decision to sample could have a genuinely artistic and creative impetus.

In an attempt to further devalue sampling, Guy actually brings forth the best argument for the use of sampling: “For the sound recording copyright holder, it is not the ‘song’ but the sounds that are fixed in the medium of his choice. When those sounds are sampled they are taken directly from that fixed medium. It is a physical taking rather than an intellectual one” (“Bridgeport Music v. Dimension Films, et al.”). Though he intended to use this statement to prove why any unlicensed sample from a recording is an infringement, he actually proves why using a sample from a recording should not be viewed as an infringement. Since the “taking” is not of an intellectual nature, the piece taken should not be viewed as intellectual property and should not enjoy the same copyright protection as a musical composition.

That is not to say that the piece does not have value. As Guy states, “...even when a small part of a sound recording is sampled, the part taken is something of value,” and I agree. In his footnotes, Guy cites a quote by Christophen Abramson that explains, “all samples from a record appropriate the work of the musicians who performed on that record. This enables the sampler to use a musical performance without hiring either the musician who originally played it or a different musician to play the music again... This practice poses the greatest danger to the musical profession because the musician is being replaced with himself” (“Bridgeport Music v. Dimension Films, et al.”). Even though this ignores the idea that the sounds that come from sampling might not be possible to recreate otherwise, I might be in favor of the law if every musician were paid fairly.

However, this is not the case. The master rights, of course, are usually owned by the record company, and the publishing rights are often owned by a publishing company, which means that the money too often does not go to the artist who created it. This injustice is clearly illustrated in the case of drummer Clyde Stubblefield, who played in James Brown’s band. James Brown’s “Funky Drummer” contains an eight-measure drum solo played by Clyde Stubblefield. Coming out of the Hip-Hop DJ technique of repeating a “break,” this solo has been sampled as the drum track for countless Hip-Hop songs and has become one of the best known breaks in Hip-Hop (Schloss 36). When an artist pays to use this sample, he may be taking the work of Clyde Stubblefield but he’s paying the record company.

Though one may imagine that Stubblefield or any other sampled sideman would at least receive royalties from the record company for licensing a sample that used his work, more often than not, he gets nothing. The recording artist may sign a contract with the record company in which he receives

royalties for the sale of the record, but the session musicians or sidemen are often not included. And as for the “lucky” musicians who do get a piece of the master rights, that money all too often goes to paying off the advance they received before the record was made. (Landrum). But even if we tried to protect the musicians involved in making the recording, it would be a very tricky situation to attempt to compensate everyone who worked to create that sound. The engineer who gave a snare its punch might want a cut if those drums are sampled, because he may have been the reason they were sampled in the first place. A musician who played somewhere else on the track might also want to be paid even if he was not playing during the sampled portion. This would be unfair. It would be very difficult, if not impossible, to compensate everyone involved in a way that would be fair.

The reason for this is that copyright for sound recordings was never made with the performing musicians in mind. As Guy illustrates, sound recordings were subject to a separate copyright in 1971 because of “advances in technology which made the ‘pirating’ of sound recordings an easy task” (“*Bridgeport Music v. Dimension Films, et al.*”). Since sampling is not pirating, and does not devalue the sale of a record, and may in fact increase that value, it should not be an infringement according to the original intention for the protection of a sound recording. And since the record company, whose sole job is to sell records, most often owns that copyright, the rights of the copyright holder of a sound recording are not being infringed upon by the use of a sample.

In addition, the protection for the copyright of a sound recording only extends to those exact sounds contained in that recording, not the arrangements, solos, or musical ideas contained in that recording. This means that anyone may recreate or imitate those sounds in the recording without infringing on the master rights. This is exactly the practice Hip-Hop producer Dr. Dre uses in many of his productions. He hires musicians and records them duplicating the grooves found in records (McLeod). His imitations may not be exact, but even if he recorded the exact same music with the same musicians in the same room with the same instruments and microphones, it still would not be an infringement of the sound recording. However, this method of copying a sound recording is an intellectual “taking” rather than a physical one. Just imagine if someone rewrote another author’s novel using synonyms and different character names; he would certainly be sued. The very nature of the definition of a sound recording in copyright law does not treat it as true intellectual property. If it were, then the ideas would be protected. This, however, is simply not the case. The only thing protected under the copyright law of a sound recording is sound.

Also, simply because a certain musical technique may put some musicians out of work does not mean it should be illegal. If that were the case, synthesizers would be illegal because of the potential they have to replace the sound of live instruments. Also, there are many music recording programs, such as GarageBand, that come with samples of short performances recorded specially for the program that one can use totally free and totally legally. You can also buy additional libraries of drum loops and other samples that one can use freely and legally. Synthesizers and sample libraries are very useful tools that allow musicians to compose and record music with a wide variety of instruments and sounds without needing to hire additional musicians, and sampling from records is no different in that respect. What the law is essentially saying is that it's OK to sample from these libraries, but it's not OK to sample from your record library.

It is for all of these reasons that I believe that anyone who samples a portion of a musical recording as a part of a new, creative musical recording should never have to clear the master rights for that sample. A sound recording simply is not true intellectual property like a musical composition, and an artist who uses a sound recording as a tool for creation should not be expected to pay for that use. Sound recording copyright should only protect against bootlegging and piracy, as it was originally intended. It is revisionism and a gross misunderstanding of copyright to assert that sound recording copyright was intended to protect the musicians who played on that recording, and it was certainly never written with digital samplers in mind.

I also believe the courts and the law should be more lenient with clearing the publishing rights. Though there has already been a precedent set in the case of *Newton v. Diamond* to allow this in some special cases, it clearly did not affect the decision in the case of *Bridgeport Music v. Dimension Films*. However, I think this is unfair; simply because one samples from a record does not automatically imply that one is using a portion of the composition. I believe that this is the way sampling law should work. While sampling a large enough portion of a recording may require an artist to clear the publishing rights, the artist should not have to clear the master rights. I believe that this is not only fair legally, but will actually encourage more creative sampling that uses more physical sounds and fewer creative ideas of others.

Lastly, I believe that the law should reflect our values, not dictate them. If the law does not fairly reflect the values of the people whom the law is intended to protect, those laws ought to be changed. Sometimes, however, we allow what the law states to influence our values, which is not how I believe things should work. I believe that a big reason why sampling is not valued among many musicians is because of what the law allows. The law does not leave much room for creative sampling any longer. Partly for this reason, and partly because we sometimes will let the law tell us what to value, many in the musical community do not respect Hip-Hop for the creative potential it has, or may have. If we can keep an open and critical mind, we can have laws that are fair and that respect the values of all art forms.

Copyright was intended to protect the artist. Now that it has become a commodity, it is owned by businesses that make money from stifling creativity through frivolous lawsuits, exploiting a system that has shown a clear bias against sampling and Hip-Hop. Laws that once only applied to ideas apply to more concrete forms of communication, which is unfair. We need to rethink our system of copyright so that it can once again do what it was originally intended for: protect artists against those who want to make a profit off of their work.

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## Electronic Surveillance: Herding the Flock in a Globalized World

~Ivan Melyakov

The forces of globalization and technological proliferation have qualitatively transformed the manner in which the state exerts control over those it governs. Power has become a commodity fundamentally rooted in the acquisition of information by means such as civilian surveillance. Furthermore, this transformation has introduced systems of intergovernmental collaboration aimed at maintaining an upper hand over the globalized citizen. The purpose of such systems is akin to those of the states: keeping pace in a world where technological finesse and knowledge directly translate into affluence. This is indicative of a new security mechanism, one in which the citizen poses an omnipresent threat to the sovereignty of the state and is kept under control by technological means.

This emerging trend can be identified and explained by dissecting three causal relationships; the Hobbesian social contract, the long standing tendency of states to diminish personal freedoms during perceived times of danger and the power-transfer theory of globalization.

The Hobbesian social contract dictates that the fundamental reason responsible for the existence of governments and laws is the preservation and perpetuation human life. Human life is not maintained naturally due to the fact that a lawless society breeds anarchical disorder which is inconducive to survival. Thus, life is preserved by yielding certain personal liberties in exchange for a guarantee that laws will prevent injustice and injury from others that likewise conceded their liberties. In the *Leviathan*, Thomas Hobbes writes,

To *law downe* a mans *Right* to any thing, is to *devest* himselfe of the *Liberty*, of hindring another of the benefit of his own Right to the same. [...] And when a man hath in either manner abandoned or granted away his right then is he said to be Obliged, or Bound, not to hinder those, to whom such Right is granted or abandoned from the benefit of it: and that he *Ought*, and it is his Duty, not to make voyd that voluntary act of his own: and that such hindrance is Injustice, and Injury. (Hobbes 106)

In constructing a governmental system in accordance with the Hobbesian social contract, a direct relationship arises between freedom and equality. Granted absolute freedom, citizens relentlessly pursue their personal goals and invariably stratify society into a brutally unequal and competitive state.

The converse is also true; if absolute equality is enforced then personal freedoms become severely attenuated and widespread uniformity is observed. For example, if *laissez-faire* policies in their entirety are applied to the economy, completely unmoderated competition is established and a “road to anarchy” becomes certain (Sidney and Orren 46). On the other side of the spectrum, if collectivism is emphasized and equality imposed, freedom virtually disappears and everybody becomes equal—that is, equally indentured.

This tendency is identified by political philosopher Friedrich Hayek in his publication “The Road to Serfdom”. He states that totalitarian regimes such as Nazi Germany and the Communist Russia inevitably resulted from collectivism and the regulation of the freedom of choice (Greene 135). Hayek's examination of historical trends suggests that many of the greatest infractions on personal liberties throughout history resulted from the desire to establish equality by constructing malignant collectives. Conversely, the Industrial Revolution showed the world the havoc of free market and unmoderated distribution of wealth can wreak on an unsuspecting society. Therefore, maintaining a delicate balance of equality and freedom is integral for a healthy socio-political system. Lack of balance invariably results in disaster.

A consequence of the interplay between equality and freedom is the tendency for liberties to be inversely correlated with national security. Anything that could possibly diminish the governing ability of a nation within its sovereign borders poses a threat to national security. The relationship between national security and personal liberties has been identified for ages; in a time of destabilization free citizens have the potential to exert an unfavorable force against their government. Given the state's strained situation, the actions of such individuals can be hard to deal with. Potential subversives within the state can even attempt to undermine the integrity of the state and seek to further destabilize given conditions. During a period of perceived threat, the possibility for incurring a blow to the livelihood of the population always exists; it is because of this that equality is emphasized and everyone kept in check. This ensures that, in a Hobbesian sense, no citizen would have the luxury to practice freedoms harmful to others and undermine the state's ability to preserve life.

It is therefore favorable for a government to keep a closer watch of their subjects during a time in which a national security threat is present. Not surprisingly, shortly after the attack on the United States of America on September 11th, personal freedoms abruptly declined:

Within hours after collapse of the World Trade Center [...] most of us knew that civil liberties would be under fire. After all, [...] we have been down this road before. The historical events of the past

century that inspired the worst violations of civil liberties [...] share certain characteristics (Neier 1).

The “road” down which we've been before is the path of personal oppression in the name of collective security— the upholding of the Hobbesian contract in a time where the preservation of life requires more freedom on the side of the civilian under the threatening conditions of the situation at hand.

This relationship is aptly demonstrated in the treatment of Japanese Americans during World War Two. The attack on Pearl Harbor in many ways was the September 11th of the forties: a seemingly infallible state suddenly came under attack from a formidable and powerful enemy. The public perception and historical documentation of the event is still one that evokes words like 'catastrophe' and 'disaster', “Postmortems generally describe the damage inflicted by the Japanese attack on Pearl Harbor on December 7, 1941, in dramatic, almost apocalyptic terms. The Joint Congressional committee that investigated the event after the war labeled the attack, 'the greatest military and naval disaster in our Nation's history” (Mueller 172). The national response to this 'disaster' was perhaps even more destructive. Shortly after the attack on Pearl Harbor, the United States government identified the enemy as the nation of Japan. To better protect its borders and ensure domestic security, President Franklin Delano Roosevelt signed executive order 9066 which relocated over seventy-five thousand Japanese American families into alienated camps in an attempt to hamper their potential for sabotage. The conditions of these camps were horrific,

Most [camps] were set up in remote, arid lands where the climate was blisteringly hot in summer and frigid in winter and where dust storms were common. Schools and medical care were initially scarce, and food remained of poor quality. Comfort and privacy were all but impossible to secure in the uninsulated, barren, and hastily constructed barracks into which families were crowded (Robinson 4). With hindsight it seems cruel and unconstitutional to treat American citizens so harshly, but upon closer analysis it becomes evident that this instance of severe liberty diminishment is the sacrifice that the United States as a society paid in order to maintain their security and ultimately preserve life in a Hobbesian sense. The unnecessary and counterproductive internment of Japanese Americans during World War Two serves as a perfect demonstration of the mechanism behind the interplay of national security and freedom. The state will undertake any policy that lessens the liberties of suspected saboteurs— no matter how illogical, unconstitutional or belligerent that policy may be: all in the name of security. Nowadays the isolation of hundreds of thousands of Japanese Americans is viewed as entirely counterproductive and the military attack on Pearl Harbor is considered “...more of an inconvenience

than a catastrophe or disaster for the United States” (Mueller 173).

This instance however is not the only erroneous manifestation of the relationship between national security and freedom. The same model of liberty-sapping can be seen during other times of perceived danger. The crackdown against communists sympathizers during the red scare, the attacks against pacifists during World War One, and the assault on civil liberties during Vietnam are all examples of this trend. (Neier 1) It appears as though the loss of personal freedoms involves an identification of a potentially dangerous minority and its subsequent alienation.

On September 11th, 2001 the United States of America incurred a grave blow to its security, image and status. Nineteen hijackers successfully challenged the authority of the undisputed hegemon of the world by destroying some of its most prominent symbols of power. Without warning the world of national security turned upside-down. The United States of America was suddenly confronted by a faceless, omnipotent and omnipresent enemy that transcended boundaries and had a multitude of individuals working for its cause. It became evident that some action had to be taken against the suicidal policies of the perpetrators but in the given scenario conventional minority alienation techniques would not suffice due to the imprecise nature of the threat. A method had to be developed capable of identifying and neutralizing the elusive globalized villain. Forty-five days after the September 11th terrorist attacks on the World Trade Center, the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act, or PATRIOT Act was passed. In the hectic aftermath following September 11th, the American public was too distracted to realize the serious ramifications that accompanied this piece of legislature. It fundamentally dissolved privacy in civilian communications and gave the government the full right to wiretap phones, intercept cellular calls, hack e-mails, browse financial and medical data and access practically any personal records (Rackow 1653). Furthermore, Section 213 of the PATRIOT Act dictates that property is subject to unannounced and unwarranted searches under the “sneak and peek” clause (Russel, Forrest, Moore 372). The ability to conduct unwarranted and unannounced searches without the subjects knowledge presents one of the most serious blows to personal liberties. Section 213 is one that speaks more broadly about the attitude the government has chosen to adopt regarding their citizens. The government is proclaiming openly that they are the ultimate and undisputed holders of power; disregarding even the awareness of the public, much less their liberties of freedom.

In many ways the PATRIOT Act is the radical manifestation of the relationship between national security and liberty. It aims to equalize the public under governmental law by gaining a virtually limitless knowledge about actions deemed potentially hazardous. The full effect of the Act however is much farther reaching due to the potential to dismiss the personal freedoms of any citizen indiscriminately monitored by surveillance technology. Such an implementation of the classical security vs. liberty pattern breeds a system which takes the exertion of state control to a new height. Whereas in the past the government could target a specific demographic group such as Japanese-Americans, the PATRIOT Act allows for effective, real-time analysis of the entire country in search for possible “subversives”. Furthermore, these individuals never know that they are being monitored as secrecy and governmental intimacy is emphasized. (Stuntz 2161) The methodical search for saboteurs is currently achieved through a number of classic practices such as wiretaps and e-mail hacks but more innovative means of surveillance are currently in development. The full extent of these technologies is not well known due to the secrecy surrounding security operations, but many scholars and privacy gurus speculate upon the direction of future surveillance endeavors.

One such proposed 'innovative' technology is the radio-frequency-identification or RFID chip. Scholar Maurine Webb identifies RFID chips as “... computer chips with tiny antennae that can be put into physical objects. When an RFID reader emits a signal, nearby RFID chips transmit their stored data to the reader” (Webb 84). According to Webb, the department of Homeland Security plans to implement these chips on a wide scale to make sure that all individuals are at places where they pass “security clearance”. The information would then be collected and stored in large databases which would have an interactive map of every individual's location over a prolonged span of time. The implementation of such a technology will allow for a government to see individuals that have irregular or suspicious routines and to monitor their travel to potentially dangerous parts of the globe. The Department of Homeland Security also plans on combining traditional methods of collecting biometric identification such as fingerprints and retinal scans with cutting edge database technology:

The plan is to create information dossiers on all persons entering the United States, to store these dossiers for one hundred years, and to link individuals' biometric data to a web of databases, encompassing more than twenty U.S. federal government databases as well as U.S. commercial databases (Webb 85).

The American government and other members of the global community recognize that to better watch over their citizens they must have a monopoly on information outside of their borders as well as within their borders. It is becoming impossible to maintain control over everyone within one country's sovereign borders due to the fact that travel and internationality have become widespread. The modern terrorist has been tremendously empowered by communication and the ease of international travel. Malignant organizations are presenting a threat with power that can coerce citizens across borders and advance their agenda by operating internationally,

'Pure terrorism arises intercollectively and upwardly across long distances in multidimensional space. Yet because social distance historically corresponded to physical distance, terrorism often lacked the physical geometry necessary for its occurrence: physical closeness to civilians socially distant enough to attract terrorism. New technology has made physical distance increasingly irrelevant, however, and terrorism has proliferated' (Black 14).

The U.S. Federal government is addressing this issue by creating a number of intergovernmental spy-programs, one of which is the US-VISIT program which collects “biographic and biometric data” (Homeland Security 1). The future for the US-VISIT program involves being “...eventually linked to other programs— so that the web of databases that dossiers are compiled could be even wider and have a global reach” (Webb 85). Such programs are already in existence, with a particularly notable example being the ECHELON global monitoring system. According to the Duke Law journal, the system stands for “... a code word that has been used to refer to the worldwide effort on the part of the United States and its allies to intercept communications intelligence (COMINT). ECHELON is believed to be a joint initiative led by the National Security Agency in conjunction with its counterparts” (Sloan 1468). Susan Page, a journalist for *USA Today*, emphasizes both the scope and power of the NSA and ECHELON ...the NSA has participated for many years in the Anglo-American signals intelligence effort known as ECHELON. Now the largest government spy agency in the world, the NSA is located in Fort Meade, Maryland, and employs approximately 30,000 people. It shreds 40,000 pounds of documents a day and has a yearly electric bill of 21 million (Page).

Yet another method by which the United States taps into the world-wide net of information resources is by exploiting bureaucratic loopholes that allow the FBI to acquire private, domestic and foreign databases. Such acquisitions are obtained under the PATRIOT Act and give the FBI reliable access to virtually all records held by companies associated with American subsidiaries. Realistically, this allows

for governmental institutions to access databases from countries which are economically associated with the United States regardless of the subject to which the information pertains. Due to the fact that the FBI has to place an order before acquiring access to a database, statistics are available on the number of businesses that have successfully declined such endeavors, “Foreign Intelligence Surveillance Act has turned down only 5 applications for warrants out of 18, 748. When seizure is granted, a gag order is placed on the business involved, preventing that business from telling anyone about it” (Webb 87).

Of even greater monitoring capabilities are organizations like the International Criminal Police Organization or INTERPOL. Defined as “... the world's largest international police organization, with 186 member countries ...[which] facilitate cross-border police co-operation, and support and assist all organizations, authorities and services whose mission is to prevent or combat international crime” (INTERPOL 1). By definition Interpol represents a new world crime policing organization. The very existence of organizations which contain over a hundred member-states working cooperatively to acquire information that expressly aids in the detainment of criminals is evidence of the unfathomable extent to which the global community is willing to go in both attaining security and sacrificing liberty. Another such organization is the European police office or EUROPOL, which has the same basic aims as INTERPOL but places an emphasis on keeping a watchful eye on persons who have yet committed no crime, “...EUROPOL files contain sought-after criminals, suspects who have not yet entered the system of judicial inquiry, lists of possible informants, possible witnesses who might testify about their neighbor or colleague, victims or persons susceptible of being victims” (Lyon 58).

Perhaps the most pertinent method of privacy intrusion is the ability to monitor the ultimate information channel; the Internet. The FBI has constructed a high tech system codenamed CARNIVORE to intercept practically all civilian cyber-information and review it for potentially hazardous content. “CARNIVORE can be programmed to intercept and collect specific messages that are of interest to the FBI, such as those sent from a particular network or e-mail account” (Sloan 1479). Worldwide surveillance organizations, innovative technologies such as RFID chips, bureaucratic loopholes leading to the acquisition of vast information dossiers and sophisticated Internet data interception systems all constitute a massive onslaught on personal liberties. This is the governmental force’s attempt at dealing with the omnipotent threat of terrorism, establishing security and teasing out the everpresent faceless saboteur. In the final analysis, such actions stand for ensuring security by elevating equality in the name of preserving life in concordance with the Hobbesian social contract.

What is observed from the policies of numerous governing bodies is indicative of more than just a quantitative manifestation of the previously established pattern of liberty reduction. The recent actions taken by the world community dictate a new paradigm in national security. We are entering an entirely new era of state-sponsored civilian control, an era qualitatively defined against the globalized and elusive nature of terrorism and the vast proliferation of technology. Unlike previous episodes of equality enforcement in the name of security, this particular trend in America's history will most likely remain for a prolonged period of time due to the delicate balance of power that it creates between the state and its citizenry. The paranoid tactics of countries such as the United States suggests that national security is no longer measured in terms of countering a tangible enemy, but rather as the force exerted through the collection of information against the common man. The enemy is now anyone and everyone. A techno-war has been declared on the citizenry, a war in which the general public stands to lose all semblance of privacy and the government stands to gain boundless knowledge and power. To fully understand the nature of the transformation which has unfolded, it is necessary to examine the third and most important relationship: the transfer of power from traditional power holders to the individual through the process of globalization.

Political science professor Dr. Hessami defines of globalization as a process which primarily consists of a shift in power distribution.

Facilitated by the computerization of society and information technologies, globalization, in the final analysis, stand for the empowerment of the individual challenging the traditional holders of power.

Thus, a web of interconnectedness has been created so revolutionary in scope, depth, and speed that it has caused a unique qualitative change from all previous historical periods (Hessami). Fundamentally what Dr. Hessami is addressing is the relatively new ability of the individual to bypass traditional systems of power within the state by harnessing the vast capacity of technology. Because the individual obtains the potential to avoid previously necessary parts of the system, he gains a liberty hitherto unavailable to him. Transfers of power, however, are rarely frictionless and therefore a resulting power struggle arises from the fact that the traditional power holders—the states—are reluctant to yield their affluence. This struggle is one that is centered around technology. Through Big Brother-like policies the government is able to maintain control of its citizens.

For example, the average United States citizen has access to the world-wide web and makes use of electronic mail (CIA Factbook). Upon writing an e-mail and sending it to another part of the globe, this individual instantly bypasses traditional methods of message delivery such as the Federal Postal Service, allowing him the liberty of choice regarding his governmental institution and thereby entirely circumnavigating the influence of the state. The same user may also pay a nominal fee to a company based in a foreign country for specialized e-mail access, in which case his fee for information delivery would go to a state other than his local one. The ability to choose which institutions you desire to invest in represents a fundamental challenge to the traditional holder of power, the state. The same individual can also violate the legal structures of the nation in which he or she resides. For example, it is not legal for a nineteen-year-old citizen to purchase alcoholic beverages on United States soil; nevertheless he or she can order it on line from a foreign country and have it delivered to his or her doorstep. In the given scenario the nineteen-year-old is enjoying the liberty of breaking the laws of his or her government through the power which technology puts at his or her fingertips.

In the past, commodities were bought locally and foreign goods were subject to a number of taxes through which the importing country generated revenue. Nowadays it is possible to obtain virtually any product via Internet websites such as Ebay. Upon purchasing a product from such websites you are potentially diverting the income of your state to that of the vendor's country. Again, access to technology and information, particularly the Internet, leads to the empowerment of the individual at the expense of the state.

It might seem trivial to equate e-mails and small misdemeanors with a state power-loss theory but this trend is observed in fundamentally every facet of life. People now have the capability to go to online churches rather than actual churches, to attain cultural ideas from the Internet rather than state-run institutions, educate themselves on globally-compiled databases of information such as Wikipedia, network with friends through social networks that do not depend on the state, attain medical advice on websites rather than from doctors. Individually, any particular facet of this phenomenon might seem relatively harmless but when taken in conjunction with the other aspects it paints a dower picture for the people traditionally responsible for such activities. With every passing day the state has less and less control over the political, economic, religious, cultural and educational aspects of their subject's lives (Hessami).

The system which has given affluence to the individual likewise capacitates non-governmental groups, Al-Qaeda being one of the most notorious benefactors from this empowerment. This trend is observed due to the recent establishment of a “new world order” which takes power from the hands of the state and puts it into the hands of nongovernmental organizations (Fisher 440). The newly empowered nongovernmental organizations use their affluence in a number of ways including “implementing grass roots or sustainable development, promoting human rights and social justice, protesting environmental degradation, and pursuing many other objectives formerly ignored or left to the government” (Fisher 440). Unfortunately, as in the case of Al-Qaeda, the intentions of some nongovernmental organizations are aimed at wreaking destruction and violently forwarding a political message. In fact, most of the violent nongovernmental organizations that arise out of third world poverty are the fastest growing. Some scholars deem the uprising of such third world NGO's “as significant to the latter twentieth century as the rise of the nation state [was] to the latter nineteenth century” (Fisher 440). Due to the increased pace at which the individuals are gaining new liberties and the speed at which nongovernmental organizations are rising, the definition of globalization is validated. It would seem as if though the state truly is less relevant in the modern world.

In the future it is hypothesized that NGO's will dominate the sphere of internet warfare and be exclusively responsible for the debilitation of internet-based agencies through a new type of war called, “netwar” (Arquilla and Ronfeldt 7). Malevolent nongovernmental organizations will seek to exploit and circumnavigate the new system of state enforcement through computerization of crime and the creation of “cyboteurs” (Arquilla and Ronfeldt 7). Even though the category of “netwar” and “cyboteur” NGO's will be broad and vague at first “... there is an underlying pattern that cuts across all variations: *the use of network forms of organization, doctrine, strategy, and technology attuned to the information age*” (Arquilla and Ronfeldt 7). The evidence of violent nongovernmental organizations transitioning to the internet is indicative of their awareness and recognition of the new type of state-policing. The state is changing the method by which it tracks down subversives, but it also seems like the subversives are recognizing the trend and accommodating their methods to be fitting of the technological age.

Middle East Arab terrorists are on the cutting edge of organizational networking and stand to gain significantly from the information revolution. They can harness information technology to enable less hierarchical, more networked designs—enhancing their flexibility, responsiveness and resilience.

In turn, information technology can enhance their offensive operational capabilities for the war of ideas as well as for the war of violent acts (Zanini and Edwards 29).

Even though the nongovernmental transition to the full technological model is in the works, current terrorists are exploiting the empowerment that technology currently has to offer at an alarming rate.

Nineteen hijackers were able to exploit this relationship and electronically manipulate the American system by tapping into the power which technology offered. Al-Qaeda effectively operated unnoticed, behind the law and almost outside of the legislation of the United States. They communicated with their leaders by cell phones, flew internationally on several occasions, rented cars and hotels electronically, conducted Internet searches on flight schools and, after all, they bought their airline tickets online. (9/11 Commission report 236-259; 157) It is not surprising that in terrorist training camps in Pakistan, Al-Qaeda operatives were taught to use the Internet and read phone books rather than shoot AK-47's (9/11 Commission report 157). Perhaps the new super weapon of the globalized rouge NGO is the Internet more than the AK-47. The sheer awesomeness and potential of the power granted to malevolent NGOs, as evidenced by the terrorist attacks carried out by Al-Qaeda, is the very reason for the state's fear of individuals and non-governmental groups within and outside of its borders. The empowerment of the individual by technological means grants these groups never before heard of power that conventional means of policing have virtually no control over.

Policing agencies have long since figured out that the liberation of the NGO by various technological means is the primary reason behind an unstable state and a lack of national security. Attorney General John Ashcroft is quoted as having said:

Technology has dramatically outpaced our statures. Law enforcement tools created decades ago were crafted for rotary phones – not e-mail, the Internet, mobile communications and voice mail. Everyday that passes with outdated statutes and the old rules of engagement is a day that terrorists have a competitive advantage (Sheilds 23).

Attorney General Ashcroft's statement embodies the essence of the domestic security phobia. The Attorney General is fundamentally claiming that if the United States government does not accommodate this global transition of power, it will be outmoded by technologically-savvy criminals. The essence of this reasoning however is not rooted in terrorism or in criminal syndicates. John Ashcroft could have just as well said, "citizens" instead of "terrorists" because every day that the U.S. government does not account for the new globalized rules of engagement its citizens gain more and more power. With this

power comes the power to change the state in a potentially harmful way. This harm can translate into dramatic manifestations such as September 11th.

As hitherto mentioned the conventional ways of maintaining state control are becoming obsolete. The age of interning specific ethnic groups in a hope to eliminate subversives is gone. The new wave is not only comprised of fingerprints and hard-file police records, but rather of RFID chips, ECHELON global spying systems and the like. States worldwide are recognizing this technological power-transition and are accommodating their policing efforts in such a way that is conducive to tracking and apprehending the globalized law-violator. The new method by which states exert control includes the collaboration of numerous intergovernmental institutions all working towards the creation of a comprehensive monitoring system or 'enhanced' surveillance system such as the international counterparts of the NSA program. Worldly entities such as INTERPOL, ECHELON, and EUROPOL are just the beginning of what will most likely become a well-oiled international surveillance juggernaut. Such untrustworthy and neurotic tendencies breed a multi-headed dragon that is virtually infallible, always watching, never sleeping and, through technology, having the ability to strike anyone at any time.

The proliferation of surveillance technology through the globalization model and the empowerment of the individual have induced a permanent phobia within the traditional power holders and thus a new surveillance system is being born which will violate virtually every fundamental freedom in the name of power conservation and total equality. In the minds of governmental authorities, total equality seems to be the only answer to upholding the Hobbesian contract and perpetuating the livelihood of the citizenry.

Terrorism serves as the catalyst for the emergence of the world wide civilian surveillance system because it poses a perfect example of a globalized threat. Technologically empowered, omnipresent and always elusive foe with many faces is the nemesis of any power-hungry state which is desperate to stay in control. Drawing upon the established causal relationship of freedom-reduction versus perceived national security, it is only natural to assume that countries worldwide will react as they always have: by diminishing individual's liberties in order to better establish equality and secure their sovereign borders in an attempt to prevent a possible terrorist attack potentially fueled by weapons of mass destruction. However, given the definition of globalization provided by Dr. Hessami, individuals will continue to attain more and more power as they liberate themselves from the constrictions of their nations. This is key since in the presence of a global threat such as terrorism, freedoms are

ultimately dangerous and their reduction is favorable for the stabilization of the world community.

With the ability to challenge the state, every citizen becomes akin to a terrorist and is kept in check through the methodical collection of enormous amounts of information via various surveillance technologies. A government which is omnipresent and has unlimited information about a person's private life wields virtually limitless power over that person. By meticulously tracking every move of the common citizen, authorities will always be able to find some aspect that is disagreeable with their policies. The result will be the inevitable submission of the citizen to the ideas and will of the state. A government watchdog is a very good thing when dealing with terrorists and violent crime but when surveillance is taken to its radical conclusion, it greatly diminishes every liberty we enjoy. By inhibiting the very freedom of thought everyone becomes equal under the state – equally miserable.

To conclude, a qualitative transition has occurred which has tapped into a number of priorly established socio-political relationships and spawned a phobic government surveillance super-system both internationally and domestically. The balance of equality and freedom is the underpinning of the balance of national security and freedom, which in turn is the integral part of the power transition theory of globalization as it relates to global surveillance. This sequence of interrelationships is useful in understanding both globalization as a phenomenon and civilian surveillance as a new reality. One is not possible without the other and in the context of each other, they aptly demonstrate the fine faucets of their elusive characters.

Ultimately, what liberates us also enslaves us. The benefit of having the ability to practice liberties never before possible due to globalization is also the curse of having a government watchdog heavily monitoring those who practice these liberties. Likewise, as a balance to the good done by benevolent nongovernmental organizations, malignant groups bring forth havoc. Globalization and technological empowerment is a double edged sword; it seems as if though it is necessary to have heavy policing to have newfound liberties. The trick to maintaining a healthy socio-political system lies in the moderation of both extremes; Thomas Hobbes was right to recognize this balance as one which perpetuates life and ultimately human happiness.

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## Pendulums and Physical Reality:

Report from a laboratory experiment conducted on January 29, 2008  
as part of PHYS-172 Physics II

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1

## Pendulums and Physical Reality

### Abstract

This paper is based on a laboratory experiment performed in my algebra based Physics class. Simple harmonic motion is examined by analyzing the motion of the pendulum. Numerical data was collected by varying the length, mass, and swing angle of the pendulum. A portion of the experiment was repeated four times to examine the effect of human error. The accuracy of the data is examined by comparing the calculated gravity to the approximate local acceleration of gravity in our lab. The original data from the experiment is included as an attachment.

While this paper presents the background and the experimental results of that work, it has been extended into a critical inquiry as to how well the simple pendulum formula, or any formula, relates to physical reality.

	2
<b>Table of Contents</b>	
Abstract.....	1
Table of Contents.....	2
Introduction and Background .....	3
Theory .....	3
Description of Experimental Set-up.....	8
List of Equipment Used .....	8
Procedure .....	9
Data Analysis .....	10
Discussion of Results.....	12
Conclusions.....	19
Expanded Discussion.....	21
Works Cited .....	27
Appendix A.....	29

## Introduction and Background

Based on a laboratory experiment performed in my algebra based Physics class, this paper examines simple harmonic motion by analyzing the motion of the pendulum. The experiment collected numerical data by varying the length, mass, and swing angle of the pendulum. Human error is also examined as a portion of the experiment was repeated four times. The calculated gravity was compared to the approximate local acceleration of gravity in our lab. The original data from the experiment is included as an attachment.

The paper is broken into several segments in accordance with standard laboratory reporting. The theory portion of the lab discusses the algebraic derivation of the simple pendulum formula. Next, a detailed description of the experimental setup is included. Following the procedural steps of the lab, the data analysis presents the numerical results of the experiment. The discussion segment examines possible sources of error, as well as possible correlations between variations of the experiment and the subsequent data obtained. The original portion of the lab finishes with the conclusions drawn from the results. The expanded discussion is a critical inquiry as to how well the simple pendulum formula, or any formula, relates to physical reality.

## Theory

A cycle is a single sequence of moves that constitutes the repeated unit in a periodic motion. For example, a pendulum that swings from left to right and then back again to its starting position is one cycle.

A period (T) is the time it takes to complete one cycle. Its system international (SI) units are seconds (s), and is defined as

$$T = \frac{\text{seconds}}{\text{cycle}}. \quad (1)$$

Frequency ( $f$ ) is the number of cycles completed per second. Its SI units are Hertz (Hz), and is defined as

$$f = \frac{\text{cycle}}{\text{second}} . \quad (2)$$

The formula for  $f$  may also be written as the reciprocal of  $T$

$$f = \frac{1}{T} \quad (3)$$

and the formula for  $T$  may also be written as the reciprocal of  $f$

$$T = \frac{1}{f} . \quad (4)$$

*Angular Frequency*

Recall that the angular velocity ( $\omega$ ) tells us how fast something spins per unit of time; for example as in revolutions per minute (RPM) or radians per second. When the object moving in circular motion goes around one complete circle, it has travelled  $2\pi$  rad and therefore completed a cycle. If it travels  $2\pi$  rad per second, then the angular frequency is

$$\omega = \frac{2\pi}{T} \quad (5)$$

and because of Eq. 4, with a little algebra, we have

$$\omega = 2\pi f . \quad (6)$$

*Acceleration*

The maximum acceleration of an object in simple harmonic motion is given by the equation

$$a = -\omega^2 x \quad (7)$$

where  $x$  is the amplitude of the oscillation.

By substituting for  $\omega$  from Eq. 6, the resulting formula for acceleration is

$$a = -4\pi^2 f^2 x . \tag{8}$$

*Spring Constant*

Recall from Newton's Third Law that  $F=ma$ . By substituting  $a$  from Eq. 8, we arrive at

$$F = m * 4\pi^2 f^2 x . \tag{9}$$

Dividing each side by  $x$  gives us

$$\frac{F}{x} = 4\pi^2 f^2 m \tag{10}$$

and by substituting for  $f$  from Eq. 3, we can write  $\frac{F}{x}$  as

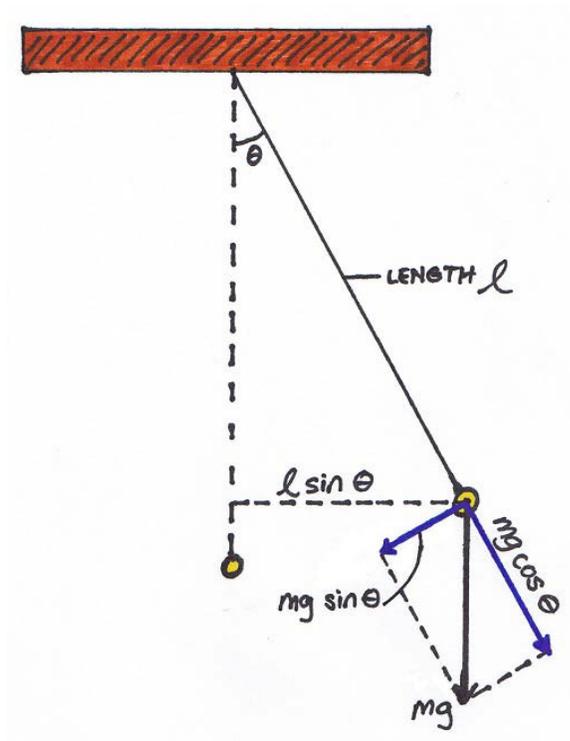
$$\frac{F}{x} = \frac{4\pi^2 m}{T^2} . \tag{11}$$

The term  $\frac{F}{x}$  is the force per unit stretch of a spring, also referred to as the *spring constant*.

*Deriving the Simple Pendulum Formula*

A pendulum consists of a mass swinging at the end of a string or rod. The diagram of a simple pendulum is shown suspending a small ball of mass  $m$  from the end of a thread of length  $l$ , and pulled aside at angle  $\theta$ .

Figure 1 The Simple Pendulum



The weight of the mass  $m$  at the end of the pendulum is broken into two components:  $mg \cos \theta$  and  $mg \sin \theta$ . It is the  $mg \sin \theta$  component that is the restoring force ( $F$ ); it tends to bring a mass  $m$  back to an equilibrium position when it is moved in either direction.

The pendulum's horizontal displacement  $x$  from the equilibrium position is  $l \sin \theta$ .

As a result

$$\frac{F}{x} = \frac{mg \sin \theta}{l \sin \theta} \quad (12)$$

Now consider how, in simple harmonic motion (SHM), the restoring force is proportional to the displacement. While the displacement  $l \sin \theta$  is horizontal, the restoring force  $mg \sin \theta$  is not quite horizontal or parallel to the displacement. Thus, the pendulum motion is not exactly SHM. Even though the angle between the restorative

force and the horizontal displacement is different, providing the angle is small enough, the difference is negligible, differing by less than 2% out to about 20°.

**Table 1 Comparison Values of Rad  $\theta$  Versus SIN ( $\theta$ ) from 1 Degree to 40 Degrees and Differences at Each Level.**

<b><u><math>\theta</math> vs SIN (<math>\theta</math>) COMPARISON</u></b>			
$\theta$ (DEG)	$\theta$ (RAD)	SIN ( $\theta$ )	DIFFERENCE
1	0.01745	0.01745	0.00000
5	0.08727	0.08716	0.00011
10	0.17453	0.17365	0.00088
20	0.34901	0.34202	0.00699
40	0.69813	0.64279	0.05534

Since the difference is negligible when  $\theta$  is small, then the  $\sin \theta$  cancels, leaving us with

$$\frac{F}{x} = \frac{mg}{l} \tag{13}$$

Substituting  $\frac{4\pi^2 m}{T^2}$  for  $\frac{F}{x}$  from Eq. 11 we now achieve

$$\frac{mg}{l} = \frac{4\pi^2 m}{T^2} \tag{14}$$

Solving for T gives us

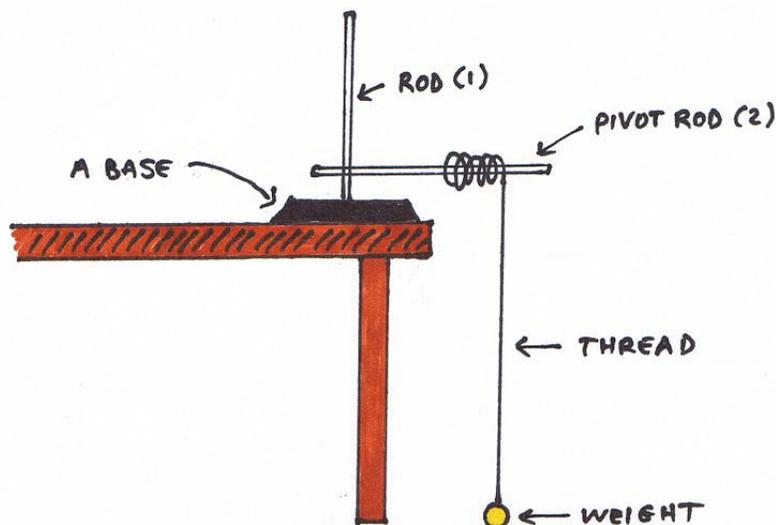
$$T = 2\pi \sqrt{\frac{l}{g}} \tag{15}$$

Finally, since T is the reciprocal of  $f$  we have

$$f = \frac{1}{2\pi} \sqrt{\frac{g}{l}} \tag{16}$$

### Description of Experimental Set-up

Figure 2 Visual Depiction of Experimental Setup



- A. Set up a pendulum using the A-Base, thread, and two rods. Set the pivot rod at the lowest point of the pendulum to ensure stability.
- B. Since several lengths of the pendulum is required, wrap the thread around the pivot rod. This will allow adjustment to the length of the pendulum by rolling the rod.
- C. Insure that the pivot point is fixed in position so that it does not move back and forth with the pendulum.
- D. Hang the aluminium weight from the thread to start.

### List of Equipment Used

A-base  
 2 rods  
 Thread

Steel weight

Aluminium weight

Protractor

Stopwatch (Hand operator 0.1sec)

Meter Stick (1mm division)

### Procedure

#### *Length Variation*

Mark the center of gravity (CG) of the weight used so that you will have a consistent reference point for your length measurement. Set the pendulum to a length of approximately 10cm from the pivot point to the CG of the weight. The exact length is not important, but you must measure as accurately as possible ( $\pm 1\text{mm}$ ). Be sure to measure from the pivot point to the center of gravity of the weight used. Pull the pendulum to a small angle ( $10^\circ$  or  $15^\circ$ ) from its rest position and release. Using the stopwatch, measure the time it takes to complete fifteen cycles of the pendulum's motion and record the time in Section I of the worksheet. Repeat for each pendulum length of 30cm, 60 cm, 90cm, and 100cm. Change the length by rolling or unrolling the thread.

#### *Angle Variation*

Set the pendulum length to 1.000 meter. Use the steel weight. Using the protractor at the pivot point, pull the pendulum from its rest position, measure an approximate angle of  $10^\circ$  and release. Using the stopwatch, measure the time it takes to complete fifteen cycles of the pendulum's motion and record the time in Section II of the worksheet. Repeat for each angle of  $20^\circ$ ,  $30^\circ$ ,  $40^\circ$ , and  $50^\circ$ .

#### *Repeatability*

Use the pendulum set up in Angle Variation. Using the protractor at the pivot point, pull the pendulum from its rest position, measure an approximate angle of  $10^\circ$  and release. Using the stopwatch, measure the time it takes to complete fifteen cycles of the pendulum's motion and record the time in Section III of the worksheet. Use the timing for the swing angle at  $10^\circ$  recorded in Angle Variation as the first measurement. Repeat three times to bring the total to four measurements. Have a different lab member change the length of the thread and then readjust it to 1.000 meter before each run.

#### *Variation in Weight*

Set the pendulum length to about 1.000 meter. Use the steel weight to start. Using the protractor at the pivot point, pull the pendulum from its rest position, measure an approximate angle of  $10^\circ$  and release. Change the pendulum weight to the aluminium weight and repeat the timing experiment to determine if the weight of the pendulum has an effect on the period of the pendulum. Have a different lab member change the length of the thread and then readjust it to 1.000 meter before each run. Attempt to hold everything in the experiment constant except the mass of the pendulum. Record the data in the Section IV on the data sheet.

### **Data Analysis**

The original data recorded in the experiment is included as Attachment A. Inclusion of this data insures that any transcription error, if present, can be isolated.

The period (T) of the pendulum was determined using the formula

$$T = \frac{\text{seconds}}{\text{cycle}} . \quad (17)$$

A sample calculation of the period for a pendulum length of 0.100m is provided below.

See attached data worksheet, Part I, Weight Constant, Shortest Length to Longest. All other period calculations were done in a similar manner.

$$T = \frac{10.0s}{15.0} = .6667s \quad (18)$$

The frequency ( $f$ ) was by using the formula

$$f = \frac{\text{cycle}}{\text{second}} \quad (19)$$

Alternatively,  $f$  could also have been calculated by using the formula

$$f = \frac{1}{T} \quad (20)$$

A sample calculation of the frequency for a pendulum length of 0.100m is provided below. See attached data worksheet, Part I, Weight Constant, Shortest Length to Longest. All other frequency calculations were done in a similar manner.

$$f = \frac{15.0}{10.0s} = 1.500Hz. \quad (21)$$

The period and frequency results were rounded off to include one more significant digit than required. Rounding an intermediate result would invite additional error in the final calculation. The frequency is an intermediate result and will be used to calculate a final result for gravity ( $g$ ).

Gravity ( $g$ ) was calculated by using the formula

$$f = \frac{1}{2\pi} \sqrt{\frac{g}{l}} \quad (22)$$

and solving for  $g$ , we obtain the formula

$$g = 4\pi^2 f^2 l \quad (23)$$

A sample calculation of gravity for a pendulum length of 0.100m is provided below. See attached data worksheet, Part I, Weight Constant, Shortest Length to Longest. All other gravity calculations were done in a similar manner.

$$g = 4 \times 3.14159^2 \times 1.50^2 \text{ Hz} \times 0.10 \text{ m} = 8.88 \text{ m/sec}^2. \quad (24)$$

The resulting value of gravity was rounded off to three significant digits.

## Discussion of Results

### *Sources of Error*

In order to draw reliable conclusions, the magnitude of the effects measured must be larger than the errors introduced in conducting the experiment. Experimental errors can be classified into three major categories; Random errors, systematic errors, and human errors.

#### *A. Random Errors and Repeatability of Measurements*

To have valid scientific data, the experimental results must be repeatable. Repeatability was tested by performing the same measurement procedure four times, resetting the length of the pendulum using a different lab member for each trial and recording the total elapsed time for fifteen cycles using a 10° launch angle. Random errors in the execution and measurement process resulted in slightly different elapsed times recorded on each run. While not identifying all sources of random errors, the following four play a major role. If the impact of these could be reduced, the random error component in the timing measurement would be smaller and would allow the analysis of smaller more subtle effects.

- Human reaction time in controlling stop watch
- Visual detection of ends of pendulum swing

- Variation in length of pendulum (due to resetting)
- Variation in launch angle

**Table 2 Results of Repeatability Procedure**

<b><u>REPEATABILITY</u></b>			
ANGLE	LENGTH ( $\pm 0.001\text{m}$ )	# OF CYCLES ( $\pm 0.1$ )	TOTAL TIME
10°	1.000 m	15.0	30.6 s
10°	1.000 m	15.0	30.4 s
10°	1.000 m	15.0	30.2 s
10°	1.000 m	15.0	30.5 s

Of the four trials, a maximum variation of 0.4 seconds exists. Since random effects are present in all the measurements, we must recognize that to prove a cause and effect relationship, a time difference between measurements will have to be significantly larger than that introduced by the random errors. In looking at a graph, random errors will increase the scatter in the data points and tend to hide trend lines.

While an experiment with perfect repeatability of measurements and without random errors would be preferred, it is unfortunately not possible. Random errors can be made smaller with better equipment, clever procedures, and more repetitions to help average out random effects, but they can never be eliminated. Every experiment must account for this limitation. The repeatability results will be used in this paper to help decide if changes in the length of pendulum, changes in the mass of pendulum, or changes in the swing angle are significant and not just the result of random errors in making the measurements.

*B. Systematic Errors*

Systematic errors also need to be considered in addition to random errors. Systematic errors are repeatable errors that always create a consistent error. What are the

possible sources of systematic errors and could they be comparable in size to the random errors? Examples in the pendulum experiment would include:

1. *Systematic ruler error*

No ruler is perfect. All rulers have some systematic error. Manufacturers control this in their manufacturing process. Since the meter stick we used was calibrated in steps of 1mm, we assume that measurements using that ruler can be relied upon to the closest 1mm. In other words, any systematic error in the ruler would be less than 1mm over the total length. This error would be at most 1mm/1000mm or 0.1%. Changing the lengths up or down by this factor creates a maximum change of  $g$  of 0.2%, too small to noticeably affect results.

2. *Systematic Clock Errors*

An electronic clock controlled by a quartz crystal was used to record the time. While all clocks have some amount of systematic error, quartz clocks typically list errors in the range of fifteen seconds/month. Assuming the clock was working correctly and it was running fast by fifteen seconds/month, the percentage error would be extremely small ( $6 \times 10^{-4}\%$ ) and far too minute to notice.

3. *Systematic Human Error*

Humans can make systematic errors as well as random errors. Human systematic errors could include writing an incorrect experimental procedure or executing it consistently incorrectly. Measuring the length of the pendulum between the wrong points or not timing the full swing cycle would be examples and would yield consistently wrong results. Repeating the measurement would not help correct this type of error. You just get the same wrong measurement over again. We attempted to guard against this type of

error by working as a team to make sure we measured correctly and consistently. While conscientious in our work, this experiment will not prove we did not make a systematic error. In order to address this issue, other groups, using their own procedures and equipment, would need to authenticate our work by obtaining similar results.

*C. Gross Human Errors*

Gross human errors include reading numbers incorrectly, transposing numbers in recording or transferring data, inconsistently following a procedure and other similar mistakes. To guard against these types of mistakes, we double checked measurements and procedural steps. For example, the data recorder would read back the recorded value to the measurer to insure the recorded value agreed with the measured value. The original recorded data is included as an attachment to this paper to insure against a transcription error. While we cannot be sure that no gross errors were made, when the resulting data is graphed, no single data point is far from its expected value. This gives some confidence that gross errors were avoided.

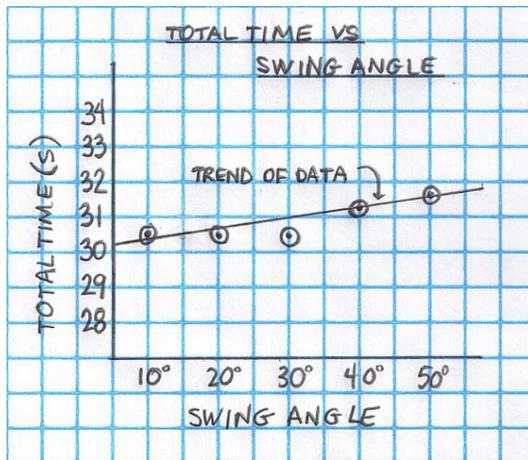
*Swing Angle of Pendulum*

**Table 3 Results of Angle Variation Procedure**

<b>ANGLE VARIATION</b>				
ANGLE	LENGTH ( $\pm 0.001\text{m}$ )	# OF CYCLES ( $\pm 0.1$ )	TOTAL TIME	PERIOD T
10°	1.000 m	15.0	30.6 s	2.040 s
20°	1.000 m	15.0	30.5 s	2.033 s
30°	1.000 m	15.0	30.5 s	2.033 s
40°	1.000 m	15.0	31.2 s	2.080 s
50°	1.000 m	15.0	31.7 s	2.113 s

Does changing the launch angle of a pendulum have an effect on the period of the pendulum? Fig. 3 is a graph that shows the elapsed time for fifteen cycles of swing at the tested swing angles.

**Figure 3 Time to Complete 15 Cycles versus Swing Angles**



The vertical scale was left in seconds per fifteen cycles so that it would be easier to compare the random timing errors to this data. This data displays the sum of both the true measured time interval, plus the embedded random error component which may be positive or negative. As discussed in the error section, systematic and human errors are also imbedded in this data but are probably much smaller than the random errors. Since the graphed data shows a clear trend, it appears that the random errors are small enough to be ignored. If they weren't, the scatter in the data points would hide the trend. Thus, changing the launch angle does significantly affect the period of the pendulum. The word significantly in our usage means that our experimental design and measurements were precise enough to clearly show the relationship between the cause (changing swing angle) and the effect (change in period).

*Length of Pendulum*

The length variation table shows the length of the pendulum, the elapsed time for fifteen cycles at each length, and calculations of period and the acceleration of gravity.

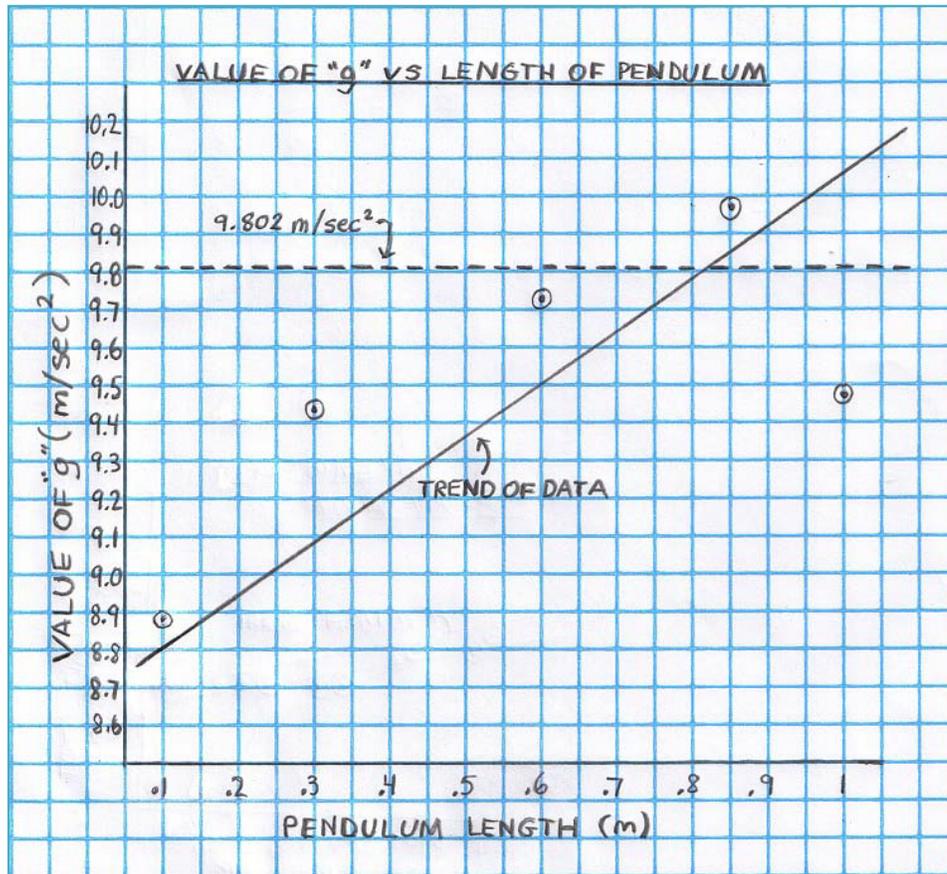
**Table 4 Results of Length Variation Procedure**

<b><u>LENGTH VARIATION</u></b>					
LENGTH (±0.001m)	# OF CYCLES (±0.1)	TOTAL TIME	PERIOD T	FREQUENCY	GRAVITY
0.100 m	15.0	10.0 s	0.6667 s	1.500 Hz	8.88 m/s <sup>2</sup>
0.300 m	15.0	16.8 s	1.120 s	0.8929 Hz	9.44 m/s <sup>2</sup>
0.600 m	15.0	23.4 s	1.560 s	0.6410 Hz	9.73 m/s <sup>2</sup>
0.900 m	15.0	28.3 s	1.887 s	0.5300 Hz	9.98 m/s <sup>2</sup>
1.000 m	15.0	30.6 s	2.040 s	0.4902 Hz	9.49 m/s <sup>2</sup>

It should be noted that intermediate results have been rounded off to include one more significant digit than required in the final calculation of  $g$ . It is clear from the data that there is a cause and effect relationship between the length of the pendulum and the period of the pendulum. A length change from 0.100m to 1.000m resulted in a timing change of 20.6 seconds. This is far larger than a random component a few tenths of a second would introduce.

Fig. 4 shows a graph constructed from the data of  $g$  versus the length of the pendulum.

Figure 4 Value of "g" at Varying Pendulum Lengths



Within the repeatability of the experiment, we would expect that each data point calculation of  $g$  would yield the same value. We should see a horizontal line with some up and down variations to account for the random component in our measurements. We did not get this! The graph line is not horizontal. If the simple pendulum formula were correct we would not get this result. Therefore, some other factor that is not considered in the simple pendulum formula must be involved to cause this trend. While the experiment will not indicate the cause of the trend, we can say that the simple pendulum equation has errors of up to 10% in predicting the value of  $g$  over the range of the experimental lengths.

*Mass of Pendulum*

To see if changing the mass of the pendulum would have a significant effect on the period of the pendulum, two masses of identical size and shape were used. One was made from steel and the other from aluminum.

**Table 5 Results of Mass Variation Procedure**

<b><u>MASS VARIATION</u></b>			
	LENGTH ( $\pm 0.001\text{m}$ )	# OF CYCLES ( $\pm 0.1$ )	TOTAL TIME
STEEL	1.000 m	15.0	30.6 s
ALUM	1.000 m	15.0	30.6 s

These were adjusted to the same 1.000m length and 10° swing angle and timed over fifteen cycles. The elapsed time for both trials was the same; 30.6 seconds. One might be tempted to state that changing the mass does not affect the period of the pendulum. This would be wrong. All we have shown is that changing the mass did not produce a significant difference in the period. Remember that a significant difference has to be well larger than the difference due to random errors. It is certainly possible that a more sensitive experiment with smaller random errors could detect a difference. What we can say is that changing the mass did not produce a significant difference in period using our experimental procedure. This is in line with the pendulum formula in that mass is not a part of the equation. As shown in the theory section, the mass  $m$  algebraically cancels.

**Conclusions**

We can draw the following conclusions from the experiment:

- Changing the swing angle has a small but noticeable effect on the period of the pendulum.

- Changing the mass of the pendulum does not have a measurable effect on the period.
- Changing the length of the pendulum has a major effect on the period of the pendulum.
- The calculation of gravity shows an unexplained trend as the length of the pendulum changed. Shorter length reduced the calculated value of gravity by up to 10%.

Our team did our best to avoid all types of error in our experiment. However, even if we were perfect in all regards, the pendulum experiment to calculate gravity will always be an approximation due to the mere difference of the restorative force and the displacement. However, it is explained that as long as the angle remains small, the difference is negligible.

If the experiment were to be conducted again, a longer number of cycles and perhaps a greater number of runs would yield more precise results. Also, rather than focusing on the one calculated value of gravity from the length variation experiment to determine the gravity in our lab, focusing on the average values of all runs would be more appropriate.

Finally the use of the protractor to measure all swing angles to maintain consistency should be considered. Human error and inconsistency in the experiment is evident, as the simultaneous release of the pendulum and start of the stop watch creates random timing errors. Furthermore, because pendulum motion approximating simple harmonic motion is limited to smaller angles, the experiment shows that when the release angle is the greatest, the margin of error in calculating gravity is also the greatest.

### Expanded Discussion

The experimental work shows that the simple pendulum formula is only approximately correct. This brings up the natural question; is there a pendulum formula that predicts gravity correctly? Is it possible to develop a formula that would do this? Do the fundamental laws of physics allow or preclude it? Is everything we do doomed to be only an approximation? How do our best thinkers in science and mathematics address this type of question? What conclusions have been drawn? When you generalize my question on the pendulum formula, you get a question something like: Can any theory match physical reality?

The balance of this paper explores these questions by finding what some of our most profound scientists and mathematicians have said in addressing this topic. With the new insight gained, hopefully an answer to the more modest question on the pendulum will be found.

#### *Physical Reality According to Newton and Maxwell*

German-born United States Physicist Albert Einstein (1879-1955) is credited as saying, "Reality is merely an illusion, albeit a very persistent one" (QuotationsPage.com, 2007). Our physical reality is based on sense perceptions. Initially the human race's theory of reality was based partially on superstition. One example is the idea that anything that moved but was not alive must be controlled by a supernatural entity. Each water spring must have a supernatural entity (a water sprite) to control it. Irritate the water sprite and the spring would go dry.

As human knowledge increased natural explanations for physical reality were developed. It was discovered that basic principles could be applied to a variety of

situations. Isaac Newton (1642-1727) discovered his three laws for the motion of objects and his formulation for the force of gravity. French chemist Antoine-Laurent Lavoisier (1743-1794) discovered that mass was always a constant during any chemical reaction and established the law of conservation of matter. Thus mass was eternal and Newton showed that masses and forces explained many of the mysteries of the world. Physical reality at that time was conceived to be like a giant eternal clock with every action producing a reaction. Newton's view of the world is called "Classical Physics." The physical conception of the world is based on masses, forces acting between them, time and distance. Everything is strictly determined by cause and effect. The formulas and concepts applied to the pendulum problem are Newtonian, in other words based on his mechanistic view and his description of reality (Asimov, 1966).

During the latter part of the 19th century Scottish physicist and Englishman James Clerk Maxwell (1831-1879) developed a set of four equations known as Maxwell's Equations which predicted the existence of electromagnetic waves. The theory is called the Electromagnetic Field Theory (Hecht, 2003). This theory describes how light, electricity, and magnetism interact. The theory was fully mathematical, a set of equations which did not reference masses or forces. It used the concept of the continuous field and could not be related to or explained by the point masses of Newtonian Physics. Albert Einstein, in talking about Maxwell's contribution to the understanding of physical reality, said,

Before Clerk Maxwell, people conceived of physical reality - in so far as it is supposed to represent events in nature - as material points, whose changes consist exclusively of motions, which are subject to partial differential equations. After

Maxwell they conceived physical reality as represented by continuous fields, not mechanically explicable, which are subject to partial differential equations. This change in the conception of reality is the most profound and fruitful one that has come to physics since Newton. (Einstein, *Essays in Science*, 1934, p. 44)

Though developed in the 1860's Maxwell's equations are still on the cutting edge of research. The stealth fighter (F-117) was a highly classified project that owed its remarkable ability to be effectively transparent to radar to a solution of Maxwell's equations (Howie, 2005). The equations are so complex that for most situations there are no known solutions. A breakthrough in mathematics allowed certain subsets of the equations to be solved. Newton's equations could not address wave problems. Newton's conception of physical reality was incomplete.

*Physical Reality and Einstein's Theory of Relativity*

In 1905, at the age of 26, Albert Einstein developed his special and general theories of relatively based on Maxwell's Equations. His developments ushered in the age of Modern Physics. Of the theory, Einstein wrote,

The relativity theory arose from necessity, from serious and deep contradictions in the old theory from which there seemed no escape. The strength of the new theory lies in the consistency and simplicity with which it solves all these difficulties, using only a few very convincing assumptions. (Einstein & Infeld, *The Evolution of Physics*, 1961)

With these theories, Einstein changed our perception of physical reality. First, one of his results (reportedly the most famous equation in the world)  $E = mc^2$ , indicated an unsuspected relation between matter and energy. Matter was not eternal, it could be

converted to pure energy and pure energy could create matter. Matter could be conceived as frozen energy. The matter that makes up our world could no longer be considered eternal. In one stroke the energy source of the sun was discovered and our conception of physical reality was changed.

In his general theory of relativity Einstein developed the idea that gravity warps space and that acceleration is indistinguishable from gravity. This resulted in the four dimensional space-time continuums where space and time are not independent of each other. Results include many counter intuitive things like time dilation where time itself can run at different rates. In all experimental tests it has been found to be correct. Not only does it match known facts, it predicts new and surprising results (Hecht, 2003). This is called fruitfulness in a theory.

A practical and current application of Einstein's theory was used to develop the math that controls the satellite Global Positioning System (Van Flandern, 2008). Without his theory the position errors would be far greater. Not bad for a theory almost 100 years old.

#### *Physical Reality and Quantum Mechanics*

The next impact on our understanding of physical reality came with the introduction of quantum-mechanics. This theory was developed as the properties of the atom were being discovered. Our sense of physical reality was expanded to recognize that matter is mostly empty space and that atoms had physical reality and was not just convenient imaginary constructs. Then it was discovered that atoms had a structure and subatomic building blocks. As Einstein noted:

The last and most successful creation of theoretical physics, namely quantum-mechanics, differs fundamentally from both the schemes which we will for the sake of brevity call the Newtonian and the Maxwellian. For the quantities which figure in its laws make no claim to describe physical reality itself, but only the *probabilities* of the occurrence of a physical reality that we have in view.

(Einstein, *Essays in Science*, 1934, p. 45)

He further continues:

I am still inclined to the view that physicists will not in the long run content themselves with that sort of indirect description of the real, even if the theory can eventually be adapted to the postulate of general relativity in a satisfactory manner. (Einstein, *Essays in Science*, 1934, p. 45)

#### *The Theory of Everything and String Theory*

Einstein never gave up on the idea that a set of equations exist that would automatically and uniquely determine all the constants of physics and predict all phenomenon. This idea is called a theory of everything (TOE). Most physicists share the view that physical reality has an underlying unity and simplicity that can be discovered. In Einstein's autobiography, written at age 67, he states,

I would like to state a theorem which at present cannot be based upon anything more than upon a faith in the simplicity, i.e., intelligibility, of nature... nature is so constituted that it is possible logically to lay down such strongly determined laws that within these laws only rationally completely determined constants occur (not constants, therefore, whose numerical value could be changed without destroying the theory). (Whittaker, 1955)

Einstein spent the last years of his life unsuccessfully searching for the next step that would improve our understanding of reality. Many others are continuing his quest.

It is interesting to note that almost 50 years after Einstein's death, a British mathematician named Sir Michael Atiyah gave a talk at a September 2003 Harvard conference on "The Unity of Mathematics" and seemed to echo Einstein's above statement. Sir Atiyah gave a presentation titled "The Interaction between Geometry and Physics." He said in relation to string theory which is being considered as a possible model that will bring us closer to physical reality,

If we end up with a coherent and consistent unified theory of the universe, involving extremely complicated mathematics, do we believe that this represents "reality?" Do we believe that the laws of nature are laid down using the elaborate algebraic machinery that is now emerging in string theory? Or is it possible that nature's laws are much deeper, simple yet subtle, and that the mathematical description we use is simply the best we can do with the tools we have? In other words, perhaps we have not yet found the right language or framework to see the ultimate simplicity of nature. (Woit, 2006, p. 262)

Perhaps it is reasonable to close this survey on physical reality and its relation to science with a quote from Albert Einstein, "As far as the laws of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality" (Einstein, *Geometry and Experience*, 1921).

The search for the nature of physical reality continues and it seems that Albert Einstein's comment from 87 years ago is still relevant. Our best thinkers seem to agree that our physical laws as we currently understand them are approximations to physical

reality and should not be confused with the actuality. This leads me to expect that no matter how complex a pendulum formula is developed, it will not match the physical reality of a pendulum perfectly. I have no doubt that extremely accurate formulas exist or can be developed. I would also expect that if the experimental measurements errors could be made small enough, a deviation would still remain.

The idea that I will take away from this lab and my physics class is a clearer understanding of the difference between the results any formula presents and physical reality. You can use the simple pendulum formula and basic equipment to calculate the acceleration of gravity. If you do, you should realize that your result might be in error by up to 10%. If you need more accuracy, you will have to use a more accurate formula. By extension, every formula, model, or law has limitations. The quest of science is to find more accurate models of physical reality. Physicists are currently considering concepts of string theory, dark matter, dark energy, zero point energy, and the acceleration of the universe to build the next extension to our understanding of reality (Serway, Vuille, & Faughn, 2009).

It is an exciting time to be alive!

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Appendix A

4

DA TA WORKSHEET for Pendulum Motion

9.81 m/s<sup>2</sup>

I Weight Constant, Shortest Length (#1) to Longest (#5) – Lab Proc. Step 1

ALUM	Length (m)	# of Cycles	Total Time (sec)	Period	Freq.	Gravity (Sig/Dig) (m/sec <sup>2</sup> )
				T (sec)	(Hz)	
	0.100	15.0	10.0	0.6667	1.500	8.88
	0.300	15.0	16.8	1.120	0.8929	9.44
	0.600	15.0	23.4	1.560	0.6410	9.73
	0.900	15.0	28.3	1.887	0.5300	9.98
	1.000	15.0	30.6	2.040	0.4902	9.49

II Length & Mass Constant, Change Swing Angle – Lab Proc. Step 2

STEE	Angle °	Length (m)	# of Cycles	Total Time (sec)	Period T (sec)	Freq. (Hz)	Gravity (m/sec <sup>2</sup> )
	10	1.000	15.0	30.6	2.040	0.4902	9.49
	20	1.000	15.0	30.5	2.033	0.4918	9.55
	30	1.000	15.0	30.5	2.033	0.4918	9.55
	40	1.000	15.0	31.2	2.080	0.4808	9.12
	50	1.000	15.0	31.7	2.113	0.4732	8.84

III Repeat Measurements (same length, weight, angle) – Lab Proc. Step 3

Length (m)	# of Cycles	Total Time (sec)	Period T (sec)	Freq. (Hz)	Gravity (m/sec <sup>2</sup> )
1.000	15.0	30.6	2.040	0.4902	9.49
1.000	15.0	30.4	2.027	0.4934	9.61
1.000	15.0	30.2	2.013	0.4967	9.74
1.000	15.0	30.5	2.033	0.4918	9.55

IV Vary Mass (length, angle constant) – Lab Proc. Step 5

Cyl #	Length (m)	# of Cycles	Total Time (sec)	Period T (sec)	Freq. (Hz)	Gravity (m/sec <sup>2</sup> )
Steel (from Sec III)	1.000	15.0	30.6	2.040	0.4902	9.49
Wood/Al	1.000	15.0	30.6	2.040	0.4902	9.49

## The Identity Conundrums of Shakespeare's Leaders: Dissociation, Rebellion, Rupture

~J. Shepard Ramsay

A broad definition of identity is the way a person defines his or herself, though there are many more subtle nuances to the concept. While individuals have a distinctive identity,

groups can also exhibit a similar, albeit collective self-definition. The German philosopher G.W.F. Hegel would perhaps refer to this collective identity as the "Zeitgeist," or "Spirit of the Times," whereas the psychologist C.G. Jung would name it the "Collective Psyche." Whatever the name, this phenomenon is the driving force behind societal construction; "society" is generally built upon organizations of people bound by such an identity. However, conflict can arise when people's personal identities feel too constrained within the confines of a rigid societal structure. William Shakespeare, as evidenced in his plays, witnessed the manifestation of a collective identity in his 16th century England. His characters show a multitude of identity conundrums, some of which stem from individual conflict with the overarching societal identity of the era. This process is most evident in Duke Vincentio (*Measure for Measure* 1604), Prince Hamlet (*Hamlet* 1600), and King Lear (*King Lear* 1604), as their positions made them intimate with the aforementioned collective identity. While all of these high ranking characters experience some conflict with the collective identity, each was waged with a different strategy. Vincentio chooses dissembling in order to dissociate from it, Hamlet

rebels against it, and Lear resorts to rupturing his connection to the collective.

Identity as a whole has many different layers to it. Any of its functions could be readily known or secreted away in the unconscious mind. At its core is the idea of "self," and what exactly that word (or concept) means to the individual. Self is an enigma to everyone except the individual. Others can occasionally glimpse the true identity inside a person, but will rarely be able to see it in its entirety.

There are some aspects of a person that he or she isn't even cognizant of under normal circumstances. The Shadow, as C.G. Jung called it, refers to a layer beneath consciousness that seals away all of our hatred, our rage, and our weaknesses. Of course, this function is hidden from the waking mind unless made to surface.

Another function of identity is the Persona, an aspect that the "wearer" shows to other people.

It has a certain duality to it, as it is used both to present an image to others and to conceal an individual's true self. As Jung said, it is a “mask that *feigns individuality*” (Jung 157). The Persona is often viewed as a negative construct, but everyone wears one at some point. Most people could not claim to be all of who they really are all of the time. This is very relevant when studying Shakespeare's age and the early modern period, as identity was very much like a mask, especially in ceremonial situations. Identity was also tied to superficial and material objects, such as clothing. In fact, a certain fetishism with dress and costume emerged—garments, in a way, transcended mere clothing and became physical representations of one's identity, or that which one wanted to project as their identity (Greenblatt et al. 57). Shakespeare capitalized on this notion in his plays, as any of his characters that don disguises become nigh unrecognizable, as if he or she is another person entirely. People during the Elizabethan age had not formalized the concept of the persona (or any psychological concept, for that matter), but they evidently acted it out by covering their “self” with the self that they wanted to show to others.

Something else to examine when considering identity is the effect that social norms and expectations have on one or one's perception of oneself, and on the choices that one makes. Individuals can even impose social pressure upon themselves, as a person can confine him or herself to a societal archetype or stereotype because of a believed kinship with this group. Today, many people are conscious of this concept. This is very pertinent to studying Shakespeare's era, as society and identity were nearly inseparable. For these reasons, I will refer to it as “societal mandate” to simplify much of its underlying complexity.

Shakespeare's “leader” types have a very strong connection to the *Zeitgeist* of their era, and hence they could be the most likely to conflict with it. This is because their position in the Great Chain of Being (the medieval ideology that structured every entity in existence into a grand universal hierarchy) made them very intrinsic to society as a whole. Some leaders (usually the monarchs) could ultimately be viewed as The State, which, in itself causes a certain degree of disintegration within an individual's identity.

In actuality, this unity between person and state was an accepted political theory in the early modern era. It has been referred to as the “Two Bodies” theory and is how the rule of Elizabeth, a female ruler in a patriarchal society, was justified. In Elizabeth's Tilbury speech, she reminds the populace of this by saying “I know I have the body but of a weak and feeble woman, but I have the heart and stomach of a king and a king of England too” (Elizabeth as qtd. in McDonald 328). The Two Bodies theory states that a

ruler's body is separated into two parts—the “Body Natural” and the “Body Politic.” The “Body Natural” is one's corporeal body, whereas the “Body Politic” is the ineffable embodiment of the state and its functioning systems. The Body Politic is immortal and infallible, as early modern political theorists believed that Divine Will invoked ascension to the English throne (Greenblatt et al. 19).

The divinity and cosmic order of leadership is not the only defining factor in the collective identity of early modern England. In order to understand it better, other ideologies of the time must be taken into account. Order and subservience describe the mindset of the early modern person very well. The world, indeed the universe was organized in a permanent and divinely determined hierarchy. A person was bound to a place in society, and there was not very much he or she could do to change that fact. This inflexible social order spawned many prejudices, including those against women and “outsiders” (such as Jews and Moors).

The behavior of rulers and noblemen was dictated in no small way by their ideologies of order and structure. In Shakespeare's writings, this is manifested in language. The use of the royal “we,” which is used by many of Shakespeare's leaders, exemplifies the aforementioned “two bodies” idea. A person (the ruler) would refer to themselves in the plural as a subtle and constant reminder that he or she transcended the corporeal; that the monarch was England.

In addition, in court or ceremonial scenes, people maintain a very strict public persona. They are courteous and chivalrous, and flatter or compliment anyone who is addressed. This courtly behavior gives no inkling to who any given person is; it's only a façade that is presented in a near-mechanical manner.

Duke Vincentio in Shakespeare's *Measure for Measure* is a psychologically interesting and problematic character. One could argue that nearly every conflict in the play stems from him, and he prompts their resolution as well. He can be characterized as an *eminence grise*—one who wields power through manipulation and decision making from behind the scenes. He is also somewhat of a god-character, aiming for omnipotence over all other characters and actions in the play. This is evidenced by the final act, in which Vincentio reveals that Friar Lodowick and he are the same person, because he expects to be accepted without consequence after all of the problems and mayhem he had caused. He says “What you have spoke, I pardon” (*Measure* 5.1.553) almost immediately after this disclosure. In essence, he is saying that he will forgive the rest of the cast for their deceit, even though all of it was incited by him. The Duke spends the majority of the play in this friar's guise and proceeds to manipulate the play's events while dissembling. In this way, he expresses his disunity with the collective identity. Dissembling, for the Duke,

is an escape from his position, and hence the collective, albeit for ambiguous reasons.

His motives throughout the play are very enigmatic. It begins with him “stepping down” from power and giving it to Angelo, his authoritarian deputy and guard captain. He claims to do this in order to reinstate many of the statutes that he had grown lenient about during his fourteen years in office. However, a great deal of the play thereafter consists of the Duke, in disguise, trying to save a man named Claudio from execution for having broken one of the laws that had fallen into disuse. In other words, Vincentio (as the Friar) works for most of the play against what Vincentio (as the Duke) enacted. Because of this, it’s difficult to discern what his real intentions are.

The Duke and the Friar, in and of themselves, exist as nearly separate entities. It is not a complete dissociation of identity, as upon the play’s end the Friar reveals himself as the Duke. However, aside from the transition scenes, his separate identities are completely compartmentalized. This is partly shown by the Duke’s not “believing” the story which Isabel tells, even though the “Friar” witnessed the events firsthand. In fact, it seems as if “the Friar” persona is closer to his true identity than “the Duke” is.

It is worth noting that “the Duke” serves as a public persona. There is virtually no private scene in which he appears out of disguise. This may be because the Duke (as the play’s highest ranking character) exists as an emblem of the collective identity. It is his titular position that is his connection to the collective. As such, he appears as The Duke only in the first scene surrounded by his lords, declaring his intentions to leave, and the final scene with every other character in the play. From the text, it is difficult to make many generalizations on his “Duke” persona, because he appears with that aspect in so few scenes. However, several contrasts can be drawn between “the Duke” and “the Friar.” They appear as conflicting ideals within the same person.

Vincentio’s “Friar” aspect is the guise in which he exists for most of the play. Due to his ambiguity, it’s difficult to discern if this façade is any more genuine than his “Duke” persona, but it is more private. The Friar is the persona that Vincentio uses in the play’s private scenes, such as the scenes in the prison, and appears to be closer to his real “self” due to this intimacy. Dissembling, for Vincentio, is a way to escape the public eye—though it is not made clear whether he escapes simply for respite, to carry out his machinations covertly, or for any other reason.

The Friar disguise may also be a way for him to individuate himself. In the conflict between the individual identity and the collective, Vincentio’s “Duke” persona can be seen as his collective

manifestation, whereas the “Friar” façade can be seen as closer to his personal identity. As might be expected, both facets are diametrically opposed.

While Duke Vincentio dissociated himself from the collective identity, Prince Hamlet dealt with it in a very different way. Rather than dissociating from the collective identity, Hamlet rebels against it. Throughout the play, Hamlet attempts to make the statement that he no longer wants to be a part of society. He sees his society as corrupt and decaying.

It might be difficult for an audience member in Shakespeare’s era to fully sympathize with the plight of Hamlet, as he’s presented with much wealth and power. Material wealth was something hard to come by and much sought after in Shakespeare’s time. As such, Hamlet seems to have nearly everything he could want. However, with his abhorrent situation and slight mental degradation, he is not helped by his material comforts.

Hamlet returns from school to a kingdom unlike the one that he had left, one rife with corruption and skewed morality. His father had been murdered by his uncle Claudio, and Claudio had subsequently married his mother. He is left in a state of isolation that continues to deepen.

In response, Hamlet’s speeches maintain a dark and pessimistic outlook, and this nihilism progresses throughout the play. In his young age he has not seen or experienced much. What he has, however, has been atrocious especially to such a young psyche. He generalizes his limited experience to all of life, forming a bleak picture of the world in his mind. Hamlet harbors a great deal of despair that manifests itself as aggression much of the time. He is a very intrinsic figure to society, and as such should be very much a part of society and the collective. However, he wants nothing to do with the society that he should be central to. To pull himself away, he pretends that he is mad. He initially feigns madness to individuate himself, but this ruse becomes more of a reality than he had initially intended.

Through association of what he “knows” (or believes he knows) about the world, he comes to many irrational conclusions that are deeply rooted in his grotesque vision of existence. He begins to disavow the humanity of everything, as well as its meaning. Even love loses merit in his eyes, for it is “synonymous with sex, and sex with uncleanness” (Knight 87). Therefore, when he says to Ophelia “You should not have believed me, for virtue cannot so inoculate our old stock but we shall relish of it. I loved you not” (3.1.119-120), he is denying his former self, indicating that the “self” that he has metamorphosed into never loved her. Earlier, speaking to Rozenrantz, he had stated that “Denmark’s a prison” (2.2.239). Rozenrantz answers this statement by saying “Then is the world one” (2.2.240) pointing to the weakness

of Hamlet's finite view. Rather than Denmark being a prison, Hamlet's mindset is. Instead of separating himself from the collective identity he wanted to be free of, he has become imprisoned by it.

Hamlet's self-destructive behaviors only worsen as his despair deepens. His apparent callousness and cynicism is rooted in a terrible sadness. He is very intelligent, and the way his intelligence functions might be his tragic flaw. Every thought and every amount of negativity that he holds grows and festers in his mind as he endlessly contemplates them. This pattern ultimately consumes him, as suicide becomes more obviously the only way to escape the decaying collective. Ultimately, his death is not by his own hand, but at the point of his death, he has dissolved into a neurotic and vengeful ghost of himself.

King Lear's conflict with the collective identity is perhaps the most extreme, not only because he falls into madness but also because the conflict takes place within him to a great extent. He is a king. As King, he is seen as more than simply a man, and more than a Prince or Duke as well. In accordance with the theory of the Two Bodies, part of him is a transcendent, ineffable entity that presides over the entire country. However, the play *King Lear* begins with this Body Politic and Lear as an individual in open conflict, as he is giving his kingdom away. This action goes completely against the cosmic order set forth by medieval political theory, as Kings are meant to rule for life.

Lear's kingdom is an essential part of his identity, as he defines himself as a king. Even beyond his personal identity, early modern philosophy professed the unity of the king and their state, in accordance with the theory of the two bodies. His personal identity, however, enjoys the pleasures and power of kingship without the responsibility. Upon relinquishing the right of kingship (an act that, in itself, defies cosmic order) he foolishly expects to retain the aspects of ruling that he was accustomed to. Even after he forfeits his right to kingship, he still defines himself as a king. In Jungian terms, this state of being would be considered a "complex," as his unconscious identity is that of a ruler. If that aspect was removed from his personal identity, a great deal of his core self would be lost with it.

This complex leads to an existential conundrum within Lear. He experiences a schism in his being, as he relinquishes what is effectively part of his identity and ruptures his connection to it. He falls into madness as a result. The third act (specifically scene 3.4) contains the apex of his madness, as he tears his clothes off in a tempest and yells at the heavens screaming "Man is no more but such a poor, bare, forked animal" (3.4.99-100). This action is both literal and figurative in that, psychologically, he is stripping his ego of its defenses. His clothes, in the early modern societal

construct, are a function of his identity. He is left to weather the storm (which is analogous to the torrent of negativity inflicted on his unguarded ego) naked and bare.

This is a scene of profound disillusionment, as Lear momentarily breaks through madness into consciousness of his situation. He refers to the negligibility of the storm raging outside, as his mind is torrential (3.4.12-14). This obviously is partly due to the betrayal of his daughters, because their scheming incited Lear's psychological rupture. Lear openly admits that dwelling on such thoughts will lead him further into madness (3.4.20-21). He follows that statement by saying "O, I have ta'en too little care of this" (3.4.33-34) realizing how he has led himself and his kingdom to ruin. In his madness he finds great truths about his folly but also discovers a vast sense of his own cosmic insignificance. Lear has opened up his own Shadow state by breaking off from the collective identity.

Jung believed that any individual would react, or perhaps rebel against seeing the contents of the collective unconscious. Ideally he or she would gain pure knowledge, but most that we know isn't ideal. A person, overwhelmed or trapped in the collective usually experiences a regression of some form (Jung 163). Early modern England had a very distinct social order, and therefore a pronounced collective identity. A tremendous amount of a person's self-definition was who they were as a social entity. Throughout the levels of social strata different bound collectives formed—such as classes, guilds or clans—which were noticeable to the populace. This interaction between identity and collective is expressed very well by Vincentio, Hamlet, and Lear, all of who react differently to the collective psyche. The desire to pull away from the collective seems an almost necessary process for Shakespeare's leaders to undergo. All three of the leaders mentioned have a natural progression towards forfeiting their power in some way. Vincentio gravitated towards dissembling and dissociating his identity as a means to actually further his power, where as Hamlet wanted to escape his position because he did not want to be associated with his decadent society. Lear's rupture is both psychological and societal, as both his mind and kingdom break. These characters all provide examples of individual psyches attempting to deflect or bypass the collective, though as early modern royalty their severance with the collective identity is interesting and extremely costly.

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## Crisis in Japan

~Stephen Sakai

Japan is in the midst of a demographic crisis. In 2005, there were 20,000 more people that died than there were babies born (Kitazume), and last year the Japanese population declined by over 50,000 people marking the second consecutive year of population decline in Japan (Smil). This represents a grave trend, one that has been predicted since 1992 (Smil). What is the reason for this trend? The Japanese are simply not having enough children. To maintain a nation's population, its Total Fertility Rate must be around 2.1 (Hiatt). This is to say that each woman must give birth to an average of 2.1 children in her lifetime. In 2007, Japan hit a record low of 1.23, one of the lowest Total Fertility Rates the world (World Fact Book) and Vaclav Smil, a Distinguished Professor of population, economics and policy studies at the University of Manitoba, believes that "only a stunning, not just surprising, turn of demographic fortunes can prevent the combination of relatively rapid population decline and of unprecedented aging of [Japan's] population." This continuous decrease in Japan's population over coming years or decades could cause serious economic and social problems for the Japanese. The population decline in Japan poses a serious problem to Japanese society because it leads to a shift in the population from young to old, because it leads to a reduction in the workforce, and because it could lead to the eventual extinction of the Japanese people as a whole.

The decline in the Japanese population will lead to a shift in the age of the population from young to old and this creates a problem for Japan's society. The Japanese have long celebrated the fact that they are the longest living in the world. According to Joseph Coleman of the *Atlanta Journal-Constitution*, "Japanese women had a life expectancy of 85.6 years in 2005, the world's highest for the 20th straight year. Japanese men live an average of 78.6 years, second only to Icelandic males." The long average life-span combined with the low birth rate creates a situation in which the older portion of the population grows in size while the younger portion diminishes. In June of 2006, the Japanese government announced that over twenty percent of the population was age 65 or older and they expect the number to rise to over twenty five percent within the next decade (Coleman). Fred Hiatt of the *Washington Post* writes, "In 1965 there were 25 million children in Japan, 67 million people of working age, and 6 million senior citizens. In 2050 there will be 11 million children, 54 million potential

workers and 36 million people 65 and over.” These statistics show that between 1965 and 2006, the number of senior citizens in Japan went from just over 6 percent of the population to over 20 percent, and by the middle of this century it is expected that the number of senior citizens will comprise over 35 percent of the total population. This radical shift of the population will cause place great burdens for Japan’s economy, the beginnings of which can already be seen today.

In Japan, the pension fund for retirees is provided in part by the government and in part by the salaries of the working Japanese. The Finance Ministry estimated that the Japanese government owes approximately \$7 trillion in retirement pensions; however its public assets can only afford to pay about \$6 trillion (Tanikawa). With a deficit of nearly one trillion dollars, the government will not be able to fulfill all the pension payments to its retirees and with the number of retirees increasing at a rapid rate, the deficit will only grow larger. “Toshihiro Ihori, a professor of public finance at Tokyo University, believes that the Finance Ministry’s estimate reinforces the prevailing view that Japan’s total pension liabilities comes close to the nation’s annual economic output” (Tanikawa). If that were the case then after paying out all the pensions that are owed, Japan would have little to no money left for other necessary operations such as health care or public works projects. With the government being increasingly unable to cover its retirement pensions, the burden increases for the other contributor of pension funding, the working Japanese.

Working Japanese men and women pay a percentage of their salary to a pension fund for retirees, similar to the Social Security system in the United States. Over the years, the amount that each worker has had to pay to the fund has increased because of the increase in retirees and the reduction in people of working age. Julian Chapple, lecturer at the Kyoto Sangyo University, writes that “In 1950, one elderly person was supported by 12 members of the working population, by 1990 it was 5.5 workers, and by 2020 it is estimated to be 2.3 workers.” Another estimate shows two workers supporting one retiree by 2030, and three workers supporting two retirees by 2050 (“Meet the New Salaryman”). If this trend continues, one worker could end up supporting one retiree, or worse, supporting more than one. With so much of their money being taken from their paychecks, the Japanese will be forced to reduce their spending and as a result, could cause the economy to fall. The reduction in take home pay also discourages the Japanese from having children by denying them the extra income needed to afford expenses related to raising a child. This makes the mere idea of doing so becomes far less appealing and could cause the number of births to decrease and further

the shift, as well as the decline, in the population.

As the population of younger Japanese diminishes, the population age shift takes its toll on the nation's educational system. Martin Fackler of the *New York Times* writes that, "Years of failing birthrates have rapidly shrunk the population of young Japanese, leaving more universities unable to find enough students to fill their classrooms and campuses." The enrollment rates at some schools are low enough to cause great concern. "In 2003, Risshikan University in Hiroshima Prefecture became the first [university] to fail since World War II" (Terada). In 2005, Hagi University followed by filing bankruptcy due to a debt of almost \$37 million, and "Tohwa University in Fukuoka is scheduled to shut down at the end of fiscal year 2009" (Terada). All cited a lack of freshman enrollment as a primary cause of failure. Over the last two decades, as many as 2,000 primary and secondary schools have closed down or merged due to the decline in students, but it wasn't until recently that colleges and universities have felt the effects (Fackler, Faiola). According to the Education Ministry and university groups, "This year, nearly a third of the nation's 707 public and private four-year universities cannot fill all of their openings" (Fackler). As the number of students enrolling into colleges and universities goes down over time, it's only logical that the number of college and university graduates will go down at a proportional rate. The growing lack of college graduates will make it harder for companies to find employees. Miho Inada of the *Wall Street Journal* writes that, "Last year there were more jobs than job seekers for the first time in 14 years" and "this spring, during the annual job-recruitment round, new university graduates found themselves in record demand" ("Japan's Changing Demography"). In some parts of the country, the ratio of jobs to applicants can be as high as 1.7 to 1 ("Meet the New Salaryman"). Without enough applicants to fill job positions, Japan's workforce will decline along with its population.

The population decline in Japan poses a serious problem to Japanese society because it leads to a reduction in the workforce. Barry Brophy, a writer for the Japan Times, states that "Japan's economy is bigger than all the other Asian economies combined," and according to Norio Okazawa, a professor of comparative politics at Waseda University, Japan got to its position because of "its 65 million to 70 million workforce, which used to be replenished each year with an influx of young workers" (Kitazume). However, if its workforce declines significantly then Japan could see a major drop in its economic productivity and could certainly lose its place as "the world's second biggest economy" (Inada).

As the size of the population decreases, the size of the workforce will also inevitably decrease due to the retirement of older members of the workforce as well as the lack of younger generations to fill the spaces left by them. Many sources point to this inevitable trend. “The Organization for Economic Cooperation and Development estimates that Japan’s labor force will decline by an average of 0.7 percent a year between 2000 and 2025, and 0.9 percent a year between 2025 and 2050” (Hewitt). Miho Inada asserts that the workforce will see an overall decrease of 15 percent between 2005 and 2025. Even the Japanese Government’s own projections show an annual drop in the working age population of approximately 650,000 (Kristof). We can already see the beginnings of these predictions today.

This year marks the first year of a major three year decline in the Japanese workforce. Japan’s baby boomer generation number about 6.7 million and were born mostly from 1947 to 1949 following World War 2 (Inada). Between 2007 and 2010, Japan’s workforce will see what will probably be its single largest decrease to date as these baby boomers go into retirement. This kind of “large scale retirement will remove the skilled workers who have kept Japan competitive in manufacturing” (Moffett). One example of the loss of skills comes from Mitutoyo Corporation, a precision instrument maker. Mitutoyo manufactures tools with extremely smooth surfaces used for taking measurements (Moffett). Atsuo Kurosaki, 44 and an engineer at Mitutoyo, can smooth a surface to within four microns, or four millionths of a meter, within about forty hours. Toshio Kimura, 69 and the master engineer at Mitutoyo, can accomplish the same task in less than 30 hours and although he is passing his skills onto his pupils, he is still the only engineer in the company, and he claims the world, who can smooth a surface to within one micron (Moffett). After Mr. Kimura retires, there will be nobody left in the company, or the world if we believe his claim, with his level of skill; and when it comes time for Mr. Kurosaki to retire, the pupils he leaves behind may be of an even lower skill level. A trend such as this could leave companies like Mitutoyo unable to keep up with competitors and as Japanese companies in similar situations as Mitutoyo begin to fail, Japan’s economic productivity fails with it. These predictions, if they hold true, would undoubtedly see Japan taking a big hit in its ability to compete in the world market, and Nicholas Kristof of the *New York Times* predicts that by 2050 Japan’s gross national product will be five percent less than today which “will leave Japan with less than one-third the share of global output that it now enjoys.”

One of the ways Japan is trying to slow the workforce decline is by raising the retirement age from 60 to 70, but this will only slow the decline by about half (“Japan’s Changing Demography”), not enough to stop it completely. Many argue that emphasis should be placed on raising the birth rate; however, as Nicholas Kristof writes, countries like Sweden have already tried this with very limited success at a very high cost and “moreover, an increase in birth rates would take a long time to work through the system, for nearly all of Japan’s labor force in the year 2025 has already been born.” Barry Brophy attests that “the introduction of foreign labor is an established and successful means of relieving labor shortages and, as has been the case for the United States, a cause of increased productivity.” In a country such as the United States, a country founded by and comprised of nearly all immigrants, foreign labor is not such a new or unacceptable idea. Japan, however, has been a closed society for many centuries and although they have just recently begun to open up, the majority of Japanese still harbor a very anti-foreigner attitude.

In 2005, Former Prime Minister Junichiro Koizumi was quoted as saying, “Just because there is a labor shortage does not mean we should readily allow [foreign workers] to come in” (Kashiwazaki). The Japanese people and its government echo his sentiment, as is shown by “campaigns against foreign crime” and a lack of “even the most basic human rights legislation for foreigners” (Brophy). Over the years this mentality has managed to restrict the growth of registered immigrants from less than one percent of the total population in 1998 to near 1.5 percent in 2005 (Prideaux, Omicinski). Unless it becomes a last resort the Japanese will not seriously consider immigration as a solution and as Paul Hewitt, director of the Global Aging Initiative Program at the Center for Strategic and International Studies, contends, “On its current course, Japan’s economy and financial system eventually will collapse.” Unless Japan can solve its population problem its economy will likely face a major crisis, and although this is a major concern an even greater predicament remains. If the population continues to decline it could be reduced... to nothing.

The decline in the Japanese population poses a serious problem for Japanese society because it could lead to the end of the Japanese people. The United Nations’ Population Division as well as Japan’s National Institute of Population and Social Security Research estimate that the population will be right around 100 million in the year 2050, down from the current number of 127 million (Goodenough, Smil). Longer-term projections estimate the population to fall to just under 45 million by the year 2105 (“Japan’s Population”). The primary cause of the population decline in Japan is the

decline in births. As was discussed earlier, this birth figure, called the Total Fertility Rate, needs to be near 2.1 in order for a nation to maintain the size of its population. Since World War II, Japan's TFR has fallen from 2.75 to its current 1.23, the result of the Japanese simply not having as many children today as in past years. The family of Kaoru Yosano, Minister of International Trade and Industry, seems to be a common example of Japan's situation. When asked about his family history, Mr. Yosano recounts:

My mother was one of 8 children. My father was one of 11. My wife and I were each one of 5 children, and we ourselves have 2 children. When we look further ahead at the next generation, well, I don't hear much from my sons about having babies.

(Kristof)

As a Japanese-American, I can relate to Mr. Yosano since my entire family lives in Japan and also follows a similar trend. My father is one of 10 siblings. He and each of his siblings had no more than 2 children each, if any, and only one or two of their children have had a child of their own. But although the result of the decline in births is straight forward, the cause is not.

There many factors that are attributed to the decline. One reason that seems to receive a lot of attention is that the Japanese don't have sex nearly as often as the rest of the world. In a recent poll, Durex, the condom manufacturer, placed Japan dead last among 41 countries surveyed for frequency of sex, "with people having sex just 45 times a year compared to a global average of 103" (Tabuchi). Junko, a married woman in Japan, has no children because she has never been intimate with her husband in the fifteen years they have been married (McCurry), and she is not alone. "A survey of 600 women found that 26% had not had sex with their husbands in the past year" (McCurry). Dr. Kunio Kitamura, director of the Japan Family Planning Association, lays part of the blame on "stress from busy working lives" as well as on "a decline in physical communication skills in an increasingly Web-based society" (Tabuchi). This seems to reinforce the growing attitude that couples consider their relationship to be more akin to roommates rather than two people who are supposed to be in love, and the likelihood of bearing children is much greater in relationships with physical intimacy as opposed to those without.

Another factor in the birth rate decline is the decline in marriages. As women become more independent, they will more than likely want to pursue higher education and better careers. "Several studies of Western countries have shown that while more women postpone marriage in favor of higher education, they are as likely to marry after graduation as women who don't pursue advanced schooling"

(Basu). This is in contrast to Japan where highly educated women are more willing to postpone marriage or avoid it altogether (Basu). James Raymo, a social demographer at the University of Wisconsin-Madison, states that, in Japan, while “highly educated women generally seek out equally educated spouses, husbands don’t necessarily share a similar preference” (Basu). This is because highly educated women are more likely to want a career, which would be counter to what Japanese men look for in a wife. In the male-centric society of Japan, the long-established role of women is to care for the family and to raise the children while the men of the family work long hours at the office, typically offering their wives little to no assistance in domestic chores. Yoko Haruka, a Japanese writer and television personality and someone who has abandoned her own plans of marriage, described the typical Japanese marriage by saying, “The wife is expected to stay home, clean house and take care of kids. If the children behave badly, she’s a bad mother. If her husband has an affair, she’s a bad wife” (Wiseman). She believes that women today should not have to conform to that dated idea, which leads her to avoid getting married; and others seem to agree with her. In 2005, a poll taken by Japan’s Yomiuri newspaper revealed that seventy percent of the women polled did not want to get married (Faiola), showing that the traditional role of the wife is falling out of favor with women. This outdated cultural standard discourages women from getting married, greatly reducing the chances of raising the birth rate and perpetuating the population. Married women who decide to have children do not appear to fare any better.

The cost of raising children in Japan today is an expensive proposition and also contributes to the population decline. The expenses begin soon after conception starting with doctor visits and pre-natal checkups and continuing all the way to birth and the first 18 years of the child’s life. In many countries, the majority, if not all, of the costs incurred up to and including the birth is covered by the mother’s health insurance. However, in Japan, fees for delivering a baby are not covered by health insurance on the grounds that pregnancy doesn’t fall under sickness or injury (Amaha). “Mami Yamamoto, a researcher at the Japan Child and Family Research Institute, claims that the average hospital delivery fees total about \$3000 per birth” (Amaha). That’s \$3000 in expenses that couples must pay out of pocket. But it’s not only monetary concerns that discourage women and couples from having babies; they are running out of doctors to treat them. Erika Yamauchi, a housewife eight months pregnant, is only able to see temporary obstetricians when they are flown in one day a week (Faiola). Anthony Faiola of the Washington Post claims that “the number of doctors entering child-related specialties is plummeting – stretching those who are left so thin that they can no longer manage

existing caseloads.” He goes on to note that “health officials are citing an alarming drop in the pool of obstetricians – whose ranks are shrinking faster than demand is declining.” Japan’s Health Ministry has posted statistics that show a drop of 40 percent in practicing obstetricians from 1992-2004 and about 40 percent of the remaining obstetricians are preparing to retire (Faiola). Yoshiko Saito, deputy director of the Health Ministry’s Maternity and Child Division, claims that, “If we cannot reverse this trend, we will be looking at a collapse in our ability to provide basic care for the pregnant women of Japan,” citing the trend as “one of [Japan’s] greatest problems” (Faiola), a sentiment which is also shared by Ryoichiro Miyazaki, the secretary general of the Japan Association of Obstetricians and Gynecologists. He points out that “if you don’t provide women with maternity care, you discourage them from having children at all. And if they don’t have children, there won’t be a future generation of Japanese to grow older” (Faiola).

In an effort to raise the number of births, many local governments have begun to offer incentives to encourage couples to have more babies. Takano, a small town near Hiroshima, has begun offering cash rewards of around \$900 for a couple’s first baby, up to around \$8000 for a fourth child (Amaha). Other towns, such as Yamatsuri, “pay [mothers] \$9,200 per birth – half three months after the baby’s arrival, and the rest over the next 10 years” (Wiseman). In addition, “more than 3,000 local governments have begun offering money or free medical care for new borns” (Amaha). Many do not think the rewards will have much effect. Women like Yoshie Kikuchi, one of the first mothers scheduled to receive a payment in her town, comments that “the extra money will be useful but getting a million yen doesn’t influence the decision to have children” (Wiseman). The Japanese government has also made attempts to raise the birthrate. “In 1994, a program to support child rearing dubbed the ‘Angel Plan’ was initiated, but without significant results. Years later in 1999, the ‘New Angel Plan’ focused greater attention on child rearing support and the placement of day care centres near train stations” (Chapple). However, neither of these programs has been very effective. Instead, these plans simply placed the burden of child care services on local governments, most of which were already strained to begin with (Chapple). Since local governments are unable to shoulder that kind of load, very little gets done. “Critics claim that the government has not been serious enough about the problem, citing the fact that 70% of the social-welfare budget goes to programs for the aged, such as a pensions and medical services, with only 4% set aside for services for children, such as child benefits and child-care services” (Masaki). If the government dedicates the majority of their budget to elderly

care instead of child-care, it stands a very good chance of escalating the situation rather than defusing it, which can make the population problem much harder to fight. And fight they must, as “a report earlier this year suggested that at current rates, the last Japanese would die around the year 3500” (Omicinski).

The population decline in Japan creates a serious problem for Japanese society. As the number of births decrease, the average age of the population will rise, creating a population whose majority is of retirement age. This large group of senior citizens will put a great burden on both the government and the people who are still of working age due to the money required to support their retirement pensions. The government will be forced to spend more money to pay out these pensions and support the elderly, taking away valuable funding to fight the demographic problem. Meanwhile, the working people are also giving their hard earned money to support the elderly. The decline in births and increase in retirements also leads to a reduction in the workforce. As the workforce diminishes, Japan’s economic productivity will go down which could cause Japan to lose its ability to compete in the global economy. Moreover, as the number of workers goes down, the workers that remain must increase their workload to make up for those that have retired. In other countries, immigration has helped to alleviate the problem, but with an insular country such as Japan immigration is not a realistic option. But all of these lead to the underlying problem, which is the possible end of the Japanese people. The Japanese are not having enough children to keep their population stable. Multiple reasons such as relationship difficulties, cultural problems and monetary problems are cited but nothing significant has been done to stem the decline. Unless the Japanese government and its people become serious about this problem, it could very well lead to their demise.

## A Synergism of Art and Reason

~John Sherman

### I. Introduction

But you should also know that hymns to the gods and eulogies to good people are the only poetry we can admit into our city. If you admit the pleasure-giving Muse, whether in lyric or epic poetry, pleasure and pain will be kings in your city instead of law or the thing that everyone has always believed to be best, namely, reason....there is an ancient quarrel between [poetry] and philosophy....if the poetry that aims at pleasure and imitation has any argument to bring forward that proves it ought to have a place in a well-governed city, we at least would be glad to admit it, for we are well aware of the charm it exercises....we'd certainly profit if poetry were shown to be not only pleasant but also beneficial.<sup>1</sup>

Despite the ancient quarrel between poets and philosophers, art has played a crucial epistemological function in the development of Western philosophy. When considering this age-old conflict, the nature of the relationship between art and knowledge naturally comes into question. I will converge upon this somewhat enigmatic inquisition through a discussion of the development of various notions of *form*, its role in epistemology, and the corresponding development of aesthetic value.

Two of the most influential and fundamental conceptions of form come to us from ancient Greece. The first comes from Plato who essentially explains reality through the existence of two realms—that of Becoming in which all matter existing in the world is subject to the changes wrought by space and time, and the realm of Being in which the Forms, the ideal counterparts after which all the imperfect substances of the material world are imitated, dwell outside of the dimensions of this universe. For Plato, art is devalued, as it is not a means to knowledge but an imitation twice removed from, and thus a bastardization of, its original source.

Another conception of form is put forth and promulgated by Aristotle who disagrees with his mentor's theory on a number of points, but still believes there are universal forms that are objective and that constitute the essences of things in the world.

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1. Plato: Republic, translated by G.M.A. Grube (Indianapolis/Cambridge: Hackett Publishing Company, Inc. 1992), p. 278

Aristotle's forms are found within nature; they are joined to matter and are therefore one aspect of substance—the knowable aspect. Thus, Aristotle's forms participate in the perpetuation of all substances and can be known. As a result, he has a more sympathetic attitude towards artistic expression, paying special attention to the dramatic form of tragedy as a means to knowledge as well as catharsis.

Ultimately, however, the presumption of these notions of form as a means to certain knowledge fails in light of advancements made in evolutionary biology and the consequent theory of natural selection, which supports the idea that a form can literally change (evolve) without purpose.<sup>2</sup>

In response, John Dewey forsakes the dogmatism of his predecessors and presents a new understanding of form as a stable ordering of changes in a changing world. This non-restrictive, fallibilist approach to metaphysical inquiry allows Dewey to understand and contemplate human life as a constantly developing set of experiences predicated upon an individual's relationship with its surroundings. Consequently, Dewey attempts to give an account of art as something that can transform meaning and knowledge in order to gain new perspectives that can help us make intelligent adjustments. Thus, the virtues of aesthetics emerge.<sup>3</sup>

Art and reason can work together, forming a synergistic relationship that can have incredibly far-reaching ramifications for both the individual and society. This relationship elevates the human consciousness, propelling mankind's philosophical endeavors into a new understanding of the natural world and reality.

## **II. Platonic Forms and Art**

Distressed over the subjectivity and ostentation of the Sophists, Plato aims to uncover objective truth by maintaining that the forms, not the material world of change known to us through sensation, possess the highest and most fundamental kind of reality. For Plato, the forms are eternal, changeless, supremely real entities that are independent of ordinary objects. These objects have their being and properties by “participating” in their material counterparts.

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2. Charles Darwin's publication of *The Origin of Species* pounds the nail of refutation into the coffin of Aristotle's conception of static forms.

3. This portion of my essay will include a phenomenological account of an aesthetic experience that I recently had, and then offer a discussion of art in light of John Dewey's view of the developmental nature of experience (the “consummatory phase” of experience) through which the fruition of the re-adaptation of the individual with environment is realized.

The forms that exist in the physical world (i.e. of matter), according to Plato, are not authentic, but literally *mimic* the real forms. In the Allegory of the Cave expressed in The *Republic* they are called the “shadows of real things.” That which the observer understands when he views the imitated forms that manifest themselves in the physical world are the archetypes of the many types and properties of things we see all around us. They are not located in the object, which as far as Plato is concerned, is mere smoke and mirrors situated in space.

In his dialogue *Timaeus*, Plato uses the forms to explain how the cosmos came to be. Chaos is brought into order by the implementation of the forms in structuring matter. Thus, all structured matter is an imitation of a form (according to Plato, this imitation is of the highest order, since the forms are perfect). It follows then that artistic expression that focuses on mimicking or reproducing the things of the physical world is an imitation of an imitation, since the physical world is already an imitation of the eternal forms. Already, artistic expression becomes a bastardization of reality for Plato because it is an imitation that is twice removed from its original source, the form. Therefore, according to Plato, knowledge is always of things that remain constant. It is impossible to “know” physical objects that are constantly changing—only the unchanging forms that exist outside of this world can be objects of knowledge:

But if the very nature of knowledge changes, at the time when the change occurs there will be no knowledge, and, according to this view, there will be no one to know and nothing to be known: but if that which knows and that which is known exist ever, and the beautiful and the good and every other thing also exist, then I do not think that they can resemble a process of flux, as we were just now supposing. (*Cratylus*, pararaph 440).

For Plato, art is a very volatile practice because of its inability to participate in knowledge. Therefore, he maintains that most forms of artistic expression should be censored if not completely expurgated from society. While there are subtle discrepancies in Plato’s theory, the restrictions he places on artistic expression are speciously contradictory. After all, Plato is himself something of an artist as most of his dialogues assume a poetic or dramatic form. Furthermore, the stiflingly conservative views that Plato maintains in dialogues such as The *Republic* seem to be transparently incongruous with his ideas concerning beauty in his *Phaedrus*,<sup>4</sup>

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4. In this dialogue, Plato essentially explains mankind’s attraction to beauty as a long, drawn-out process that begins with an enticement by the alluvial and profane which subsequently evolves into an appreciation, understanding, and love for the ethereal; that is, the Form of beauty. Thus, our initial attraction to the corporeal plays a pivotal epistemological function, as it ultimately brings us to the “knowing” of a Form.

or those about the divine sources of artistic creativity and inspiration in the *Ion*.<sup>5</sup> If there is any possibility at all that art (even in its seemingly basest forms) can lead to a more noble understanding of reality or if artistic expression can indeed create an imitation of the Forms that is more accurate than the objects in the physical world, then Plato's criticism of art as mimesis and his thoughts on censorship should be disregarded.

While the Platonic forms do attempt to elucidate what seems to be mankind's necessity for a higher order of existence to make sense of reality, they fall short for two principle reasons. First, the dual nature (i.e. the view of the world as being explicable as two different fundamental entities) of Plato's theory makes any understanding of actuality convoluted, perhaps even incomprehensible. Secondly, the fact that the Forms themselves are ambiguous in terms of how they participate in the existence of their material counterparts makes it impossible to understand the relationship between the two.<sup>6</sup>

By placing the Forms in the realm of Being, Plato adds an unnecessary variable to his theory that complicates our ability to usefully discern the importance of perfection and ideals. The Forms are useless. They have no explanatory power. Instead of explaining the natural world, Plato's theory creates a second world, thereby doubling the number of things that require explanation. Instead of bringing some unity to the multiplicity of things in experience, it complicates matters by introducing more multiplicity.

For Plato, change is a symptom of the irrationality and imperfection of the physical world, and he was less interested in it than he was in what was eternal and permanent.

The greatest flaw in Plato's theory is the fact that it cannot sufficiently explain how things in the material world change. While the forms may have use as a foundation for believing in the truth they do not offer a justifiable explanation for it. By identifying a thing with its immaterial counterpart (i.e. its essence), the theory cannot account for the generation of new substances.<sup>7</sup> A more reasonable position must differentiate between matter and form and allow for a dynamic relation between the two.

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5. In this dialogue, Plato attempts to rationalize divine inspiration as a source for artistic expression. This effort offers one of the greatest dissonances (in my opinion) in Plato's thought since a divine source of inspiration is hardly something that can be quantified or measured (i.e. understood rationally). Divine inspiration is something that is experienced emotionally and does not seem to have a place in Greek philosophy, especially not in Plato's thought. Some of the ideas Plato expresses in this dialogue seem to be the complete antithesis to his theory of the Forms which is severely austere in the emphasis it places on rational measure.

6. If the material world of change is impossible to "know" because it is in a constant state of flux, it is likewise impossible to know what Form is participating in its material components, making the theory completely nonsensical.

7. *Metaphysics VII*

### III. Aristotelian Forms and Tragedy

Aristotle implemented and effectuated his teacher's conclusions about reality into a more accessible, practical, and constructive theory. While Plato held that there could be no real knowledge of the physical things that our senses reveal because they are changing and too imperfect, Aristotle asserted that knowledge begins with a study of particular thing that can be observed and experienced. Thus, he thinks it is a mistake to study an abstract quality (such as a Platonic form) in isolation from its concrete exemplifications. Essentially, he claimed that forms exist within the realm of nature—the physical world—participating in the perpetuation of all individual substances.<sup>8</sup>

For Plato's picture of *transcendent* forms, Aristotle substitutes the notion of immanent forms. The forms can only be the cause and explanation of things if they are an intrinsic part of things. Thus, for Aristotle every individual substance is made up of two dimensions, its form ("whatness") and its matter ("thisness").

Aristotle's approach to understanding knowledge and reality is analogous to his treatment of art (specifically, tragedy), as he recognizes the affinity between our mind and the world which it perceives. Accordingly, artistic expression is a means to knowledge for Aristotle. In his *Poetics*, Aristotle defines tragedy as "an imitation of an action that is serious, complete, and of a certain magnitude; in language embellished with each kind of artistic ornament, the several kinds being found in separate parts of the play; in the form of action, not of narrative; with incidents arousing pity and fear, wherewith to accomplish its *katharsis* of such emotions. . . . Every Tragedy, therefore, must have six parts, which parts determine its quality—namely, Plot, Characters, Diction, Thought, Spectacle, Melody." (translation by S. H. Butcher).

The end of the tragedy is a *katharsis* (purgation, cleansing) of the tragic emotions of pity and fear. Tragedy arouses the emotions of pity and fear in order to purge away their excess, to reduce these passions to a healthy, balanced proportion. Aristotle also talks of the "pleasure" that is proper to tragedy, apparently meaning the aesthetic pleasure one gets from contemplating the pity and fear that are aroused through an intricately constructed work of art. Thus, through the catharsis that is an inherent part of the tragic form, perceptions and understanding of the world and our place in it can shift, change, and develop.

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8. For Aristotle, a substance is the synthesis or amalgamation of form with matter. Aristotle's forms are found within nature; they are joined to matter and are therefore one aspect of substance—the knowable aspect.

It is important to note that Aristotle considered poetry to be of a higher philosophical caliber than history in terms of discerning knowledge and understanding oneself:

Hence poetry is something more philosophic and of graver import than history, since its statements are of the nature rather of universals, whereas those of history are singulars. By a universal statement I mean one as to what such and such a kind of man will probably or necessarily say or do—which is the aim of poetry, though it affixes proper names to the characters; by a singular statement, one as to what, say, Alcibiades did or had done to him.<sup>9</sup>

#### **IV. Evolving Forms and the End of Certain Knowledge**

Both Plato and Aristotle's views about the nature of reality were extremely influential (if not authoritative) in the development of Western thought for thousands of years. As a result, the rationale of the Western world is characterized by an assumed and absolute certainty. This proved more problematic to Aristotle than Plato, as Plato's theory deals with realms existing outside of a four-dimensional universe and is thus largely speculative. Aristotle's on the other hand, was grounded in the tangibility of the physical world and thus subject to empirical assessment. Ultimately, many of Aristotle's assumptions and theories, including that of the forms, turned out to be inaccurate.

The final blow of refutation against Aristotle's philosophical and scientific inquiry into the natural world came with Charles Darwin's publication of "On the Origin of Species," which introduced the theory that populations evolve over the course of generations through a process of natural selection. This idea of a form literally being able to change itself and evolve over time, directly challenged Aristotle's notion of static forms that participated actively in their material counterparts, guiding them towards a full realization of its form. Because Aristotle's philosophy had been accepted for such a long time as a source of truth and unchanging knowledge it offered a sense of stability (perhaps even righteousness?). Darwin's ideas offered a pivotal change not only in evolutionary biology, but also in the way the world is understood. Naturally, it caused problems.

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9. *Philosophies of Art and Beauty*, eds. Hoftsadter and Kuhns (Chicago: University of Chicago Press, 1964), p. 106.

In his essay, *The Influence of Darwin on Philosophy*, John Dewey writes:

The Greeks, in initiating the intellectual life of Europe, were impressed by characteristic traits of the life of plants and animals; so impressed indeed that they made these traits the key to defining nature and to explaining mind and society. And truly, life is so wonderful that a seemingly successful reading of its mystery might well lead men to believe that the key to the secrets of heaven and earth was in their hands. The Greek rendering of this mystery, the Greek formulation of the aim and standard of knowledge, was in the course of time embodied in the word *species*, and it controlled philosophy for two thousand years. To understand the intellectual face-about expressed in the phrase “Origin of Species,” we must, then understand the long dominant idea against which it is a protest.

### **V. John Dewey and a Stable Ordering of Changes**

Once the notion of permanent forms is abandoned, an uncertainty about the nature of reality and the physical world arises. However, Dewey takes this opportunity to explain form as a stable ordering of changes, by which the structure of a substance is indescribable except as a progression of these transformations:

Structure is the constancy of means, of things used for consequences, not of things taken by themselves or absolutely. Structure is what makes construction possible and cannot be discovered or defined except in some realized construction, construction being, of course, an evident order of changes. The isolation of structure from the changes whose stable ordering it is, renders it mysterious—something that is metaphysical in the popular sense of the word, a kind of ghostly queerness.<sup>10</sup>

This view of nature presents a world full of perils and instability—there are no guarantees within the physical world. Nature is constantly changing and we must be prepared to revise our knowledge and change our beliefs about our surroundings and our relation to them. In order to successfully manage and live within a world that is in a constant state of flux, we must move from a quest for certainty to a dedication to the experimental method. Dewey adopts this method of philosophical inquiry that involves an initial experiment followed by an assessment of what does and doesn’t work. If a belief or theory leads to predications that generate growth, this belief becomes warranted. Dewey maintained that knowledge was at best a “warranted assertability.” But since things change we need to maintain even our most warranted beliefs with a fallibilistic attitude.

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**10.** Volume 1: *1925 Experience and Nature*, by John Dewey, ed. by Jo Ann Boydston (Carbondale and Edwardsville: Southern Illinois University Press, 1988), p. 64-64

Fallibilism is the epistemological thesis that no belief (theory, view, thesis, and so on) can ever be rationally supported or justified in a conclusive way. Always, there remains a possible doubt as to the truth of the belief.<sup>11</sup>

This fundamental shift in ontology and epistemology had a significant impact on the value of aesthetics. Dewey's metaphysics is entrenched in the developing biological and emotional relationship an individual has with his or her surroundings, which lends itself to a radical understanding of art as an experience. For Dewey, art has the ability to illuminate the mind through a fluid aesthetic experience as well as to transform knowledge:

Art is a quality of doing and of what is done....the product of art—temple, painting, statue, poem—is not the work of art. The work takes place when a human being cooperates with the product so that the outcome is an experience that is enjoyed because of its liberating and ordered properties.<sup>12</sup>

On the one hand, this vision of art is freed from certain knowledge and instead is concerned with infusing that which is known or believed with emotion, while simultaneously transforming these beliefs into new imaginative visions:

Aesthetic experience is imaginative. This fact, in connection with a false idea of the nature of imagination, has obscured the larger fact that all conscious experience has of necessity some degree of imaginative quality. For while the roots of every experience are found in the interaction of a live creature with its environment, that experience becomes conscious, a matter of perception, only when meanings enter it that are derived from prior experiences. Imagination is the only gateway through which these meanings can find their way into a present interaction; or rather, as we have just seen, the conscious adjustment of the new and the old is imagination.<sup>13</sup>

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11. <http://www.iep.utm.edu/f/fallibil.htm>

12. *Art as Experience* by John Dewey (New York: The Berkley Publishing Group, 1934), p. 214

13. *Art as Experience* by John Dewey (New York: The Berkley Publishing Group, 1934), p. 272

On the other hand, art is not devalued as it is in Plato's philosophy. It is precisely by cutting art from knowledge that a synergistic relation can be formed between the two. It is no longer about whether or not poetry or reason is the way to truth. Rather, it is about realizing that art can be the way to constantly generating new visions so that knowledge of the truth can become flexible, adaptable, be transformed for intelligent action, and become more meaningful. Such transformation of knowledge is crucial in a Darwinian world where we must adapt and make intelligent adjustments.

### **VI. A Phenomenological Account**

I will now give a phenomenological description of an aesthetic experience I had to illustrate Dewey's theory on the developmental nature of experience as a means to transforming knowledge.

I was awakened by the sound of the wind beating incessantly against my bedroom window as if it were trying to get in, perhaps to escape from itself. I jumped out of bed without hesitation, excited by the unexpected war-like blizzard that nature had waged around my home during the night. Fresh snow, quickly freezing and becoming ice, blanketed the ground as far as the eye could see. This sea of snow was calling me, beckoning me to step on it—I could almost feel my every footstep cracking the fresh, crisp sheets of snow below. I could not resist. My entire being was bent on experiencing the elements so I decided to shovel the driveway, telling myself over and over that intense bodily exertion would be the only way to clear my mind of the recent burden of trepidation and anxiety that was weighing down on me (most of this stress was a result of my proclivity for procrastination). I threw on my coat and gloves and rushed to the door. I paused momentarily, bracing myself for the howling chill of the wind and snow.

I ripped open the door and stepped out into the tempest. The wind whipped and stung my face, sending chills down my spine, and breathing life into my extremities. I was alive! I fought the wind, snow, and sleet step after step until I reached the driveway. I picked up a shovel and felt a sudden sense of empowerment—the tool became an extension of my arms, resting so naturally in my hands as if my life's purpose had always been nothing more than to shovel snow. The sound of the first thrust of the shovel cracking the sublimely immaculate surface of the snow made my entire body quiver—I had desecrated the perfectly pure oasis.

I thrust time and time again, my senses heightened with every motion, every drop of sweat bringing me closer to my purpose—a driveway free from the vice-like grip of ice and sleet. After an hour I began to tire—my lips chapped, my face beaten and worn from the biting wind, my feet soaked to the bone; the physical exertion should have overcome me. Yet, there was some inexplicable vigor that was being channeled through me. I couldn't be stopped. The pure physical intensity propelled me into a new consciousness. Every sinew in my body began to writhe uncontrollably freeing me from the chains of apathy that had to that point infested my body. All my corporeal ills began to slip away; I shed my mundane anxieties like a reptile does old skin.

The rhythm of my shovel and the beating of my heart set me aflame; my adrenaline elevating me beyond ordinary levels of energy and mental capacity, I lost myself in the toil against the elements and nature. As I reveled in the glory of physical exertion steam literally began to pour out of the pores on the surface of my body, and I suddenly thought of Constantine Levin of Tolstoy's *Anna Karenina*. I imagined my shovel transformed into a scythe—no longer displacing snow and ice, but shearing tall grass on a Russian farm. And I said to myself, "Where is that old peasant man to offer me a swig of liquor from his tin?" No sooner had these thoughts crossed my mind when my grandmother opened the front door and called me in for a mug of piping hot chocolate (with mini marshmallows). This magical elixir did wonders to rejuvenate me physically.

As I reassumed my position outside I worked my shovel back into a cadenced pulse. The longer I shoveled, the more often I felt moments of unconsciousness in which it seemed not as if my hands thrust the shovel, but as if the shovel thrust itself, with "a body full of life and consciousnesses of its own, and as though by magic, without thinking of it, the work turned out regular and well-finished of itself. These were the most blissful moments."

There is something about experiencing nature through physical struggle and exertion that exhilarates and vitalizes the mind and body in such a way that would be unattainable otherwise. There is some inexplicable force or energy that runs through nature and the individual who is experiencing it in this particular way. The environment—which included my physical surroundings, my disposition, the aggregate of social and cultural influences upon me at that moment in time, and the way in which all of these various factors compelled my actions and thoughts—is what gave my experience shoveling snow aesthetic value; indeed, the environment is the essence of aestheticism in life's experiences.

The origin and core of aesthetic experience lie, according to Dewey, in ordinary experience, in the consummatory experiences that are ubiquitous in the course of human life. There is no candor or even rationality in the egotism that's cultivated and sustained by snobbish artistic enthusiasts and "elites." Aesthetic enjoyment is not the restricted benefit or "property" of a privileged minority. Rather, it is by its nature experienced and enjoyed by all people everywhere. Whenever there is an amalgamation between past experiences and a present state of mind and/or experience that results in a gratifying or meaningful delectation, there is art: "Whenever there is a coalescence into an immediately enjoyed qualitative unity of meanings and values drawn from previous experience and present circumstances, life then takes on an aesthetic quality—what Dewey called having 'an experience.'"<sup>14</sup> Therefore, because aesthetic value is found and nurtured even in commonplace experiences, Dewey does not distinguish between these seemingly routine experiences and artistic creation; in fact, he argues that they are one and the same—both are extraordinarily inimitable:

Nor is the creative work of the artist, in its broad parameters, unique. The process of intelligent use of materials and the imaginative development of possible solutions to problems issuing in a reconstruction of experience that affords immediate satisfaction, the process found in the creative work of artists, is also to be found in all intelligent and creative human activity. What distinguishes artistic creation is the relative stress laid upon the immediate enjoyment of unified qualitative complexity as the rationalizing aim of the activity itself, and the ability of the artist to achieve this aim by marshalling and refining the massive resources of human life, meanings, and values. It is not only the sensible qualities present in the physical media the artist uses, but the wealth of meaning that attaches to these qualities, that constitute the material that is refined and unified in the process of artistic expression. The artist concentrates, clarifies, and vivifies these meanings in the artwork. The unifying element in this process is emotion--not the emotion of raw passion and outburst, but emotion that is reflected upon and used as a guide to the overall character of the artwork. Although Dewey insisted that emotion is not the significant content of the work of art, he clearly understands it to be the crucial tool of the artist's creative activity.<sup>15</sup>

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14. <http://www.iep.utm.edu/d/dewey.htm#H5>, John Dewey Section 5. Aesthetics

15. <http://www.iep.utm.edu/d/dewey.htm#H5>, John Dewey Section 5. Aesthetics

My experience shoveling snow made me feel intensely alive and energetic as I relished in an incomprehensible flow of energy that offered me a heightened sense of myself in the context of my surroundings. This experience also offered me an imaginative vision that transformed the meaning of the task I was performing as the shovel I was holding literally became an extension of my hands and arms, and I saw myself as Constantine Levin.

The sense of increase of understanding, of a deepened intelligibility on the part of objects of nature and man, resulting from aesthetic experience, has led philosophic theorists to treat art as a mode of knowledge, and has induced artists, especially poets, to regard art as a mode of revelation of the inner nature of things that cannot be had in any other way.<sup>16</sup>

The aesthetic experience illuminates the mind and augments self-awareness, shedding light upon past knowledge to the point of transformation. Art is an integral part of the life-long quest for knowledge and self-development. The virtue of this approach to philosophical inquiry and theory is in its ability to illuminate problems and help us solve them. Therefore, a synergistic account of reason and art is necessary for the successful development of society.

The world has never been changing faster than it is today. With the development of instantaneous communication and the seemingly infinite amount of information available at our fingertips, we are entering a new age. This “global village” is full of uncertainty, so our task as responsible human beings is to adjust sensibly to this changing world. Unfortunately, art is no longer taken seriously in academia, so we must foster a wider appreciation for aesthetics, paying special attention to art as an experience. In order to effectively adapt to our changing surroundings we need to be able to see and understand ourselves in different ways, which can be done through a recognition of and pleasure in aestheticism’s virtues, which include a self-realization and development as well as a social well-being. The more people grow and develop, the more successful the society and the human experience as a whole will be. There is an incredible amount of hope for the future of the synergism of art and reason can be realized.

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16. Art as Experience by John Dewey (New York: The Berkley Publishing Group, 1934), p. 288

**VII. Conclusion**

As the cantankerous beating of the dogmatic drum fades into the distance, a new rationale that acknowledges the limitations of human inquiry, but also upholds the importance of human experience and the virtues of aesthetics as a means to knowledge emerges. Thus, art and reason forge a synergism that facilitates the productive and ultimately triumphant quest for understanding the world around us. I'd like to end with this final thought from Dewey:

Art is a mode of prediction not found in charts and statistics, and it insinuates possibilities of human relations not to be found in rule and precept, admonition.<sup>17</sup>

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<sup>17</sup>. Art as Experience by John Dewey (New York: The Berkley Publishing Group, 1934), p. 349

**Footnotes**

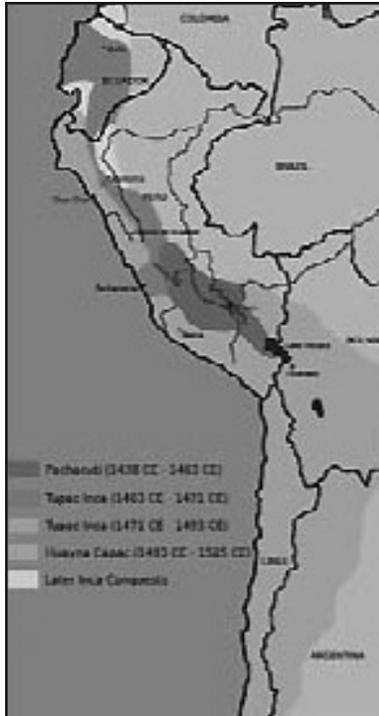
1. Plato: Republic, translated by G.M.A. Grube (Indianapolis/Cambridge: Hackett Publishing Company, Inc. 1992), p. 278
2. Charles Darwin's publication of *The Origin of Species* pounds the nail of refutation into the coffin of Aristotle's conception of static forms.
3. This portion of my essay will include a phenomenological account of an aesthetic experience that I recently had, and then offer a discussion of art in light of John Dewey's view of the developmental nature of experience (the "consummatory phase" of experience) through which the fruition of the re-adaptation of the individual with environment is realized.
4. In this dialogue, Plato essentially explains mankind's attraction to beauty as a long, drawn-out process that begins with an enticement by the alluvial and profane which subsequently evolves into an appreciation, understanding, and love for the ethereal; that is, the Form of beauty. Thus, our initial attraction to the corporeal plays a pivotal epistemological function, as it ultimately brings us to the "knowing" of a Form. This view is in stark contrast with the one expressed in his theory of the Forms, which maintains that any attraction to or expression of that which belongs to the physical world should be forbidden.
5. In this dialogue, Plato attempts to rationalize divine inspiration as a source for artistic expression. This effort offers one of the greatest dissonances (in my opinion) in Plato's thought since a divine source of inspiration is hardly something that can be quantified or measured (i.e. understood rationally). Divine inspiration is something that is experienced emotionally and does not seem to have a place in Greek philosophy, especially not in Plato's thought. Some of the ideas Plato expresses in this dialogue seem to be the complete antithesis to his theory of the Forms which is severely austere in the emphasis it places on rational measure.
6. If the material world of change is impossible to "know" because it is in a constant state of flux, it is likewise impossible to know what Form is participating in its material components, making the theory completely nonsensical.
7. *Metaphysics VII*
8. For Aristotle, a substance is the synthesis or amalgamation of form with matter. Aristotle's forms are found within nature; they are joined to matter and are therefore one aspect of substance—the knowable aspect.
9. *Philosophies of Art and Beauty*, eds. Hoftsadter and Kuhns (Chicago: University of Chicago Press, 1964), p. 106.
10. *Volume 1: 1925 Experience and Nature*, by John Dewey, ed. by Jo Ann Boydston (Carbondale and Edwardsville: Southern Illinois University Press, 1988), p. 64-64
11. <http://www.iep.utm.edu/f/fallibil.htm>
12. *Art as Experience* by John Dewey (New York: The Berkley Publishing Group, 1934), p. 214
13. *Art as Experience* by John Dewey (New York: The Berkley Publishing Group, 1934), p. 272
14. <http://www.iep.utm.edu/d/dewey.htm#H5>, John Dewey Section 5. Aesthetics
15. <http://www.iep.utm.edu/d/dewey.htm#H5>, John Dewey Section 5. Aesthetics
16. *Art as Experience* by John Dewey (New York: The Berkley Publishing Group, 1934), p. 288
17. *Art as Experience* by John Dewey (New York: The Berkley Publishing Group, 1934), p. 349

**Andean Archaeology:  
Uncovering Incan Adaptive Strategies**

*~Jennifer Sylvestri*

One of the most innovative and unusual imperial civilizations in history is arguably that of the Inca, the dominant culture in Andean South America in the 15th and 16th centuries A.D. The truly remarkable aspect of this society was its ability to “overcome the seemingly impossible obstacles of their environment and limitations of technology,” using inventive techniques that would both baffle and mesmerize generations of European conquistadors and explorers (McEwan xiii). Since the so-called rediscovery of the magnificent site of Machu Picchu in 1911 by Hiram Bingham, Western interest in Incan culture and technology, as well as that of its predecessors, has flourished, as evidenced by the many publications subsequently put forth (Hyslop 1990; Kolata 1993; Moseley 1992; Stanish 1992). High in the treacherous and inhospitable Andes Mountains, the Inca were able to maintain a thriving society through the use of adaptive architecture, irrigation, terrace farming, and an extensive system of roads.

Given that the Inca had no written language, no self-recorded first-hand accounts of Incan history and culture are available. Much of what is currently known of this ancient society has therefore come from a variety of sources, namely the accounts of the Spanish at the time of the Incan conquest, ethnographic studies of Incan descendents, such as the Quechuan of modern-day Peru (Mannheim 1991), and modern archaeological studies (McEwan 6). It is now known that long before the establishment of the Incan state, the same territory was occupied by a variety of cultures and societies that both rose and fell, with each one, as McEwan so eloquently put it, “adding its unique contributions to the Andean cultural legacy inherited by the Incas” (33). The most notable of these cultures include those of Chavin, Moche, Nazca, Tiwanaku, and Wari, which collectively spanned from about 1400 B.C. to A.D. 1100. Though each of these cultures was located in the same coastal and mountainous regions that the Inca would inhabit, none were so dynamic and all encompassing as the Inca themselves.

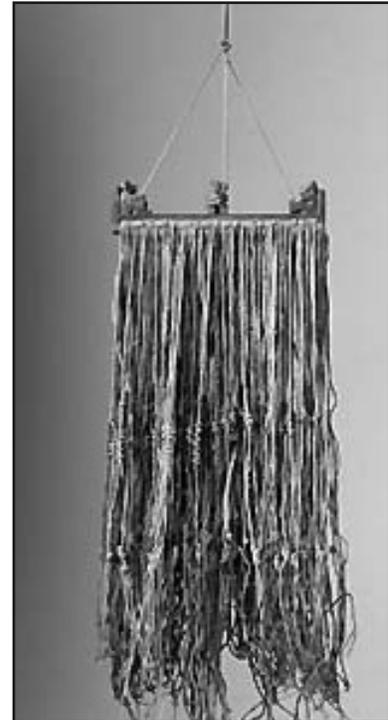


**Figure 1. The extent of the Incan Empire from 1463-1525 A.D.** ([http://commons.wikimedia.org/wiki/Atlas\\_of\\_Peru](http://commons.wikimedia.org/wiki/Atlas_of_Peru))

While archaeological studies indicate a long history leading to the development of the Inca and their empire, the traditional Incan origin story differs. It states that the small group of the first Incas came into the world through three caves, led by Manco Capac, the first Incan ruler, at either a place called Pacariqtambo or on an island in Lake Titicaca. After emerging into this world, he founded the city of Cuzco. For the next two-and-a-half centuries, the Inca gradually grew in power and territory until, in 1438 A.D., Pachacuti, whose name means “earth shaker” in the Incan language of Quechuan, ascended the throne and “launched a series of conquests that rapidly evolved the tiny Incan domain into an expanding empire” (McEwan 43). Over the course of his reign he oversaw the conquering of surrounding lands, the expansion and improvement of Cuzco, and the building of multiple royal estates, including the stunning and world-renowned Machu Picchu, and the Incan Royal

Highway. Tupac Inca succeeded Pachacuti in 1471, and was, in turn, succeeded by Huayana Capac in 1493, both of whom continued the empire’s expansion. Following Huayana’s death (circa 1527), likely caused by the Spanish introduction of smallpox, a bloody war for the throne resulted, which was eventually won by his son Atahuallpa in 1532. However, Atahuallpa’s reign proved to be short-lived; he took Cuzco, “but soon afterward the European invasion took place, resulting in the end of the empire and the death of Atahuallpa in 1533” (McEwan 43-48).

At the height of the empire, it spread from the modern-day Colombia-Ecuador border, through Peru and Bolivia, and into Chile and Argentina, covering a territory of approximately 906,000 square kilometers, and stretching approximately 4,000 kilometers lengthwise along the western coast of South America (Figure 1). The empire itself was a conglomerate of various cultures and traditions, with



**Figure 2. An Incan quipu.** (<http://images.encarta.msn.com/xrefmedia/sharemed/targets/images/pho/t304/T304747A.jpg>)



**Figure 3. A trapezoidal doorway, with niches in the background, from the site of Koricancha in Cuzco.**  
(<http://people.uleth.ca/~holzmann/peru/index.html>)

newly conquered territories being frequently added, leading to great diversity among the different regions of the empire. Though most ethnic groups originally spoke their own languages and were allowed to continue to do so by their Incan conquerors, Quechuan eventually became the universal Incan language (Von Hagen 166). Because the Inca never developed their own writing system, Incan record keeping was done through the use of quipus, Quechaun for “knot.” These were “devices consisting of a central cord from which hung a series of smaller cords with clusters of knots on them” (Von Hagen 201) (Figure 2). “The position and number of knots... provided information based on the decimal system” (Kendall 45). Quipus were used “mainly for administrative and statistical information,” but “could also be used as aids in recording historical and liturgical information accumulated by the government” (Kendall 45). They also functioned as a way of conveying messages across the empire and possibly as an aid for remembering oral tradition. The message-carrying quipus

helped to link and unify the vast and diverse empire.

When discussing Incan adaptive culture and architecture, it is necessary to mention just what it was that they were adapting to. The geographical area that the Inca came to unify and dominate can be divided into three main zones: the western coastal desert, the mountain highlands, and the eastern rainforest. The desert, which bordered the Pacific Ocean, ran almost the entire length of the empire. Few plants grew in the desert and the wildlife was meager (Kendall 19). The rainforest, meanwhile,



**Figure 4. Precisely cut and fitted Incan stonework.**  
(<http://www.geo.hunter.cuny.edu/~imiyares/images/twelve.jpg>)

consisted of high-forested slopes as well as swamps and an “insect-infested rain forest [that] caused... horror among the Inca” (Kendall 21). Neither the desert nor the jungle boasted much arable land or other resources to support the large Incan population. Thus, the vast majority settled in the highland

region, located in between the coastal desert and the inland rainforest. The climate was more temperate in the highlands and more conducive to agriculture. Fortunately, “a large variety of crops have been adapted to grow at different altitudes” (Kendall 20). Yet, the limited supply of water, as well as arable land, could have proved to be insurmountable obstacles for supporting a large population. For the ingenious



Figure 5. View of the ruins of Machu Picchu. ([http://archaeology.about.com/od/incaarchaeology/ss/machu\\_picchu\\_gc.htm](http://archaeology.about.com/od/incaarchaeology/ss/machu_picchu_gc.htm))

Inca, however, these limitations only served as the impetus for some of the most incredible adaptations in history. These adaptations, namely of architecture, road building, irrigation, and agriculture, combine cultural and technical elements of the Inca’s predecessors as well as their contemporaries.



Figure 6. A water fountain in Machu Picchu, still operating after 500 years. (<http://www.rutahsa.com/mp-fountains.html>)

As the Incan empire spread, incorporating other regions and cultures into itself, its distinctive style began to mark every aspect of the empire. Specifically, the Incan architectural stamp was put on everything it encountered, “to such an extent that, ‘one should think that a single architect has built this large number of monuments’” (Von Hagen 167-168). Incan architecture is highly uniform and recognizable, serving as a clear indication of Incan dominion. One particular architectural element constantly used across the empire was a trapezoidal structure and form. Most niches, which were built into all Incan structures, were trapezoidal, with the shortest side on top.

These niches varied in size but were generally found in the upper half of a wall, and were systematically distributed throughout the building. While their function still remains unclear, they may have served as a means of displaying idols or simply for storage. Doorways also featured the same shape, and again were narrower at the top than the bottom (Figure 3). Windows were uncommon, but multiple doorways served the dual purpose of allowing access and light into the building. Another architectural aspect the Incans are famous for are great stone structures built without the use of mortar, “constructed of

polygonal blocks that fit together like the pieces of a jigsaw puzzle” (McEwan 175). The stones were so perfectly and precisely fitted together that “even today a knife blade and sometimes even a pin cannot be inserted” between the stones (McEwan 175). Archaeological evidence has shown that these stones were taken from a quarry and brought to the site (likely through the use of rollers); they were placed in the wall, and then individually carved to fit the next stone (McEwan 171-175)(Figure 4).

To maintain a functional society at high altitudes in the Andes, the Incans adapted their architectural style in such a way as to build structures that would last in such an environment. Through extensive archaeological excavations at the site of Machu Picchu, much insight has been gained in this area. It is now understood that one of the reasons Machu Picchu, and likely other similar sites, have endured so long, is due to an extensive subsurface foundation (Figure 5). Prior to construction, the ridge top surface would have been irregular. The Incan builders first flattened the area, dug a three to eight foot deep foundation, stabilized it with construction walls, and filled it with loose rock and stone chips. A flat, level ground surface was placed over this, completely hiding the foundation from view. This massive foundation, which covers the entire ridge, is a fundamental part of why this site has remained so well intact, helping it to resist the ravages of nature as well as supporting the heavy granite architecture and the recent influx of tourism (Burger 101-102).



**Figure 7. Incan terraces still in viable condition.**  
([www.squarefootgardening.com](http://www.squarefootgardening.com))

Along with solving the problem of how to build structures that would last, the Incans also had to figure out how to supply a large population with adequate clean, fresh water high in the Andes. As Brown points out, “the Inca understood the importance of pure drinking water” (32). They realized how vital it was to the maintenance of a healthy, thriving population, as well as its necessity to farming. However, given that the Inca lived in a highland region, water had limited availability. As Lumbreras puts it, “the quantity of water that the highland rivers normally contain is insufficient for the irrigation of large areas. As a consequence, highland agriculture was less dependent on the rivers than on rainfall” (6). Yet, situated as they were at such a high elevation, they could not entirely depend on rainwater, especially given that, in that particular climate, “rainfall is not consistent and reliable

from year to year” (McEwan 123-124). Thus, to “insure against weather fluctuation... elaborate and sophisticated canal systems... were used to supply fresh drinking water and to remove sewage and waste from major Inca settlements” (McEwan 123-124).

Extensive excavations have shown that, by the time the Inca were building sites like Machu Picchu and those similar to it, they had already “accumulated a practical knowledge of hydrology, hydraulics, drainage, and foundation engineering” (Brown 32). Utilizing this knowledge, they were able to build an extensive and complex irrigation system. In the case of Machu Picchu, water for the



**Figure 8. Map showing the main arteries of the Incan Imperial Road System. Note the two main roads running North-South along the length of the empire and the connecting**

entire city was acquired through the diversion of a spring located on a steep slope to the north. Incorporating both mathematical and engineering knowledge, the Inca built a stone canal, nearly 750 meters long, which ran down the mountain from the spring and into the city walls. The slope of the canal was relatively steady. Depending on gravity to carry the water, the canal itself ranged from ten to sixteen centimeters deep and ten to twelve centimeters wide, with a capacity of about 300 liters per minute (Brown 32). It passed first through the agricultural sector, supplying crops with water, before crossing into the city itself. There, it initially fed into what is now known to be the royal estate, supplying the Incan ruler with spring water “...in its pure state, uncontaminated by prior usage” (Burger 31). The water was then carried into a series of fountains, sixteen in all, that supplied water to the entire population of the city.

Each fountain contained a rectangular spout that produced a stream of water, suitable for filling clay jugs (Figure 6). The excess water “...collects in a cut stone basin in the floor of the fountain, then enters a circular drain that delivers it to the approach channel for the next fountain” (Brown 32). Incan engineers carefully designed each fountain to optimally flow with about twenty-five liters per minute, but they could still operate with anywhere from ten to one hundred liters per minute (Brown 32). Canal maintenance and upkeep was determined by the local governmental administration and was assigned to specific people, and “the principle of local autonomy in water management in

highland communities continued” (Guillet 410). Generally, the farmers maintained the main canal, while the subsidiary branches and channels were the responsibility of individual households. The maintenance itself was often “accompanied by ritual” (Guillet 410).

Closely related to the concept and mechanics of irrigation is the use of terrace farming. Located at such high altitudes as the Incan civilization was (the capital city of Cuzco is located 3300 meters above sea level), crop cultivation to supply the needs of an entire population could have been a problem. Such locations have yearly dry seasons, as well as “thin soils and inadequate soil moisture” (Guillet 410). Further complicating matters, steep mountain ridges and slopes had little arable land that, when farmed in its natural state, becomes highly susceptible to soil erosion (Guillet 409-410). To solve this problem, the Inca utilized engineering principles and built enormous and extensive terraces all across their empire. These terraces served multiple functions; they “created new lands for agriculture, stabilized steep slopes and prevented erosion, and provided level ground on which to build” (McEwan 123). With the creation of new arable land, “maize, quinoa and barley were produced on the terraced slopes” to provide food for the Inca (Guillet 410).

Incan engineers proved to be truly ingenious in their development and building of the terraces. “Excavations... show that they were carefully built with layers of different materials to ensure adequate drainage and soil fertility” (Burger 101). As McEwan describes, “Terracing was a very sophisticated technology. On the surface what is most visible are the stone retaining walls, but beneath and within their confines are elaborate foundations” (123). The stone retaining walls, which were generally built to lean inward to reinforce their stability, were built first on sturdy foundations or bedrock. The terraces were then filled with three different layers of material. The first was a large stone base covered in medium size stones. This layer was covered with a layer of fine sand and gravel. The third and topmost later was the topsoil. Ranging anywhere from fifty centimeters to one-and-a-half meters thick, this rich soil was carried up from lower elevations, usually from riverbeds, and carefully placed behind the retaining walls on the top of the terraces. The terraces thus formed provided Incan farmers with a level surface for farming as well as rich, well-drained soil (Burger 101; McEwan 123).

McEwan goes on to describe a further advantage to terracing: “The stone retaining walls absorbed heat from the sun during the day and radiated heat during the night. This could often be enough to prevent temperatures on the terraces from dropping below freezing” (McEwan 123). Terrace farming was so widespread that today, the country of Peru contains approximately one

million hectares of terraced land, a small portion of which are, incredibly enough, still in use (Guillet 409) (Figure 7). As Burger remarks, “the fact that they have survived over five hundred years in this difficult terrain and climate is ample testament to the success of the engineering principles employed” (101). Clearly, the Inca managed to perfect a system of irrigation and agriculture that has withstood the test of time and proven itself to be enduring as well as sustainable.

The irrigation canals and the terraces both made up vital parts of the Incan empire’s infrastructure. However, another part of the infrastructure, of inestimable importance to the governing and unity of the empire, was the Incan road system, also known as the Royal Highway. In total, the Incan highway system extended for at least 40,000 km, running from the very northernmost part of the empire to the southernmost, as well as from the east to the west connecting every vital administrative center along the way (Figure 8). The main backbone of the network consisted of the two main highways that ran parallel to each other, north to south, from one end of the empire to the other. The Capac Nan was the main highland road that ran along the spine of the Andes, while its complement ran along the coast. These roads were connected by dozens of lateral roads that served to link all administrative and provincial centers into one large network. Use of the roads was generally restricted to those on imperial business, and commoners could not use them without permission (McEwan 115; Von Hagen 187-189).

Road construction varied considerably from place to place. In some places roads were as wide as four meters, and in others only one meter. The road surface ranged from fine paving stones to natural dirt. A truly remarkable aspect of Incan roads is that, because they did not utilize wheeled vehicles, “Inca roads often rose precipitously, climbing steep slopes with long flights of steps or making use of extensive switchbacks to gain altitude over relatively short distances” (McEwan 115). Von Hagen includes a beautifully descriptive firsthand account of the roads, noting that they ran “through deep valleys and over mountains, through piles of snow, quagmires, living rock, along turbulent rivers; in some places...smooth and paved, carefully laid out; in others over sierras, cut through the rock with walls skirting the rivers, and steps and rests through the snow; everywhere... clean swept and kept free of rubbish, with lodgings, storehouses, temples to the sun, and posts along the way” (188).

These extensive highways served the incredibly important task of keeping the large empire interconnected, by moving goods, people and information from one end to the other, and linking the

capital and the countryside. Message relay runners called *chaski* delivered information across the empire, and were stationed at stone houses on the side of the road at about 1.4 kilometer intervals. These relay runners could cover about 250 kilometers a day, and messages from the northernmost city of Quito could be delivered to the capital at Cuzco in a week, which, incidentally, is less time than it takes a letter to travel that distance today (McEwan 119; Von Hagen 188-189). Clearly, these roads were of vital importance to the control of the empire.

When considering all of these Incan accomplishments, from the extensive road network, to the monumental architecture, to the ingenious irrigation and terracing systems, it is truly astounding that one empire was able to achieve so much in such a short time span. As current archaeological studies have shown, had the Inca not been able to incorporate all of the adaptive techniques that they utilized, it is unlikely that they would have been so successful, and their culture and achievements so enduring. Without the roads, the vast and topographically diverse empire could not have been governed nor remained interconnected. Without the irrigation and terrace systems, the Incan population would not have been provided with the adequate fresh food and water necessary for their survival. Without their distinctive architecture, their structures could not have endured the harsh climate in which they lived. Combined, these features became the perfect formula for a successful empire with far-reaching contributions. Faced with seemingly insurmountable obstacles, the Inca were able to survive and prosper where few others could have done so.

The Incan civilization was truly a remarkable culture, overcoming vast environmental hurdles and limitations on its way to becoming “the greatest native state ever to appear in the Americas” (McEwan xiii). Through their use of engineering techniques and principles, the Inca proved themselves to be well ahead of their time. Clearly, the utilization of this knowledge in the construction of architecture, irrigation canals, terraces, and roads provided the Inca with the adaptations necessary to live and function at high elevations in the Andes Mountains. They carried out their goals so well that even today, five hundred years later, their buildings still stand, their fountains still flow, their terraces are still farmed, and their roads are still traveled by their descendents.

## List of Figures

**Figure 1.** The extent of the Incan Empire from 1463-1525 A.D.  
 ([http://commons.wikimedia.org/wiki/Atlas\\_of\\_Peru](http://commons.wikimedia.org/wiki/Atlas_of_Peru)) . . . . .3

**Figure 2.** An Incan quipu.  
 (<http://images.encarta.msn.com/xrefmedia/sharemed/targets/images/pho/t304/T304747A.jpg>) . . . . .4

**Figure 3.** A trapezoidal doorway, with niches in the background, from the site of Koricancha in Cuzco.  
 (<http://people.uleth.ca/~holzmann/peru/index.html>) . . . . .5

**Figure 4.** Precisely cut and fitted Incan stonework.  
 (<http://www.geo.hunter.cuny.edu/~imiyares/images/twelve.jpg>) . . . . .6

**Figure 5.** View of the ruins of Machu Picchu.  
 ([http://archaeology.about.com/od/incaarchaeology/ss/machu\\_picchu\\_gc.htm](http://archaeology.about.com/od/incaarchaeology/ss/machu_picchu_gc.htm))  
 . . . . .7

**Figure 6.** A water fountain in Machu Picchu, still operating after 500 years. (<http://www.rutahsa.com/mp-fountains.html>) . . . . .9

**Figure 7.** Incan terraces still in viable condition. ([www.squarefootgardening.com](http://www.squarefootgardening.com)) . . . . .11

**Figure 8.** Map showing the main arteries of the Incan Imperial Road System. Note the two main roads running North-South along the length of the empire and the connecting tributaries . . . . .12

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## A Woman's Place: Shakespeare's Social Control

~Jessica Weiner

Every society has rules that govern the way people should appear and behave and this is no more apparent than in the English early modern period in which William Shakespeare wrote. Every person was put into a strict class that dictated how he could act and whom he must obey. Women, especially, were restricted by their culture and could not even participate in many activities that men could. The early modern English society looked down on strong, independent women but Shakespeare's plays included many assertive female characters such as Beatrice of *Much Ado About Nothing* (1598) and Kate of *The Taming of the Shrew* (1592). Both characters begin their respective plays as strong-willed women but by the end they are shown the error of their ways and forced to comply with the social norms of early modern England. Although both women are disciplined, it occurs in two very different ways: Kate is tortured and humiliated until she is obedient while Beatrice is tricked into falling in love and being married.

In early modern England, plays were a form of entertainment for the masses but also taught the principals of social order. Shakespeare's plays were entertaining but also served as a "site of women's repression" and continued "validating that subordination for future generations" (Rackin 48). They could be set in Italy as *The Taming of the Shrew* and *Much Ado About Nothing* but the lessons taught about a woman's place applied to English society. In many of today's societies, women are seen as equals to men but in early modern England that was not the case. Women were seen as subordinate to men and this was beyond dispute. The Great Chain of Being, an early modern English ideology that created a hierarchy that put every person and thing in its place, shaped social order and women obviously fell below men. Married women had no legal or economic freedom at all and although unmarried and widowed women had more power socially, they could not be too overt about expressing their views because they would be labeled a shrew or scold.

Shrewishness was abhorred by early modern English society and those views are very evident in one of Shakespeare's earliest plays, *The Taming of the Shrew*. The men of the play make fun of Katharine for her aggressive nature saying things such as "No mates for you/ Unless you were of

gentler, milder mould” and “The wench is stark mad or wonderfully froward” (*Shrew* 1.1.59-60, 69). Kate's behavior is not that of a typical English woman; she complains about marriage, does not follow directions and even ties up and interrogates her sister.

Her father consents to a marriage between Petruccio and Kate but warns him “be thou arm'd for some unhappy words” (2.1.137). Petruccio is not worried about Kate's disposition even after several men and even her father warn him. He decides he can tame her “For I am rough, and woo not like a babe” (2.1.135). His plan involves the method popular for taming shrews in the English early modern period: public humiliation. Women could be humiliated by being soaked in a cucking or dunking stool or even by physical abuse such as slapping and bridling (Greenblatt 10). The wife was the not only person who was at risk for embarrassment. If a wife was unruly that was taken as a sign that the husband was not firm enough and therefore should be included in the humiliation. Neighbors could force the husband of a disorderly woman to undergo a “rough riding” or a procession through town on the back of a horse while people shouted and played loud music (Howard in Greenblatt 137).

The first part of Petruccio's plan is to show up to his wedding late. He worries everyone and even makes Kate cry while she is shamed at the prospect of being left at the altar. When he does show up he is “a monster, a/very monster in apparel” (3.2.63). He wears a mishmash of clothes that are an embarrassment, a “shame to your estate,” and “An eye-sore to our solemn festival” (3.2.93-94). Petruccio often tries to tame Kate using comical methods such as this and “thus it offers the audience the chance to revel in and reinforce their misogyny while at the same time feeling good” (Gay 86).

The second part of his plan is less light hearted. Petruccio brings Kate to his country house where he plans to do nothing less than torture her. Petruccio alludes to the position of the husband as the head of a kingdom saying “Thus have I politicly begun my reign” (4.2.169) when he begins his conquest of Kate. In the English early modern era the husband was a ruler and the household was his kingdom. It could also be said that “the true Englishman defines his manhood through the firm, and if necessary, cruel mastery of his wife” (Howard in Greenblatt 136). He compares taming Kate to the training of a hunting hawk. Petruccio explains that Kate “now is sharp and passing empty/ And till she stoop she much not be full-gorged/ For then she never looks upon her lure” (4.2.171-173). He plans to starve Kate of food and sleep until she “stoops” to his authority. According to Petruccio, this treatment of Kate is for her own good and will help her fit into the patriarchal society (Gay 86).

During their trip back to Baptista's house Petruccio will not continue unless Kate agrees with his absurd claims. During this scene Kate's transformation is clearly seen. When Petruccio says that the sun is the moon so does Kate and when he changes his mind she corrects herself as well. Although at first she seems to agree with him only jokingly, when she describes Vincentio as a "Young budding virgin, fair and fresh and sweet" (4.6.38), she seems to have truly changed her disagreeable behavior. She does not just call him a girl but "so fair a child" (4.6.40) and when she corrects herself at Petruccio's request she apologizes elaborately as if she is truly sorry. After this scene Kate does not speak again until her husband and ruler, Petruccio, calls her on to prove her taming and to teach the other women of the play, as well as the audience, a lesson.

In her final speech, "Kate ventriloquies the voice of Shakespeare's culture" (Hodgdon 541). Petruccio, Lucentio, and Hortensio bet on which of their new wives is the most docile. The winner of the bet is not Kate's sweet natured sister Bianca, but Kate herself with "Her new-built virtue and obedience" (5.2.122). She comes when she is called and throws her hat off simply because her husband tells her to. Kate lectures the other women and the early modern English audience on "What duty they do owe their lords and husbands," (5.2.135).

Throughout her speech, Kate likens a husband to a ruler, just as Petruccio earlier in the play, giving them titles such as "thy lord, thy king, thy governor," and "thy life, thy keeper, / Thy head, thy sovereign" (5.2.142,150). It was thought that unrest in the household mirrored unrest that could trouble the state, displaying "the possibility of a breakdown of order and hierarchy in the culture at large" (Howard in Greenblatt 137). In this case unrest comes in the form of a shrewish wife. Kate reinforces the idea that outspoken women are ugly women saying, "It blots thy beauty as frosts do bite the meads" and that forward women are "Muddy, ill-seeming, thick, bereft of beauty" (5.2.143,147). Kate again compares husband to ruler when she says, "Such duty as the subject owes the prince/ Even such a woman oweth to her husband" (5.2.159-160). While wives sit home all day husbands, "for thy maintenance commits his body/ To painful labour" (5.2.152-153). According to Kate, the least women owe their husbands is obedience, "Too little payment for so great a debt" (5.2.158).

When a wife is forward, Kate says, she is "but a foul contending rebel / And graceless traitor to her loving lord" (5.2.163-164). The words rebel and traitor, words usually used when talking about the state, further cement the connection between the household and the nation. Kate is ashamed of women who try to change their place in society by seeking "rule, supremacy and sway, / When they

are bound to serve, love and obey” (5.2.167-168). She cites the popular early modern English reasoning for why women are bound to serve saying things like “our bodies soft and weak and smooth,” and “our soft conditions” (5.2.169,171). During the era, scholars used the works of Aristotle and the Greek writer Galen to prove the physiological and psychological differences in women and it was believed that men were more passionate than women and greater strength alluded to greater intelligence (McDonald 254-255).

Kate believes that resistance against the norm in society is futile; “our lances are but straws” (5.2.177), a sentiment that would go a long way in regulating social unrest. If women think that standing up for themselves won’t change their situation then they are less likely to try. *The Taming of the Shrew* is all about the futility of being different. Kate is an aggressive woman who is labeled a shrew by the men in her life and is subsequently tamed, sometimes using cruel tactics, into a more appropriate woman for the society she lives in.

*Much Ado About Nothing* is another play in which the taming of an inappropriate woman is central to the plot. Beatrice, although slightly more accepted than Kate, is a standoffish and stubborn woman who always tries to control the conversation. Her personality goes against the nature of early modern English society and her uncle, Leonato, must apologize for her unusual talkativeness to strangers. “You must not, sir, mistake my niece,” (Much Ado 1.1.49) he says to the messenger that comes to Messina to report the arrival of the Prince. Benedick even comments on Beatrice’s mouth calling her “a rare parrot-teacher” and saying “I would my horse have the speed of your tongue” (1.1.113, 115). As well as being improper for a woman, talkativeness “could also be interpreted as a sign of her sexual promiscuity” (Howard in Greenblatt 137) during the early modern period.

Besides being talkative, Beatrice also uses rough and violent language. She says inappropriate things such as “But how many hath he killed? For indeed I promise to eat all of his killing” (1.1.36-37), something a proper lady would not say. In ceremonial scenes such as this one “in which the niceties of interpersonal behavior are directed by accepted rules” (Gay 143), Beatrice obviously sticks out as a woman who does not follow rules. In fact she makes the rules by giving everyone their cue to talk such as when she says “Speak, Count, ‘tis your cue” and later when she commands Hero to “Speak, cousin. Or, if you cannot, stop his mouth with a kiss” (2.1.266, 271-272).

Beatrice, like Kate, is told “thou wilt never get thee a husband if thou be so shrewd of the tongue” (2.1.16-17) and Benedick hopes she never gets married “So some gentleman or other shall

scape a predestinate scratched face” (1.1.109-110). Beatrice would actually prefer to stay unmarried saying “I had rather hear my dog bark at a crow than a man swear he loves me” (1.1.107-108). One of the reasons she says that she will not marry is that “Adam’s sons are my brethren” (2.1.53-54). In this statement she is essentially saying that she is equal to a man, something that was not accepted in early modern England. It was beyond dispute that women occupied a lower place on the Great Chain of Being and Beatrice is not willing to accept that. While single women had the power to inherit, sign contracts, make a will, sue, and enter in various other economic situations, married women had no such power (Greenblatt 9-10). If she were married she would lose the little power she has. The idea of female inferiority was so ingrained in the early modern English culture that “justifications of female subordination were reinforced by Christian doctrine in both its Catholic and Protestant forms” (McDonald 255). *An Homily on the State of Matrimony* (1563) preached on the roles of wives and husbands and how they are important for the continuing order of the state. Although the *Homily* says that a husband should use “measurableness [temperance] and not tyranny” when ruling his household, it also says that “woman is a weak creature” and that she should “acknowledge the authority of the husband” (*An Homily* in McDonald 286-287). Beatrice would have trouble acknowledging the authority of her husband because, according to Hero, “nature never framed a woman’s heart of prouder stuff than that of Beatrice” (3.1.49-50). Beatrice even says “Would it not grieve a woman to be overmastered with a piece of valiant dust?” (2.1.51-52), implying that she sees men as dust and therefore could not submit to one.

Hero “reflects the limitations of her culture” (Berger 305) by being a docile and good natured woman, the opposite of Beatrice. It is her task to gull Beatrice into believing Benedick loves her. During this scene Hero puts into words the way all the characters feel about Beatrice when she describes why Benedick should not announce his love. Although Hero is supposed to be making up the story, it is apparent that “the vigor with which she berates her cousin suggests that she is doing more than pretending for Beatrice’s benefit” (Berger 305). She says “disdain and scorn ride sparkling in her eyes” and “she cannot love, nor take no shape nor project of affection” (3.1.51, 54-55). She points out how abnormal Beatrice is and how unnatural her behavior is but she also says that she would never tell Beatrice this to her face because “If I should speak she would mock me into air” (3.1.74-75). Instead of outwardly telling Beatrice that she is abnormal, she tells Ursula her opinions, which she knows Beatrice will hear.

It seems that Beatrice is not aware of just how shrewish she is until she hears Hero and Ursula's conversation. "Can this be true? Stand I condemned for pride and scorn so much?" (3.1.108-109) she asks herself as if she had no idea how proud and forward she is. She even seems embarrassed that she is thought of as such a shrew. She resolves to change herself: "Contempt, farewell; and maiden pride, adieu" (3.1.110) she says and in the following acts she is less talkative and does not give directions to everyone. The news that Benedick loves her also seems to give Beatrice incentive to change. "And, Benedick, love on. I will requite thee, taming my wild heart to thy loving hand" (3.1.113) she says. As is *The Taming of the Shrew*, the idea of subjugating a woman is compared to training a hawk and in this case Benedick's love is doing the taming. Throughout the play Beatrice tries to avoid marriage but in the end she conforms to the "social conspiracy" (Greenblatt 1386). Beatrice is tamed out of love. Hero cares for Beatrice enough to trick her into loving Benedick which in turn softens Beatrice.

Over all, the subjugation of Beatrice in *Much Ado About Nothing* is much more light hearted than that of Kate in *The Taming of the Shrew*. Kate is publicly humiliated on her wedding day and tormented by Petruccio while Beatrice is only embarrassed slightly and in private at that. In the end, Beatrice's submission to marriage can be seen as something for her own good because she and Benedick love each other in the end while Kate's taming is more like brainwashing and doesn't really seem to benefit her in any way. By the end of *The Taming of the Shrew* there is a feeling of "constriction and loss" because Kate does not seem happy in her marriage, only obedient. Beatrice's situation leaves a feeling of contentment because "the friction between Beatrice and Benedick can be turned into mutual pleasure" (Greenblatt 1386) through their marriage.

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### Cole's Legacy Emerges in Landscape

It is a common natural occurrence to be intoxicated by the splendor of the Hudson Valley. Early Hudson Valley admirers were anything but secret about their tender affections for the area like Hudson River School of Art founder, Thomas Cole and pioneer American landscape architect, A.J Downing. Despite the insulting notion perpetuated by the English that distastefully shadowed the American landscape, Cole patriotically showcases these "treasures" of American scenery by enumerating each aspect into categories of wildness, mountains, water, forests and sky. Early, as well as contemporary estate owners of the Hudson Valley appreciate these picturesque elements by embracing, enveloping, embellishing and elaborating these core aspects with the regal Hudson River as the focal point.

The five aesthetic elements that were developed in Europe were the sublime, the picturesque, the beautiful, the ennobling effects of beauty and its associations. Edmund Burke, a European who wrote a lot on philosophy, writes of these elements in *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and the Beautiful*. When writing of the sublime he notes, "Whatever is fitted in any sort to excite the ideas of pain and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the sublime; that is, it is productive of the strongest emotion which the mind is capable of feeling." Many Europeans

looked down on the American scenery because it lacked awesome landscapes that would cause such a feeling of the "sublime". James Fenimore Cooper, author and embracer of Hudson Valley landscape, uses the character, Corny Littlepage, in his book, *Satanstoe*, to defend the Hudson Valley from what Edmund Burke poses. He writes, "From what I have read and heard, I am now fully aware that the grandest of our American scenery falls far behind that which is to be found among the lakes and precipices of the Alps, and along the almost miraculous coast of the Mediterranean, and I shall not pretend that the view I now behold approached many, in magnificence, that are to be met with in those magic regions. Nevertheless, it was both grand, and soft, and it had one element of vastness, in the green mantle of it's interminable woods, that is not often to be met with, in countries that have long submitted to the sway of man." (Cooper 314)

Another type of beauty that a landscape can fall into, described by Edmund Burke, is the "beautiful". The colors associated with being beautiful are pastel in nature and beautiful objects are usually small, compared to the sublime which are grandiose, dark, obscure and vast. The picturesque, described by William Gilpin who was the English advocate of the theory, have the qualities of being rough and irregular and orange colors. The notion of the picturesque and the beautiful can be greatly appreciated in The Hudson River School of Art's portfolio of paintings. Founder of the Hudson River School, Thomas Cole, was familiar with the writings of William Gilpin and incorporated Gilpin's theories in his art. He depicted wilderness scenes where elements of the picturesque are hard not to miss. An example where the picturesque element is greatly displayed is Cole's *Falls of Kaaterskill* which depicts an autumn landscape doused with orange hues and a double waterfall complete with dead, crooked and irregular trees.

Thomas Cole dissects the American scenery into five simple but

significant sections for his readers to visualize and then devour. He believed that nature should not be altered. He deviated from the traditional European style of painting and gave his patrons a satisfying and fresh look at the scenery which surrounded Americans that had been barely altered. He divides these elements into categories of wildness, mountains, forests, sky and water, in his *Essay on American Scenery* where "the writer placed more confidence in its overflowing richness, than in his own capacity for treating it in a manner worthy of its vastness and importance."(Cole 1)

Cole writes, "yet the most distinctive, and perhaps the most impressive, characteristic of American scenery is its wildness...because in civilized Europe the primitive features of scenery have long since been destroyed or modified."(Cole 3) He argues that one can be affected emotionally in a greater way by a scene that has remained untouched by the hand of man.

On the subject of mountains, Cole defends our smaller mountain ranges from the teasing of Europeans by saying, "...but the Catskills, although not broken into abrupt angles like the most picturesque mountains of Italy, have varied, undulating and exceedingly beautiful outlines--they heave from the valley of the Hudson like the subsiding billows of the ocean after a storm." (Cole 3) Picture #1 displays the grandeur of the lovely Catskill mountains on an overcast autumn day from Olana State Historic Site in Hudson, NY.

The words used to describe the forests of the Hudson Valley in Cole's essay is equivalent to viewing his paintings of the picturesque landscapes he depicted in his paintings like *View of Boston*. He writes, " In the American forest we find trees in every stage of vegetable life and--the slender sapling rises in the shadow of the lofty tree, and the giant in his prime stands by the hoary patriarch of the wood--on the ground lie prostrate decaying ranks that once waved their verdant heads in the sun and wind. These are circumstances productive of great

variety and picturesque ness--green umbrageous masses--lofty and scathed trunks--contorted branches thrust athwart the sky--" (Cole 4) In fact, Cole was fond of the notorious picturesque tree which commonly dominated the foreground of his masterpieces and influenced other Hudson Valley artists like Henry David Thoreau. In his classic book, *Walden*, he remarks, "The future inhabitants of this region, wherever they may place their houses, may be sure that they have been anticipated. An afternoon sufficed to lay out the land into orchard, wood-lot, and pasture, and to decide what fine oak or pine should be left to stand before the door, and whence each blasted tree could be seen to the best advantage." (Watters 1) A perfect example of a "blasted tree" in a romantic Hudson Valley landscape would be pictures #2 and #3 taken at Wilderstein Historic Site in Rhinecliff, NY.

On the next vital area of concentration Cole records, "And if he who has traveled and observed the skies of other climes will spend a few months on the banks of the Hudson, he must be constrained to acknowledge that for variety and magnificence American skies are unsurpassed. Italian skies have been lauded by every tongue, and sung by every poet, and who will deny their wonderful beauty? At sunset the serene arch is filled with alchemy that transmutes mountains, and streams, and temples, into living gold. But the American summer never passes without many sunsets that vie with the Italian and many still more gorgeous--that seem peculiar to this clime." (Cole 5)

Cole writes on the subject of our glorious "voice(s) of the landscape" (Cole 4); "In the Kaaterskill we have a stream, diminutive indeed, but throwing itself headlong over a fearful precipice into a deep gorge of the densely wooded mountains--and possessing a singular feature in the vast arched cave that extends beneath and behind the cataract." (Cole 4) Clara Ingersoll Waring of a prestigious family on the west side of the Hudson River writes in *Faun-Fa: A*

*Story of the Catskill Mountains,*

"But the grandest sight of all,

Was the mountain waterfall.

Where a wandering streamlet led,

From the lake, to where, o'erhead,

Here the mighty hills divide,

In an archway deep and wide,

Taking thence a sudden leap,

Down into the ravine deep" (Mountain Top Historical Society 73)

Cole continues to praise the splendor of the Hudson Valley area when he writes about water, particularly about the great Hudson River, "The Hudson for natural magnificence is unsurpassed. What can be more beautiful than the lake-like expanses of Tappan and Haverstraw, as seen from the rich orchards of the surrounding hills? hills that have a legend, which has been so sweetly and admirably told that it shall not perish but with the language of the land. What can be more imposing than the precipitous Highlands; whose dark foundations have been rent to make a passage for the deep-flowing river?... The lofty Catskills stand afar off-the green hills gently rising from the flood, recede like steps by which we may ascend to a great temple, whose pillars are those everlasting hills, and whose dome is the blue boundless vault of heaven... the Hudson has its wooded mountains, its rugged precipices, its green undulating shores--a natural majesty, and an unbounded capacity for improvement by art. Its shores are not besprinkled with venerated ruins, or the palaces of princes; but there are flourishing towns, and neat villas, and the hand of taste has already been at work." (Cole 4)

William Cullen Bryant, depicted in Hudson River School artist Asher B. Durand's *Kindred Spirits*, and Cole's "frequent walking companion in the

Catskills”(Bryant 1) wrote a sonnet to Cole on the subject of his landscape philosophy and names every essential element listed in Cole's essay . He endearingly composes *To an American Painter Departing for Europe* in which he writes:

“Thine eyes shall see the light of distant skies:  
Yet, Cole! Thy heart shall bear to Europe's strand  
A living image of thy native land,  
Such as on thy own glorious canvass lies.  
Lone lakes--savannahs where the bison roves--  
Rocks rich with summer garlands--solemn streams--  
Spring bloom and autumn blaze of boundless groves  
Fair scenes shall greet thee where thou goest--fair,  
But different--every where the trace of men,  
Paths, homes, graves, ruins, from the lowest glen  
To where life shrinks from the fierce Alpine air.  
Gaze on them, till the tears shall dim thy sight,  
But keep that earlier wilder image bright. (Bryant 1)

Early American philosophers and artists were not the only people in North America who appreciated the wealth of beauty that the Hudson Valley displayed throughout the seasons. The privileged upper class who had settled in the area also enjoyed taking in the sites that the bountiful valley flaunted and often built their grand estates right on the river or close enough to it that they could view it's grandeur. Most of the estates that the public can view today like Montgomery Place, Wilderstein and Olana have been around for hundreds of years but the private nouveau riche of today's world also strive to capture that same view that has been cherished throughout history.

Andrew Jackson Downing influenced the landscape design at

Montgomery Place for Janet Livingston Montgomery and the estate, located in on the Rhinebeck banks of the Hudson River, featured a stiff landscape plan that was in fashion at the time. The landscape includes "scenic views of the Hudson River and of the Catskill Mountains beyond [that] are unforgettable"( Historic Hudson Valley). When Edward Livingston inherited the estate from his sister, Janet, he and writers, artists, architects and gardeners transformed the living canvas into an early nineteenth century Romantic landscape. With help from Downing, the family added picturesque elements that embraced the natural qualities of the Hudson Valley like walking paths and rustic benches where the full array of nature in the rough could be internally absorbed. Edward Livingston's wife Louise drew up a conservation agreement with her neighbor where both parties acquiesced "never to use the most picturesque stretch of the river for industrial purposes" (Historic Hudson Valley). This monumental agreement was one of the Hudson River's premier preservation acts that stressed the importance of the decorative aspects of the river. Janet Livingston, being the pioneer of this episode, admiringly said, "Our elegant Mountains which bound the River so fantastically and varied, and our boasted Hudson which brings to its banks all we can desire is sufficient to gratify any American Woman"(Smith 18). During the early twentieth century the new caretaker and owner, Violetta White Delafield, who was the wife of a Livingston descendant and avid horticulturist, transformed the gardens again and incorporated more picturesque elements like the "rough garden" which included a stream and waterfall and native woodland plants that can be viewed in picture #4, a conservatory and flower beds that could be enjoyed every year.

Another grand estate situated on the river, nestled in a hamlet of Rhinebeck called Rhinecliff, is Wilderstein. Wilderstein is one of the most well-preserved and fully intact historic Hudson River estates that has survived

throughout the generations, beginning in 1852. The house's exterior and interior design fluctuated when the original designer, Thomas Suckley, left the estate to his son Robert Bowne Suckley upon his death. Frustrated with the house's design, Suckley turned his affections to the landscape and hired the protégé of Andrew Jackson Downing, Calvert Vaux, who was also Frederic Church's advisor at Olana and former partner of Frederick Law Olmstead, in 1891. Vaux, working with his son Downing Vaux, planted trees and shrubs including redbuds, gingkos, fringe trees, hydrangeas as shown in picture #5, spirea, mock oranges and jet bead. Naturally, being Andrew Jackson Downing's protégé, Vaux utilized the picturesque essence handed down to him by his teacher and created picturesque trails, gazebos and viewing sites that framed the mighty Hudson River shown in pictures #6 and #7. The planting plan "framed the extraordinary river views and the vistas from the lawns and spacious porches of the house."(Smith 29) Again, the importance of the Hudson River for aesthetic pleasure is reiterated as "the sitting of the house at an angle to the river was done on purpose so that, when the trees were cut away, one could look straight down the Hudson River. Just visible through the cutting is 'Umbrella Point' from which, on a clear day, one can see the Shawangunk Mountains"(Dwyer 86) This turned out to be his last private commission before his tragic death in 1895.

A Persian-style treasure sits atop a hill overlooking the Hudson River from the east. This is the home and studio of Frederic E. Church who was the a student of the Hudson River School as well as student of Thomas Cole's and "a leader among American artists in a period that has been described as the most prosperous period for artists in the history of American Art" (National Park Service/Hudson River Valley Commission 53). The piece of land on which this "castle-like" structure commands was purchased by Church after a passion for the Hudson Valley could not be subsided and his need to sequester "the most

spectacular of all Hudson River views”(Smith 33) was secured circa 1860. It was here he expanded on his “a three-dimensional work of art; a totally integrated environment embracing architecture, art and landscape”(Olana State Historic Site) . He painted Catskill Mountain Views from the Home of the Artist in 1871 which depicted the view from his dwelling. After completing the construction of the unique house with help from Calvert Vaux, raising a family, and before battling arthritis in his later years after his romantic-realist painting technique faded out of style, Church turned to his landscape as his canvas when he could barely paint. Church focused on his grounds to be the epicenter of his creative outlet and “composed landscape scenes contrasting broad pastoral vistas with woodland intimacy, sun-dappled carriage roads with dark, enveloping forests, the blue distant mountains with the bright waters of the lake and river” (Smith 36) that can be appreciated in picture #8 and picture #9. He used native plant material for his miles of roads that he implemented and kept the picturesque theme alive in his visions. The landscapes Church was used to painting with his teacher became the epitome of the exotic picturesque and the reality of it was just outside his window. This is displayed in picture #10. In his most quoted statement on his landscape talents he affirms, “I can make more and better landscapes in this way than by tampering with canvas and paint in the studio”(Dwyer 48).

The wealthy moguls of today do not share the experience of attaining and conquering virgin land on the Hudson River as the earlier affluent families had. One might find small parcels of land snuggled on the Hudson or an already established real estate. Millbrook, located in lower eastern Dutchess County, is reputable for the more modern well-off to reside. Millbrook’s residents that are wealthy are called “hill-toppers” because they strive to view that splendid bosom of a valley where in its cleavage exist the prestigious great waterway called the

Hudson River. Picture #11 displays a private estate, whose owner wishes to remain anonymous, that invokes the same criteria that the traditional, deep-rooted and high-status families applied to their own estates during the early years of our country. This estate's postcard view is "the epitome of 'grand scenery', where the relationship between the panoramic and titanic powers of landscape aesthetics and preservation worth is seen to work most effectively" (O'Brien 9). The rolling hills are interrupted by an abrupt wildness with a vast sky backdrop the sublime pastel lavender mountains.

The picturesque theory is still applicable when designing a landscape. Our predecessors have set the tone for which the Hudson Valley is famed and for one to stray from that ideal is uncharacteristic and undesirable among the local population. As tourists continue to annually flock to these preserved historic sites for a sample of what life was like centuries ago, one might realize that these sites have not changed drastically. History will repeat itself and this is demonstrated in our style of landscape, be it new or old and the aesthetic theory which was posed by Cole is still appreciated by visitors to the area and is inborn to the natives of the valley.







*Around the Corner, Ahead of the Curve*

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