BEACON 2003

FRIDAY, JUNE 6th

A
CONFERENCE
FOR
STUDENT SCHOLARS
AT
TWO-YEAR COLLEGES

ULSTER COUNTY COMMUNITY COLLEGE
Stone Ridge, New York

Steering Committee Members 2003

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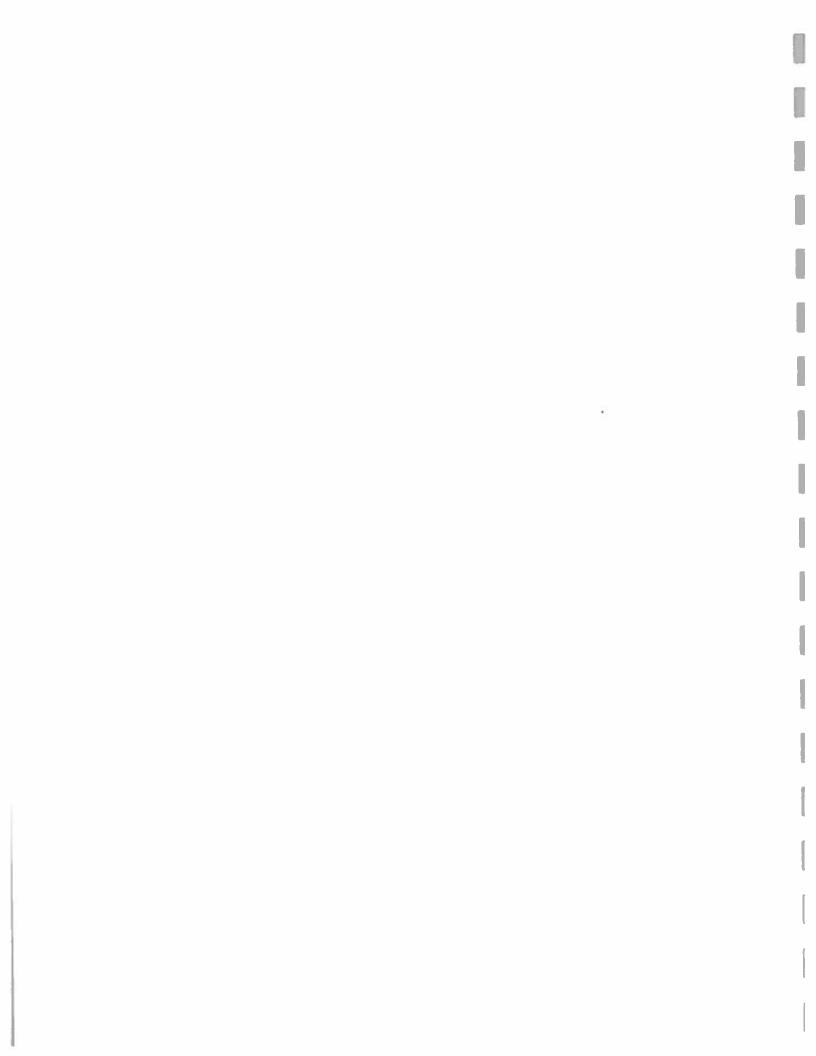
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INTRODUCTION

Beacon '03

is a conference for student scholars at two-year colleges. This conference is funded by a coalition of two-year community colleges. Ulster County Community College is the host of this event. It is the eleventh annual Beacon Conference. Sponsoring colleges are Bergen Community College (NJ), Borough of Manhattan Community College (NY), Brookdale Community College (NJ), Bronx College (NY), Columbia-Greene Community College (NY), Community College of Philadelphia (PA), Dutchess Community College (NY), Erie Community College (NY), Frederick Community College (MD), Harford Community College (MD), Lehigh Carbon Community College (PA), Montgomery Community College (MD), Northampton Community College (PA), Ocean County College (NJ), Queensborough Community College (NY), Reading Area Community College (PA), Rockland Community College (NY), Sullivan County Community College (NY), Ulster County Community College (NY), and Westchester Community College (NY).

Panels of students presented papers on diverse subjects in the various fields of inquiry explored at two-year colleges. Each panel was judged by an expert in the fields, and the outstanding presenter on each panel, along with his or her faculty mentor, were awarded prizes of $100 each.

In this booklet, the most outstanding paper in each panel are reprinted. In the overview of panels, these presentations are indicated by an asterisk.

Session I: Education
9:00 a.m. – 10:30 a.m.
Hardenbergh (HAR) 226

Readers: Dr. Elizabeth Tyler Bugaighis (Northampton)
                  Prof. Kathleen Benyo (Northampton)
                  Dr. Nancy Leech (Rockland)

Judge: Prof. Robert Thabet (Mount Saint Mary College, Newburgh)

Moderator: Prof. Jane Claffy (Ulster)

Presenters:

                  *Scott Schneider: "From Innocence to Belligerence: An
                  Examination of the Social and Psychological Factors that Create
                  Bullies Out of Children"
                  Mentor: Dr. Kathleen McCormick (Ocean)

                  Erica Fleming: "Sex, Television, and Adolescents"
                  Mentor: Dr. Nils Hovik (Lehigh Carbon)

                  Stephen Whitehead: "The Positive and Negative Effects of
                  Inclusion"
                  Mentor: Prof. Franklin A. Reusch Jr. (Ocean)
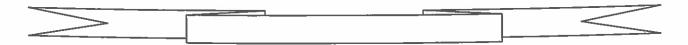
Panel Sponsor:
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v

Readers: Prof. Donna Acerra (Northampton)
                 Dr. Sheldon Avery (Harford)
                 Prof. Sue Ellen Liebman (Community College of   Philadelphia)

Judge: Prof. Kathleen Wyand (Mount Saint Mary College, Newburgh)

Moderator: Prof. Robert Pucci (Ulster)

Presenters:

         Liliana Smigen-Rothkopf: "The Effects of English Expansion on
         the Irish Harp"
         Mentor: Dr. Mary T. Furgol (Montgomery)

         *Christian Fils-Aime: "The Vice of Morality: The Paris Peace
         Negotiations of 1919"
         Mentor: Dr. Mira Sakrajda (Westchester)

         Bernie Gouck: "Gathering National Support in Wartime"
         Mentor: Prof. John Lawlor (Reading Area)
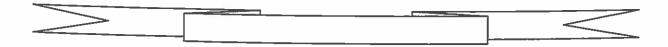
         #Sara Pendergast: "The Activities and the Aesthetics of the
         Courts of Heian Japan and Elizabethan England: A Comparison"
         Mentor: Dr. Beth Kolp (Dutchess)

         #unable to attend

Session I: Interdisciplinary Studies
9:00 a.m. – 10:30 a.m.
Hardenbergh (HAR) 102

Readers: Dr. Beth Cunin (Rockland)
                  Prof. Sharon Hendriksen (Northampton)
                  Prof. Susan Moore (Dutchess)

Judge: LTC Richard H. Hoff, Ph.D. (United States Military
                  Academy, West Point)

Moderator: Prof. Dennis Swauger (Ulster)

Presenters:

                  *Stephan F. Faherty: "Holocaust Past. Holocaust Future?
                  Modern Weapons, Modern War, and Modern Dangers"
                  Mentor: Dr. Judy Pearce (Montgomery)

                  Marlene A. Nardone: "A Lesson in Jurisprudence"
                  Mentor: Dr. Dorothy J. Altman (Bergen)

                  Daniel Cicone: "Connections Between Life and Thought in
                  Dürrenmatt's *The Visit*"
                  Mentor: Prof. Loretta E. Henderson (Harford)

Session I: Literature – Group A
9:00 a.m. – 10:30 a.m.
Hardenbergh (HAR) 205

Readers: Prof. Sandra Del Cueto (Northampton)
Prof. Sandra Longley (Columbia-Greene)
Prof. Allison Whithenberg (Community College of Philadelphia)

Judge: Prof. Michael Joyce (Vassar College, Poughkeepsie)

Moderator: Prof. Ellen Robbins (Ulster)

Presenters:

*Joanna Caccavo: "The Juxtaposition of Romanticism and Realism in Gustave Flaubert's *Madame Bovary*"
Mentor: Dr. Elaine M. Toia (Rockland)

Robert Robson: "Sins of the Father"
Mentor: Dr. Mira Sakrajda (Westchester)
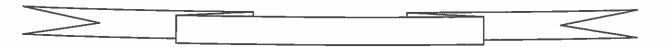
Jonathan Maresco: "Iago and Judge Holden: A Comparative Study"
Mentor: Dr. Nancy Hazelton (Rockland)

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Session I: Multicultural and International Studies
9:00 a.m. – 10:30 a.m.
Hardenbergh (HAR) 105

Readers: Dr. Martin Lecker (Rockland)
Prof. Stephanie Roberg-Lopez (Dutchess)
Prof. Geraldine Ryder (Ocean)

Judge: Dr. Shaheed Mohammed (Marist College, Poughkeepsie)

Moderator: Prof. Dolores Quiles (Ulster)

Presenters:

*Rachel M. Smith: "Female Genital Surgeries: Cultural or Savage?"
Mentor: Prof. Elizabeth Bodien (Northampton)

Franca Bartholomew: "Pushing Past the Tears: The Cost of the American Dream"
Mentor: Dr. Dorothy Altman (Bergen)

Bernard E. Cross: "Yukoku: Bunburyodo: Patriotism: The Duality Between Literature and the Sword"
Mentor: Prof. Loretta E. Henderson (Harford)

Session I: Philosophy and Religious Studies
9:00 a.m. – 10:30 a.m.
Dewitt Library (DEW) 019

Readers: Prof. Dean Nelson (Dutchess)
              Prof. Thomas Davis (Ulster)
              Dr. Gary Owens (Harford)

Judge: Prof. Timmian Massie (Marist College, Poughkeepsie)

Moderator: Ms. Pam Veach (Ulster)

Presenters:

Kristen H. Kristensen: "My Philosophy of Life"
Mentor: Dr. Robert B. Mellert (Brookdale)

*Elizabeth Baker: "Is Ignorance Truly Bliss?"
Mentor: Dr. Nancy Hazelton (Rockland)

Christopher Romanoski: "Sergeant Siddhartha: Being a
Buddhist in the United States Army"
Mentor: Rev. Linda Lewis Riccardi (Reading Area)

#Yosef Salvay: "Ethical Objectivism versus Ethical Relativism:
The Predominance of Objectivism"
Mentor: Prof. Clifford Garner (Rockland)

#Presenting in Psychology Panel

Session II: The Arts
10:45 a.m. – 12:15 p.m.
Hardenbergh (HAR) 104

Readers: Prof. Barbara Farley (Ocean)
                    Dr. Nancy Hazelton (Rockland)
                    Prof. Doreen Smith (Northampton)

Judge: Prof. John Williams (State University of New York, New Paltz)

Moderator: Prof. Robert Pucci (Ulster)

Presenters:

Peter Tascio: "What do We Need This For? Mathematical Connections Found in Music"
Mentor: Prof. Albert Liberi (Westchester)

Desiree Blackwell: "Drawing Connections between Art and Psychology"
Mentor: Dr. Mira Sakrajda (Westchester)

*Heather Pisani: "Japanese Scroll Painting and *The Tale of Genji*"
Mentor: Dr. Beth Kolp (Dutchess)

Session II: Communications, Media Studies, Speech, and Popular Culture
10:45 a.m. – 12:15 p.m.
Dewitt Library (DEW) 019

Readers: Dr. Mary Ellen Carr (Ocean)
Prof. Robert Hays (Northampton)
Prof. Andrew Jacobs (Rockland)

Judge: Dr. Jerome Wyant (Mount Saint Mary College, Newburgh)

Moderator: Prof. Dolores Quiles (Ulster)

Presenters:

*David King: "The Gift of Music: The Artist vs. MP3 and a Changing Marketplace"
Mentor: Prof. Tom Anderson (Montgomery)

Nicholas Tedesco, Jr.: "Spam: Food for Thought"
Mentor: Prof. Harold Hultman (Montgomery)
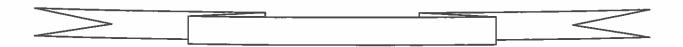
Adrienne S. Reed: "Ethnographic Videography: The Changing Face of the Storyteller"
Mentor: Prof. John Lawlor, Jr. (Reading Area)

Session II: Gender Studies
10:45 a.m. – 12:15 p.m.
Hardenbergh (HAR) 102

Readers: Dr. Beth Kolp (Dutchess)
Prof. Barbara Love (Northampton)
Dr. Carrie Myers (Lehigh Carbon)

Judge: Dr. Denise Bauer (State University of New York, New Paltz)

Moderator: Dr. Craig Kleinman (Ulster)

Presenters:

*Lu Ann Nash: "Is the Omission of Women's Rights the Driving Force in the AIDS Epidemic in Africa?"
Mentor: Prof. Donna M. Allen (Erie)

Alicia Maestri: "Anything But Ordinary"
Mentor: Prof. Cathy Hoult (Ocean)

Kristen Gutto: "The Evolution of Western Woman"
Mentor: Prof. Cathy Hoult (Ocean)

Readers: Dr. Mary Ellen Byrne (Ocean)
                    Prof. Loretta Henderson (Harford)
                    Prof. Linda Novak (Lehigh Carbon)

Judge: Dr. Yvette Louis (Vassar College, Poughkeepsie)

Moderator: Prof. Ellen Robbins (Ulster)

Presenters:

Marie Osborn: "The Intertwinement of Dualistic Principles"
Mentor: Prof. David Barton (Dutchess)

*Tyler M. Carbone: "Childhood in Shakespeare's England: An Analysis of *A Winter's Tale*"
Mentor: Dr. Nancy Hazelton (Rockland)
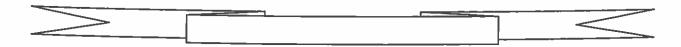
Rachel Kaplan: "Cross-Dressing for Power In Shakespeare's Plays: Portia and Viola"
Mentor: Dr. Nancy Hazelton (Rockland)

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Session II: Natural and Physical Science
10:45 a.m. – 12:15 p.m.
Hardenbergh (HAR) 103

Readers: Dr. Kenneth Beem (Montgomery)
                    Prof. Eric De Angelo (Lehigh Carbon)
                    Prof. Charles Rinehimer (Northampton)

Judge: Dr. Daniel Freedman (State University of New York, New Paltz)

Moderator: Prof. Steven Schimmrich (Ulster)

Presenters:

*Dennis Albert Lindsell, Jr.: "Effects of Intermittent
Hypoxication on Haematological Values in Non-athletes: Part 1"
Mentor: Dr. George Krasilovsky (Rockland)

Anna Ackner: "Reintroduction of the Gray Wolf to Yellowstone
Park: Last Hope for a Species?"
Mentor: Dr. Annelle R. Soponis (Reading Area)

Shiva K. Avvari: "Synthesis of Polysiloxane Stabilized Palladium
Colloids and Evidence of Their Participation in Silaesterification
Reactions"
Mentor: Dr. Moni Chauhan (Queensborough)

#Steven Kluger: "The Effect Of Biocompost on Plant Growth"
Mentor: Dr. George Krasilovsky

#unable to present

Session II: Psychology
10:45 a.m. – 12:15 p.m.
Hardenbergh (HAR) 105

Readers: Prof. Orlando Correa (Harford)
Prof. Tom Frangicetto (Northampton)
Dr. Marianne Skau (Ulster)

Judge: Dr. Susan Trumbetta (Vassar College, Poughkeepsie)

Moderator: Prof. Paul Rubin (Ulster)

Presenters:

*MaryAnne E. Silverstrim: "Post Traumatic Stress Disorder and
the Limbic System"
Mentor: Dr. Peter Phipps (Sullivan)

Becky Tesser: "Social Phobia: Definitions, Causes, Symptoms,
and Treatment"
Mentor: Dr. Beth Cunin (Rockland)

Yosef Salvay: "Multi-User Domains: Sociodramatic Conflict
Resolution"
Mentor: Dr. Joseph Matthew Pirone (Rockland)

Session III: Allied Health and Nursing
1:30 p.m. – 3:00 p.m.
Burroughs (BUR) 120

Readers: Dr. George Krasilovsky (Rockland)
Prof. Cynthia Terry (Lehigh Carbon)
Prof. Darlene Walsh (Orange)

Judge: Dr. Mark Condon (New York University School of Medicine, Tuxedo)

Moderator: Prof. Nancy Trautman (Northampton)

Presenters:

Kathleen Falk: "Type 1 Diabetes: Past, Present and Future"
Mentor: Dr. Mira Sakrajda (Westchester)

*Sandra Taurisano: "Reiki: Healing by Accessing Universal Life Energy"
Mentor: Dr. Mira Sakrajda (Westchester)

Kate Ruth Linton: "Knowing By Heart: Cellular Memory in Heart Transplantation"
Mentor: Prof. Harold Hultman (Montgomery)

Panel Sponsor:
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Session III: Business and Economics
1:30 p.m. – 3:00 p.m
Hardenbergh (HAR) 102

Readers: Dr. Matthew Connell (Northampton)
Dr. James Mabry (Dutchess)
Prof. Rachel Plaksa (Lehigh Carbon)

Judge: Mr. Richard J. Merck, CPA (Merck CPAs & Consultants, Kingston)

Moderator: Dr. William Sheldon (Ulster)

Presenters:

Ryan Munz: "The Influence of Machiavelli on Modern Business"
Mentor: Dr. Frank J. Fato (Westchester)

*Brian Gil: "The Secret Betrayal: How Corporate Insiders Rigged the Markets and Robbed the Public Blind"
Mentor: Prof. Sabrina Caine (Erie)
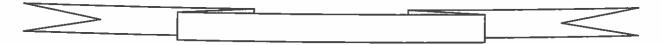
Kelsey Henning: "Poverty and Equality: The Effects of Government Policies and an Ideological Solution"
Mentor: Dr. Nancy Hazelton (Rockland)

Panel Sponsor:
Dr. Matthew Connell

Session III: Social Justice
1:30 p.m. – 3:00 p.m
Hardenbergh (HAR) 105

Readers: Prof. Jack Gasper (Lehigh Carbon)
Prof. Debra Moroz (Northampton)
Dr. Elaine Padilla (Rockland)

Judge: Prof. Eileen Leonard (Vassar College, Poughkeepsie)

Moderator: Prof. Kathleen Bruegging (Ulster)

Presenters:

*Athanasios Cakiades: "Small-Scale Tolerance is the Anti-Hate"
Mentor: Dr. Dorothy Altman (Bergen)

Patricia Conroy Hewitt: "The Age of Age Discrimination"
Mentor: Dr. Mira Sakrajda (Westchester)

Lonnie Tegen: "Stripped of Life by Capital Punishment: Cruel
and Unusual Torture of American Inmates"
Mentor: Prof. Marilyn R. Kralik (Ocean)

Session III: Social Sciences, Anthropology, Political Science, and Sociology
1:30 p.m. – 3:00 p.m
Hardenbergh (HAR) 104

Readers: Prof. Tom Anderson (Montgomery)
                     Dr. Lilli Downes (Harford)
                     Dr. Nils Hovik (Lehigh Carbon)

Judge: Ms. Cheryl Qamar, CSW (Ulster County Mental Health,
                     Kingston)

Moderator: Prof. Arthur Corradetti (Queensborough)

Presenters:

                     Nara Gomes: "Misconceptions and Misreadings of Marxism"
                     Mentor: Dr. Frank Fato (Westchester)

                     *Nancy L. Sacckette: "Nothing "Really" Exists Until the White
                     Man Discovers It: A Look at the Kikuyu Tribe from the Movie _Out
                     of Africa_"
                     Mentor: Prof. Elizabeth Bodien (Northampton)

                     Eric S. Hopewell: "Influences on Construction of the Religious
                     Clause of the First Amendment"
                     Mentor: Prof. John M. Lawlor (Reading Area)

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Session III: Technology and Technical Studies
1:30 p.m. – 3:00 p.m
Hardenbergh (HAR) 103

Readers: Dr. Gerald Janauer (Ulster)
                 Prof. Claude Suhl (Ulster)
                 Prof. Donald Terpening (Ulster)

Judge: Dr. Neil Fitzgerald (Marist College, Poughkeepsie)

Moderator: Prof. Donald Terpening (Ulster)

Presenters:

                 Mark Folsom: "Documenting Social Trails Along the Trapps
                 Cliffs in the Mohonk Preserve, with Impact Comparisons to
                 Other Local Climbing Areas"
                 Mentor: Prof. Paul Rubin (Ulster)

                 *Stephanie Evans: "Misfiring the Silver Bullet? Forensic DNA
                 Fingerprinting"
                 Mentor: Prof. Harold Hultman (Montgomery)

                 Judith S. Martinez: "Nanobiotechnology: The New Size of
                 Medicine"
                 Mentor: Prof. Harold Hultman (Montgomery)

Community College and Number of Papers
Submitted to the Beacon Conference 2003

Bergen County Community College (NJ)	4
Borough of Manhattan Community College (NY)	1
Brookdale Community College (NJ)	1
Dutchess Community College (NY)	10
Erie Community College (NY)	3
Harford Community College (MD)	2
Lehigh Carbon Community College (PA)	3
Montgomery Community College (MD)	12
Nassau Community College (NY)	1
Northampton Community College (PA)	9
Ocean County Community College (NJ)	13
Orange County Community College (NY)	2
Queensborough Community College (NY)	3
Reading Area Community College (PA)	5
Rockland Community College(NY)	29
Sullivan County Community College (NY)	2
Ulster County Community College (NY)	2
Westchester Community College (NY)	24

Total Number of Papers Submitted............ 126

Community College and Number of Presenters
Invited to the Beacon Conference 2003

Rockland Community College (NY)	11
Westchester Community College (NY)	9
Montgomery College (MD)	7
Ocean Community College (NJ)	5
Reading Area Community College (PA)	5
Dutchess Community College (NY)	3
Bergen Community College (NJ)	3
Erie Community College (NY)	2
Harford Community College (MD)	2
Northampton Community College (PA)	2
Lehigh Carbon Community College (NY)	1
Brookdale Community College (NJ)	1
Sullivan County Community College (NY)	1
Ulster County Community College (NY)	1
Queensborough Community College (NY)	1

Bergen Community College

Montgomery Community College

Borough of Manhattan Community College

Northampton Community College

Brookdale Community College

Ocean County College

Bronx Community College

Queensborough Community College

Columbia-Greene Community College

Reading Area Community College

Community College of Philadelphia

Rockland Community College

Dutchess Community College

Sullivan County Community College

Erie Community College

Ulster County Community College

Frederick Community College

Westchester Community College

Harford Community College

Lehigh Carbon Community College

Education
Outstanding Presenter/Author: Scott Schneider

Mentor: Dr. Kathleen McCormick
Ocean Community College
College Drive, P.O. Box 2001
Toms River, New Jersey 08754

Judge: Prof. Robert Thabet (Mount Saint Mary College, Newburgh)
Judges Comments: This paper stands head and shoulders above the other two, even though they were excellent works. It reads like the basis for a doctoral dissertation. The author connects his topic to history, spans the globe with his research and perceptively examines one of the great problems of humankind.

From Innocence to Belligerence:
An Examination of the Social and Psychological Factors that Create Bullies Out of Children

Introduction

     Bullying is a serious problem that affects children and adolescents worldwide. Awareness of bullying behavior has increased in the past five years due to the sudden growth of school violence, such as the tragedy at Columbine High School. In order to prevent more incidents of school violence, it is necessary to gain a deeper understanding of the typical bully. This paper explores the environmental, social, and psychological factors that influence children and cause them to become bullies.

     Bullying refers to repeated, unprovoked attacks against a child by another child or group of children. These attacks take the form of physical abuse, verbal abuse, and sometimes theft. Examples of physical abuse commonly practiced by bullies are: hitting, kicking, pushing, holding, and hostile gesturing. Verbal bullying includes: name calling, ostracizing, taunts, sarcasm, threats and intimidation, rejection, humiliation, and some physical gestures such as eye rolling and sticking out the tongue. Theft has also been suggested as a form of bullying in relation to intimidation and loss of control (Weir, 2001; Boulton, 1996; Bullock, 2002; Ma, 2002; Olweus, 1993).

     The victim of the attacks is often perceived as unable to defend himself or herself, and victims commonly are physically weaker than their counterparts. A study performed in the United States found that children in better physical condition are less likely to be bullied than children in poor physical condition. The ratio of 100 to 120 cases of children in good condition compared to those with poor was found to be significant (Ma, 2002). The implications behind bullying are that the bully is physically strong and the victim is chosen because of a perceived weakness. Dan Olweus (1991; 1994), an expert on the topic of bullying, has pointed out that it is not bullying when two children of about equal strength get into a fight. Therefore, ongoing rivalries between children of equal strength are not considered bullying either.   A behavioral problem, like aggression or hyperactivity, in a child can often be traced back to the way in which that child interacts with his or her parents. Parents are the primary shapers of their children's personal values and beliefs. Studies (Zahn-Waxler, Cummings, & Iannotti, 1986; Bullock, 2002) show a lack of empathy is correlated with aggressive behavior. The development of empathy is dependent upon the warmth of a parent and the form of punishment they choose. These variables have a great influence on whether or not their child bullies others.

     Many social practices, such as gender norms, bias the way in which we view a bully. For example, it is much more socially acceptable in America for boys to be physically aggressive than it is for girls. Therefore while it is not as common to find girls displaying physical aggression, that

1

does not mean girls do not participate in bullying behaviors. Boys do comprise a larger percentage of bullies (Zahn-Waxler et. Al., 1986). The media also may contribute to the development of a bully. The debate on whether or not violent video games cause more violence in society has been ongoing (Geen & Quanty, 1977; Russell, 1983; Bensley & van Eenwyk, 2001; Walling, 2002).

In addition to such social factors, many psychological variables contribute to the prevalence of bullying behavior. One issue often associated with problematic behavior is mental disorders. New research (Haynie, Nansel, Eitel, Crump, Saylor, Yu, & Simons-Morton, 2001; Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000) questions the old belief that bullies most commonly suffer from depression (feelings of sadness characterized by inactivity, concentration problems, and feelings of dejection and loneliness), and anxiety (abnormal apprehension and fear accompanied by physiological signs of nervousness and self-doubt), and offers new evidence to prove otherwise. Sleep disorders also have been associated with mental disorders in their ability to affect behavior and indicate possible future bullying problems (Gregory & O'Connor, 2002). Recently, self-esteem issues have been a topic of debate. The old belief that bullies lash out because they have low self-esteem has been challenged by more recent findings showing bullies have high self-esteem, it is their victims that suffer from low self-concept (Bushman & Baumeister, 1998; Zahn-Waxler et. Al., 1986).

Combinations of these environmental and psychological factors result in a widespread problem that may seem to be beyond control. However, several intervention programs have been developed by doctors and specialists that show promise in reversing the incidence of aggressive behavior among children and adolescents. Most programs are based on the principles of teacher and parent involvement, zero tolerance for problem behavior, and educating youths on what is acceptable behavior. Another program focuses on empathy (Zahn-Waxler et. Al., 1986). In general, these intervention programs are developed with the knowledge that bullying is caused by a variety of factors, and it is necessary to address those factors in order to solve the problem.

Profile of a Bully

Approximately one out of five, or twenty percent, of children admit to being bullies (Weir, 2001; Bullock, 2002). This percentage of bullying has been found to be consistent throughout the United States, Australia, England, Japan, Norway, and Spain. About seventy-five percent of children are bullied at least once, with an average of ten percent of children being severely bullied on a regular basis (Bullying, 1997). What common characteristics have been found to appear in bullies? What do these characteristics tell us about the development of bullying behavior in a child/adolescent?

First it must be established that there are different types of bullies. Some bullies use direct physical and verbal aggression, others use indirect methods such as rejection and exclusion. Increasingly with age, bullies rely less on physical intimidation and turn to verbal abuse (Olweus, 1991). One distinct group of children identified as being at risk for severe psychological problems throughout life are bully/victims. Bully/victims are children who are severely bullied and then become aggressors themselves. More than half of bullies report being victims as well; in extreme cases where the subjects fit the following profile they are considered bully/victims (Wolke, Woods, Stanford, & Schulz, 2001). Bully/victims have been found to demonstrate a high level of externalizing behavior; unlike other victims who bottle up their feelings, bully/victims react to their environment like bullies, using physical and verbal aggression. They are often hyperactive and exhibit a large degree of depressive symptoms. These are the children that commonly score low on scholastic competence, they are not accepted socially, they demonstrate poor behavior, and have low self-worth. Bully/victims, like bullies, pick on children they perceive to be weaker for instant gratification. Researchers described this behavior as an Authoritarian Personality Pattern (Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950). Bully/victims often suffer from low self-esteem so they pick on weaker children to strengthen their self-concept. Bully/victims differ from common bullies in their range of social and psychological problems, from low social acceptance to self-contempt (Ma, 2002; Haynie et. Al., 2001).

Olweus (1991), an expert in the area of adolescent psychology, characterized bullies as having

an "aggressive personality pattern combined with physical strength" (p. 425). The typical bully is usually physically strong and views violence as an acceptable way to solve problems. They are sometimes unpopular, but usually are more popular than their victims (Haynie et. Al., 2001). Bullies are recognized as being aggressive towards teachers, family members, and peers. They generally do not do well in school, often demonstrating poorer psychosocial functioning than their peers. With bullies the main problem lies in insufficient academic skills, but bully/victims have problems with academics and social interaction. Both however, have been found to possess the social cognition and mind skills necessary to manipulate their victims (Ma, 2002).

Bullies thrive on controlling and dominating others (Bullying, 1997). They can do this with superior physical strength, higher social status, or exploitation of another child's weaknesses. Bullies sometimes gang up on victims, employing the help of other bullies. These alliances are advantageous for their purposes, but they do not usually constitute sound emotional friendships (Connolly, Pepler, Craig, & Taradash, 2000). Bullies lack a normal degree of emotional control, their situational responses are erratic and unpredictable. They are impulsive in their actions and they report feeling powerful and justified in what they do. For a variety of reasons discussed later, bullies are insensitive to other people's feelings, and they don't consider how their actions may affect other people. Bullying is a selfish act often used for immediate self-gratification (Bullock, 2002; Weir, 2001; Haynie et. Al., 2002.)

Researchers believe many children act out aggression in school because they are witness to it elsewhere in their life, primarily in the home (Weir, 2001; Bullock, 2002). Bullying behavior seems to peak at highly impressionable ages, around seven years old, (second grade), and between ten and twelve years old, (grades six through eight). Bullying behavior in elementary school is a predictor of increased aggressiveness in adolescence and adulthood. Some statistics show bullies identified by the age of eight are six times more likely to be convicted of crimes as young adults, and five times more likely to have serious criminal records by the age of thirty (Haynie et. Al., 2002). Bullies are at an increased risk of becoming involved in delinquent behaviors and substance abuse: drinking, smoking, theft, damage to other people's property, and disobeying authority figures are common characteristics (Haynie et. Al., 2002; Brook & Whiteman, 1992). Because bullies are unsympathetic to other people's feelings they are more likely to damage and steal other people's property. Researchers (Brook et. Al., 1992) hypothesize that an adolescent's lack of emotional control leads to interpersonal aggression, use of drugs, vandalism, and theft for immediate gratification. Aggressive behavior patterns that begin at an early age progress as a person gets older (Brook et. Al., 1992). Thus it is possible that stopping these aggressive patterns at an early age may reduce the overall crime rate.

Some characteristics believed to be common among bullies are being disproved through empirical research. Many people believe that race and wealth are predictors in determining the probability of a child bullying others. However, researcher's attempts at linking bullying tendencies to ethnicity and socioeconomic status have shown only weak ties (Wolke et. Al., 2001; Ma, 2002). Further research in this area would be necessary to find any definitive answers. It is likely that the popularity of these views is based on prejudice and can be disproved through empirical study.

To understand bullies it is necessary to understand the motivation that lies behind bullying. Research from various fields of science has been used to analyze the drive underlying aggressive acts and identify several key motivations as well as environmental factors. Sociobiologists (Zahn-Waxler et. Al., 1986) believe aggression to be a part of human genetic makeup, a characteristic common among all mammals. In both humans and animals, a threat to survival or reproduction elicits an aggressive response. Research also shows that specific learning experiences can facilitate aggressive behaviors. Negative experiences, like insecure relationships with parents, teach a child to be on the defensive and perceive threats where there may be none. People who are on the defensive show less concern for the feelings and needs of others. A person cannot be concerned for someone else when their concentration is on their own defense (Zahn-Waxler et. Al., 1986).

3

Psychologists have found certain conditions are highly likely to elicit aggressive behaviors. When there is a threat, whether to their body, emotional state, or to the achievement of a goal, an aggressive response is likely. Also, when a person is frustrated, insulted, and humiliated they become more aggressive (Zahn-Waxler et. Al., 1986). These factors, which are common in mammals as well as humans, do not fully explain bullying behavior. Victims of bullying are perceived to be weak and introverted, they are not threatening to a bully. Researchers believe instrumental aggression, aggression used for personal gain, is unique to human interactions and responsible for the behavior of bullies. Instrumental aggression need not be in response to a threat (Zahn-Waxler et. Al., 1986). Bullies feel a certain need to behave the way they do. Several social and psychological factors have been identified that may be responsible for the physical and emotional voids children try to fill by behaving improperly.

Childhood should be a time of innocence, but unfortunately many children are subject to experiences that cause them to rebel and behave inappropriately. There are several environmental and social factors that are believed to be responsible for instigating a child into bullying others. Among these are the influence of parents and role-models on children, differences between males and females, and environmental influences like violent video games. Of all the factors studied with respect to problem behavior in children, family factors have been most studied thus far (Beam, Gil-Rivas, Greenberger, & Chen, 2002). Family structure and stability, parenting techniques, the presence of depression and anxiety in the home, and relationships with adults other than parents, all greatly influence the personality and behavior of a child. A problem in any one of these areas has the potential to negatively affect children and turn them into bullies.

Bullies, more often than nonbullies and victims, report having troubled relationships with their parents. The most common complaint is a lack of emotional availability and the presence of either neglect or over-protection (Haynie et. Al., 2002). The conditions that bullies are subject to are usually more intense for bully/victims. These children are more likely to have inconsistent parenting that lacks warmth, and they have less structured power relations in the home than bullies (Kaltiala-Heino et. Al., 2000). Bully/victims often come from highly disciplinary family backgrounds, and may be the victims of child abuse (Wolke et. Al., 2001).

The dual-parent nuclear family is quickly becoming a thing of the past. Single-parent families and mixed families have been on the rise. A stable family environment is important to a child's development. It is in this environment that values and morals are instilled into a child. If the environment is unstable, these social rules are not well impressed upon a child and their behavior often becomes inappropriate. Studies have shown that dual-parent families are more emotionally and economically stable than single-parent and stepparent families (Beam et. Al., 2002). This does not necessarily mean all children from single-parent families will have problems. It is also true that not all children coming from dual-parent families will be problem free. Many misperceptions about family structure, like the belief that children from single-parent families are more likely to be bullied than those from dual-parent families, have unfortunately become popular in society (Ma, 2002). It is simply more advantageous for a child to come from a dual-parent home.

Parenting techniques have the greatest influence on a child's future. Research finds three parental influences to be of key importance in the development of a bully (Olweus, 1993; Haynie et. Al., 2002). First, parents who have a negative emotional attitude create an environment lacking in warmth. Emotional availability, characterized by affection, attentiveness, and validation, is necessary for a developing child. Research by Diana Baumrind (1991) shows that neglect is emotionally damaging to a child. It can lead to unresolved feelings of anger and resentment, which are often responsible for the development of a bully. Also, parents who allow their children to act aggressively without instructing them on proper behavior add to the likelihood that their child will view aggression as an acceptable way to interact with others. Baumrind (1991) believes that affection and control are both necessary aspects of a good parenting style. However, use of power-assertive punishment, maintaining control with abusive physical force, can have negative effects.

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While firm control over children is important, autocratic, overly power-assertive control can: cause anger and frustration, break the connections of love and trust in other people, and create doubt about personal safety and well-being, putting the child on the defensive. The Authoritarian Personality theory (Adorno et Al., 1950) states that authoritarian parents raise authoritarian children, who seek control over weaker individuals by bullying them. Proper punishment that sticks to reasonable guidelines set down by the parents, prevents the development of an authoritarian personality. Children know when they are doing something unacceptable and are aware of the consequences they will face. This prevents children from becoming resentful of authority figures when they are disciplined (Haynie et. Al., 2002; Zahn-Waxler et. Al., 1986).

Children cannot create stable emotional ties if they distrust other people or are under stress from outside antagonists. Stress in children is most often caused by: unpredictable behavior by parents, including mood swings and inconsistent punishment; less support and nurturing characteristic of parental withdrawal and avoidance; intrusive conduct- irritable behavior and over-involvement in their child's life; and marital conflict (Langrock, Compas, Keller, Merchant, & Copeland, 2002). These stresses negatively influence children and cause them to lash out.

Laboratory research and social observation shows prosocial behavior is influenced by a combination of: parental warmth and nurturance, induction- pointing out to children the consequences of their behavior, and firm regulated control by parents, they must behave in accordance with rules and moral values (Zahn-Waxler et. Al., 1986). Effective parenting techniques, like emotional availability and consistent reasonable punishment, often result in a positive social attitude and good peer relations. Children who have secure relationships with their parents during infancy have better peer relations later on. According to the Attachment Theory (Bowlby, 1982; Pickover, 2002) children develop expectations about the behavior of other people based on the way their parents treated them as young children. If a child is rejected as an infant, they expect to be rejected by people other than their parents later on in life; as a result they become hostile toward other people. Children who have secure relationships with their parents are not as defensive, meaning they don't feel the need to protect themselves as much, and they generally have a positive opinion of other people (Zahn-Waxler et. Al., 1986).

Adults who build friendships with children and act as role-models have been known to strongly influence children's behavior both negatively and positively. Teachers are always encouraged to act as a friend to their students whenever possible because they're considered positive role-models (Bullock, 2002; Haynie et. Al., 2002; Ma, 2002). Researchers have found that children with adult relationships other than with their parents are less likely to have problems with their behavior (Beam et. Al., 2002). However, kids who model themselves after adults who behave poorly are highly likely to copy this behavior, presenting a danger, especially if the adult is involved in criminal acts and drug use (Beam et. Al., 2002). Aggressive "adult bullies" involved in these types of behaviors would likely influence a child to follow their example.

Another family obstacle that causes a wide range of problems for children, including bullying behaviors, is parental depression. A parent suffering from depression and anxiety is often distant, not feeling up to the challenge of caring for their child or children. Depression is a leading cause of neglect in children (Langrock et. Al., 2002). Children who are neglected are under a great deal of stress.

Children with parents who show strong symptoms of depression are at an increased risk of becoming depressed themselves. They often demonstrate either internalizing behaviors, such as anxiety, or externalizing behaviors, like aggression and delinquency. Having depressed parents impairs other areas of a child's life including their cognitive and academic abilities, their social competence, and thus their peer relations (Langrock et. Al., 2002). Bullies are frequently shown to score low in the areas of cognitive and academic abilities, and depressed children with low peer acceptance are at a high risk of becoming bully/victims.

When most people think of a schoolyard bully they probably picture a boy as the perpetrator.

5

Our concept of bullies and aggressive behavior is said to be gender biased. In many cultures, males have demonstrated the presence of a brutalization norm, an acceptance of aggressive solutions to everyday problems. Boys between the ages of 9-10 and 13-14 report an increase in observed and self-reported aggression (Zahn-Waxler et. Al., 1986). These cultures willingly accept the belief that men are rough and aggressive and women are timid and kind. It's just human nature, right? Wrong. Although, in the past, boys have been shown to bully more frequently than girls, girls have demonstrated that they are just as capable of aggressive acts as boys.

The way in which girls express their aggression is the main difference between the two sexes. Boys tend to use physical intimidation and threats as their primary bullying technique. They bully both boys and girls, but mainly concentrate on other boys. Several studies have verified these findings (Wolke et. Al., 2001; Boulton, 1996; Bullying, 1997; Beam et. Al., 2002). It was believed in the past that girls' aggression took the form of verbal abuse, ostracization, and alienation, and that it was aimed mainly at other girls (Zahn-Waxler et. Al., 1986; Bullying, 1997). However, a recent study conducted by Michael J. Boulton (1996), took a unique approach; the researchers asked children to identify which of their peers were being bullied and by whom because they believed that peers are probably very well aware of who is being bullied in their school, and by whom; thus, they are very good sources of information on this topic. This study found that girls bully equal numbers of other girls and boys. Boulton explained that in American society it is typical for boys to desire an appearance of superior power over girls. Since, in previous studies children were usually asked directly whether they were being bullied and by whom, boys would be reluctant to admit being bullied by a girl. It is a boy's traditional role to be tougher than girls, and being bullied by a girl would be a great loss of face. This study proposed that girls really do bully more boys than previously believed, and a flaw in research techniques lead to the false conclusion (Boulton, 1996). More research in this area is necessary to verify the findings of Boulton's study.

It has been found consistently in the past that girls tend to use indirect forms of aggression when they bully. K. Bjorkqvist (1992), an expert on the psychology of aggression, believes that the form of bullying is a function of sex. He postulated that, since females are physically weaker than males, they may learn to avoid physical aggression early on in life, and instead develop other means such as ostracization and exclusion (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992). This theory focuses on the physical aspects of men and women to derive an explanation for the differences in their behavior. Bjorkqvist believes that since women are typically weaker, they tend to use verbal rather than physical intimidation when they bully others. Another theory that focuses on social factors suggests women, more than men, are viewed as caretakers; since it is their traditional role to raise the children; thus aggression in girls is intolerable because it interferes with their later role as caregiver (Zahn-Waxler et. Al., 1986). This theory suggests that girls do not use physical aggression because there is a heightened sense of guilt for demonstrating aggressive behavior. Both theories may be partially correct, but research has not identified the role each plays yet. In any case, researchers believe the differences between males and females are key in detecting the differences in the way they behave towards others in respect to bullying behavior.

Several theories have been developed that seek to relate video games to violence. Supporters argue that the violence present in some video games affects the mental state of the individual playing. They believe children learn violent behavior from these video games, and are more likely to imitate that behavior in the home and in school. This is an assumption that video games change the threshold at which violence seems acceptable to children. The danger they have perceived is the emotional arousal an individual experiences when they succeed in winning a violent game. They think a subconscious connection may be made between violence and feeling good. If this is true, than violent video games are a real danger to young children. However, studies on this matter have been unsuccessful in proving without a doubt that video games lead to violence.

Anne D. Walling, a medical physician, reviewed twenty-nine studies on this topic in her article, Do video games lead to violent behavior in children? (2002). She found that studies on this

topic contradicted each other. In some studies antisocial behavior and aggression have been linked to the use of violent video games. In others, no association was proven between video games and aggression in girls, and conflicting information was found about boys. Also, no study was able to provide a causative explanation between video game use and aggressive behavior. Research by L. Bensley and J. van Eenwyk (2001) noted that rates of adolescent violence, homicide, weapon carrying, and other markers of antisocial behavior fell consistently during the period of time when violent video games became ubiquitous, more graphic, and more realistic. This information is contrary to the theories previously presented which are based on the premise that the more graphic and realistic the video game, the more likely children are to imitate that behavior. Many authors supporting the Catharsis Theory (Freud, 1933) suggested that violent video games provide a safe way to release pent up aggression and frustration (Walling, 2002). However, a great deal of social psychology research (Geen et. Al., 1977; Russell, 1983) concludes that the overwhelming majority of experiments on catharsis find the opposite to be true, that violent video games promote emotional arousal rather than release. Obviously, more research is necessary in this area before any conclusions can be drawn about the relationship between video games and violence. It does seem, however, that most researchers do not give credence to the connection.

Social and environmental factors have been extensively studied and continue to show a strong link to the perpetration of bullying behavior. Much of an individual's personality is based on social interaction, and culture, a set of beliefs learned through social interaction, also is a significant part of a person's identity. Thus it is easy to conclude that a negative environmental factor would instigate problematic behavioral patterns in an individual, especially a developing child.

In addition to social and environmental factors, psychological factors also have a large influence on the development of bullies. Many bullies are believed to lack the usual capacity for empathy which most individuals possess. A child who lacks sympathetic emotions towards other people is highly likely to engage in aggressive, hurtful behavior (Zahn-Waxler et. Al., 1986). Some mental disorders also have been found to play a large role in the behavior of problematic children, and sleep disorders have recently been linked to aggressive behavior as a child develops into an adolescent. There is also a debate about how bullies typically feel about themselves, and how those emotions relate to their feelings about other people. Self-esteem plays a large role in interpersonal relationships and affects how a person treats others.

Most individuals have a certain sense of empathy for other people. It is common for people to visualize themselves in the place of another person in order to understand their emotional situation. This leads to a better understanding of the behavior of others, and tolerance for various differences. The development of a positive evaluation of other people increases feelings of empathy and decreases aggressive tendencies. Recognition of these tendencies led researchers to study empathy in bullies and to conclude that bullies tend to have lower than average empathy towards other people (Zahn-Waxler et. Al., 1986; Bullock, 2002). Without these feelings, bullies are not likely to discern distress in other people, and therefore will not register any similarity and pity.

Why is a lack of empathy such a common characteristic among bullies? Researchers believe empathy develops under conditions of parental warmth and consistent care, and not under conditions of hostility and rejection (Zahn-Waxler et. Al., 1986). As previously stated, bullies tend to grow up in families lacking parental warmth and care. Such an environment would be expected to lead to psychological problems such as less than normal emotions of sympathy towards others, making bullying a more likely characteristic.

Behavioral problems are often associated with or caused by specific psychological disorders. In the past, bullies were commonly believed to suffer from disorders like depression and anxiety, and it was believed that these were the cause of their disruptive behavior. These beliefs were based on prior psychological research which focused on social competence, evaluating personality traits and family and peer relationships (Kaltiala-Heino et. Al., 2000). Today, bullies are still associated with depression and anxiety, though these disorders have been found to be more common in victims and

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bully/victims (Ma, 2002; Haynie et. Al., 2002). Depression and problematic behavior have been linked to many causes including stress in interpersonal relationships, like a loss of a friend or a break-up, low peer acceptance, and unhappiness in school (Beam et. Al., 2002; Kaltiala-Heino et. Al., 2000). Excessive psychosomatic symptoms (physical ailments caused by mental or emotional disturbances), eating disorders, frequent excessive drinking and dependence on other substances also have been connected to bullying behaviors (Kaltiala-Heino et. Al., 2000). Often, childhood anger caused by family problems results in rebellion against societal values and is manifested in the use of drugs and alcohol, which is common in bullies (Brook et. Al., 1992). Each of these mental disorders affect different children in different ways.

Mental disorders are more likely to be associated with problem behavior in bully/victims. Olweus (1993) characterized bully/victims as experiencing a combination of anxiety, aggression, and concentration problems that draw a lot of negative attention from peers resulting in the low peer acceptance typically associated with bully/victims. Further research has linked aggression to clinical syndromes typically found in bully/victims such as: conduct disorders, attention deficit disorders, and hyperactivity (Johnson & Kaplan, 1988). These mental disorders combined with extensive family issues make the bully/victim's life seem all the more tragic.

Bully/victims are at a higher risk for mental disorders, as these are approximately the same among bullies and victims. In studies comparing the three distinct groups: bullies, victims, and bully/victims, researchers encountered symptoms of depression and anxiety more often in bully/victims. Eating disorders, specifically anorexia and bulimia nervosa, were also more commonly associated with bully/victims. Surprisingly, more cases of bulimia were found among males than females. Anorexia was found in both females and males, with a greater number of female cases (Kaltiala-Heino et. Al., 2000). Many times, social stigmas obstruct our views, and create false beliefs like the idea that only girls suffer from anorexia and bulimia nervosa. Although eating disorders are not usually mentioned in correlation with males, research shows males demonstrating bullying behaviors do often suffer from eating disorders.

Involvement in bullying is evidence of an increased risk of co-occurring mental disorders. Approximately forty percent of all bully/victims are believed to suffer from two or more of the previously mentioned mental disorders. For bullies the total is approximately thirty percent (Kaltiala-Heino et. Al., 2000). Different mental disorders seem to correlate with different behavioral problems, and gender also plays a role. Frequent excessive drinking has been found to be most common among males, bullies more often than bully/victims. The same pattern with regard to bullies and bully/victims is true for drug abuse, except that girls are more likely to do drugs than boys. Depression, anxiety, excessive psychosomatic symptoms, and eating disorders are also most commonly encountered in girls (Kaltiala-Heino et. Al., 2000).

Mental disorders play a key role in discovering why bullies behave the way they do. The present research demonstrates that a variety of mental disorders contribute to problem behavior in children. The good news is that most of these disorders are treatable. It is the responsibility of parents and instructors to recognize the symptoms of mental disorders in the children under their care, and bring them to a professional for diagnosis and treatment. Perhaps recognizing an ailment before it becomes too serious will help a child to recover, and prevent problem behavior before it starts.

In conjunction with mental disorders, sleep problems also affect the mental and emotional state of an individual. Childhood studies (Gregory et. Al., 2002) of sleep problems show that young children who have trouble sleeping at night, have no set schedule for a bedtime, or whose sleep is disturbed by upsets like wetting the bed, are more likely to suffer from mental disorders later in life. In an eleven year study examining the prevalence of sleep problems in four-hundred-ninety children, from ages four to fifteen, sleep problems were found to predict later problems with depression, anxiety, attention disorders, and aggression in adolescence; all of these have been correlated with bullying (Gregory et. Al., 2002; Kaltiala-Heino et. Al., 2000). Researchers found that sleep problems

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were most often caused by disfunctioning biological rhythms (sleeping patterns), stress hormones, or by cognitively mediated causes- including mental disorders (Gregory et. Al., 2002). As already discussed, stress in a child can come from many different arenas, from family problems to personal problems like wetting the bed.

Sleep problems in early childhood have been linked to various psychiatric, emotional, and behavioral problems (Gregory et. Al., 2002). Sleep problems were found to affect children more significantly as they grew older, and researchers have found that a good sleep regiment is as critical to mental health as a nutritional diet is to physical health. Sleep problems are most often correlated with depression and anxiety disorders, which are less common among bullies than bully/victims. To a lesser degree, sleep problems were connected to externalizing disorders, like excessive aggression, which is more significant for bullies.

The prevalence of sleep problems later in life depended upon the type of disorder the child suffered from. Bully/victims, more often associated with depression and anxiety, were likely to have continued sleep problems into adolescence. Externalizing disorders, however, were shown not to overlap with sleep problems, so while a bully may have had sleep disorders at a young age, it is likely that they did not continue into adolescence (Gregory et. Al., 2002). Thus a psychiatrist examining a bully in adolescence would probably not recognize the role that sleep problems played in the development of their behavior, though it may be significant. However, bully/victims continue to have these disturbances, and their role is more likely to be identified. However noticeable it may be, the role that sleep disorders play in the development of a bully appears to be significant.

Once it also was widely believed that bullies had low self-esteem, but new evidence suggests that bullies usually have high self-esteem. The old belief was supported by the observation that people with low self-esteem often perceive threats and insults where there are none, or only mild ones. They are usually on the defensive, because of their insecurity, and their need to feel invulnerable, often leads to preretaliation in order to avoid insult (Zahn-Waxler et. Al., 1986). Thus, the theory that bullies suffered from low self-esteem developed. However, a review of the evidence suggests that bully/victims were the focus of past studies and older research is probably valid for them but not necessarily for bullies.

Actually, very little empirical evidence has been found to support the view that bullies have low self-esteem (Bullock, 2002; Ma, 2002). To the contrary, several studies have shown that children possessing high self-esteem and a strong self-concept are likely to feel less connected to other individuals, and more self-sufficient. This would suggest that their concern and emotional dependence on other people may be reduced and increase the likelihood of aggressive behavior (Bushman et. Al., 1998; Zahn-Waxler et. Al., 1986). Interestingly enough, a study found that children possessing low self-esteem showed a great increase in their perception of the psychological needs of other children once their own self-esteem improved. The researchers provided these children with a series of success experiences to make them feel more confident. Afterwards, they showed a great deal more concern for others than did children with a strong self-concept (Zahn-Waxler et. Al., 1986).

Usually victims and bully/victims, rather than bullies, suffer from low self-esteem. It is not so hard to believe these findings when one considers the fact that bullies are usually more popular than their victims, with the exception of bully/victims who are at the bottom of the social ladder. With a strong psyche and body, bullies become formidable adversaries, making it very difficult for their less popular victims to fight back.

Problems Associated with Bullying and Possible Solutions

Personal identity can be affected by several cognitive components. Flaws in behavior due to poor parenting, mental and sleep disorders, and an overdeveloped self-concept all can contribute to the large bullying problem that exists among the youth today. Psychological illnesses are deeply rooted and difficult to mend, and their effects can spread throughout society if they go untreated. Often, the problems of the present go on to become the problems of the future. Perhaps

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understanding and healing the psychological wounds of young bullies will help reduce the scar on society that bullying creates.

An example of the danger that childhood bullying behavior presents in society as a whole was demonstrated in a study conducted by J. Connolly et. Al. (2000) analyzing the dating experiences of known bullies to see if the aggression present in peer relationships continues through to romantic relationships later in life. Childhood relationships typically develop from a homogeneous group of friends to gradually include the opposite sex and create a heterogeneous mixture. The quality of peer relationships is a good predictor of the quality of romantic relationships. Since bullies tend to have poor peer relationships, their romantic relationships have been found to be less supportive and fulfilling than those of adolescents who do not bully. Bullies also sexually mature earlier than their peers and begin dating at a younger age. Thus they usually are too emotionally immature to properly handle romantic relationships, and often resort to aggression in such relationships as they do with their peers. This adds to the insecurity and unsupportive nature of their romantic pursuits. It also creates danger for the romantic partner because bullies are likely to use aggression to get what they want and to prolong the relationship. Connolly et. Al. (2000) hypothesize that this aggression may lead to domestic violence later on in life. They suggested that an intervention program that stops bullies when they are young, may prevent those bullies from abusing their spouses when they grow older. Domestic violence is a huge problem in our society. It is frightening to think that bullying, an already difficult problem, may lead to such a troublesome tragedy as domestic violence.

How do you deal with a problem that affects twenty percent of the world's youth and goes on to touch society in such a dramatic way? Unfortunately there is no simple answer or quick fix to the massive hold bullying has on civilization. So many different problems couple together in an endless variety of ways. There are children suffering from abusive or neglectful parents. Kids are plagued with psychological disorders. Such young individuals are not equipped to battle these formidable enemies. Fear, anger, and resentment easily replace joy and carelessness. However, the situation is not completely hopeless. Intervention programs are being developed to address all of the issues that influence bullying and find a solution suiting everyone. Through trial and error, researchers are finding which methods work and what roads should be abandoned. Every new day promises the possibility they will succeed in their endeavor and find the correct combination to end the reign of bullies.

Several theoretical intervention programs have been developed. Certain guidelines have been drawn up for developing intervention programs and some of those that have been tested show significant potential for improvement. An important aspect of an intervention program is to have strong parent and teacher involvement. Many times it is difficult to recognize the symptoms of psychological disorders or family issues. Communication between a teacher and a child's parents aids in identifying problematic situations in and out of school (Ma, 2002; Olweus, 1993). Oftentimes, it is a parent's negative influence that causes problems in a child's behavior. One way teachers can intervene when they observe such a situation, is for them to take the offender aside and point out to them the negative ways their actions affect the victim (Bullock, 2002). Encouraging the bully to recognize and consider the feelings of the other child also may make a difference. In the classroom, teachers can demonstrate appropriate ways to react when faced with a frustrating problem, and they can encourage children who are victims to assert themselves (Bullock, 2002). Creating a positive adult role-model can help a child develop proper social interaction skills. It is an educator's responsibility to set firm limits to unacceptable behavior and to appropriately punish children with non-hostile, non-physical consequences when they exceed these limits (Haynie et. Al., 2002; Olweus, 1993). Giving children praise should also be dealt with in a responsible manner. Praising children when they have not earned it can lead to over- developed self-esteem and an unrealistic self-concept. This leads to the problems with low empathy already discussed (Bullock, 2002).

Another method used in reducing victimization in schools is peer involvement in anti-bullying activities. Peers should act both as anti-bullying enforcers in daily interactions and as formal peer

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counselors (Ma, 2002). As children often relate better to older children than they do to adults, using older kids as role models is a way in which the counselors at one elementary school tackled their bullying problem. High school students were trained to teach younger children how to deal with bullying and harassment. Children were more willing to listen to the advice of high school students than to their older, less accessible, teachers. As a result, the teachers observed a decline in the reports of harassment (Bullock, 2002). Unfortunately, many children do not feel it is their responsibility to get involved in situations where their peers are being harassed. When a group of children aged five to seven were asked about helping someone who is being bullied, thirty-seven percent said it was not their place to get involved (Bullock, 2002).

Psychologists developed an intervention program based on the theory that children who bully lack basic empathy skills (Zahn-Waxler et. Al., 1986). They believe the proper way to combat bullying is with a program called Empathy Training. There are three mechanisms in this program that should lower aggression in bullies and increase prosocial behavior. A child first must be able to recognize the signs in other children that they are disturbed and upset by the way they are being treated. Bullies are inconsiderate of other people's feelings so then they must be trained to put themselves in other people's shoes. After they can do this, they must be able to feel sympathetic emotions for other people, putting selfishness aside (Zahn-Waxler et. Al., 1986). A major problem with Empathy Training is that the original lack of empathy usually comes from a child's upbringing. Empathy Training often is in conflict with the parental influence in a child's life. Many parents place a greater value on competition and self-seeking than they do on other-person oriented behaviors (Zahn-Waxler et. Al., 1986). This program would most likely be ineffective if it conflicted with a strong negative parental influence.

Maintaining the proper school environment is critical to an effective intervention program. The school environment is a mini-society; there is a complex social structure with legislation to maintain order. The conditions that are likely to cause conflict and aggression within or between societies are also applicable on the individual level. "Economic problems, chaos, and political disorganization within a society, increase the likelihood of violence and of scapegoating and persecution of subgroups in the society" (p. 135) (Zahn-Waxler et. Al., 1986). Schools in large cities have been shown to have more problems with bullying than small town schools (Olweus, 1993). Schools in large cities often have funding problems and overpopulation. This disrupts the order of the school environment and increases the likelihood of behavior problems. Schools that do not have strong, effective rules against bullying also are more likely to have a bullying problem. It is the institution's responsibility to take action when a problem with bullying is identified. Effective schools work to encourage positive student-teacher relationships and tough disciplinary action when bullying occurs.

Successful intervention programs use a combination of no tolerance discipline codes, teacher involvement that models acceptable behavior, educational programs that teach self-control and assertiveness, and educational programs for adults and children to encourage their involvement in the struggle against bullying (Weir, 2001). Programs embracing these components have been shown to reduce bullying by twenty to fifty percent in only two years (Ma, 2002).

A bully is a complex individual developing under the influence of a variety of factors. Bullies perceive a void in their lives, they have little or no control over what is effecting them, and they seek to fill it by gaining control over other people. They use physical and verbal abuse to intimidate other children, making themselves seem powerful. Though it is only a temporary solution, this power high is satisfying enough to cause bullies to continue their behavior. They set themselves on a downward spiral, leading to lives of delinquency and further abuse. This problem has been shown to extend beyond the schoolyard and into the heart of civilization. Childhood bullying is an indicator of possible future involvement in crime and domestic abuse. Only through understanding can the problems that bullying presents be solved.

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History
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Judge's Comments: Well written! He has taken on a very difficult topic. A very
complex topic, very well done.

The Vice of Morality: The Paris Peace Negotiations

Historian Robert H. Ferrell, in his work "Peace in Their Time," vividly describes the
profoundly emotional atmosphere which emanated from the armistice of 1918. Celebratory bliss
abounded in London, Paris, and Washington. Even in Berlin, the multitude of the German armed
forces "…looked forward…to returning home and…living in peace the rest of their days" (Ferrell 3).
Indeed, there arose in 1918 a deep longing for peace, and a longing for the international mechanisms
whereby such an environment could come into being. Henceforth, the overarching purpose of the
Paris Peace Conference of 1919 was to exact a lasting settlement among the belligerents. However,
despite consensus among the victors with respect to this goal, there existed much dissention regarding
the means to achieving this so desired end. The French, who were both militarily and
psychologically demoralized, sought to attain peace and security through the traditional
implementation of the balance of power system. Conversely, the Americans, under the stewardship
of Woodrow Wilson, sought to revolutionize and transform the international order by thwarting the
balance of power mechanism and replacing it with a system of collective security through a league of
nations. In this paper, I will argue that moral propositions, in the context of international relations,
are problematic with respect to the negotiating process, for not all nations and peoples conceive
morality in the same way.

November 1918 exemplified a profound intellectual and emotional zeal which manifested in
dynamic conviction with respect to the idea of peace in the international order. David Lloyd George,
British Prime Minister, declared his vision of future world order when he articulated that: "I hope that
we may say that thus, this fateful morning, come to an end all wars" (qtd. in Kissinger 218).
American President Woodrow Wilson, a vehement advocate of progressive idealism, envisaged a
world in which moral principles embodied in the rule of law would replace power politics and the
balance of power system of international relations. He "proposed to found peace on the principle of
collective security. In his view and that of his disciples, the security of the world called for, not the
defense of the national interest, but of peace as a legal concept" (Kissinger 222).

Wilson observed the traditional European balance-of-power system as a fundamentally
amoral, hence destructive, method of conducting foreign policy, for it agitated and militated against
the inherent and natural harmony of humanity. He perceived this system, moreover, as one of the
"…root causes of the war and related disturbances…" (Knock ix). He thus argued that "[t]here must
be not a balance of power but a community of power" (qtd. in Buehrig 260). Moreover, according to
Wilson's thought, victory must cease to exist as a war aim in order for a true and lasting peace to
manifest, "…for only a peace between equals can last" (qtd. in Buehrig 260).[i] Historian Norman A.
Graebner writes:

> For Woodrow Wilson such mundane objectives as the preservation

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of the national interest and the balance of power simply underestimated the moral and intellectual resources of the nation [America] to reform the entire international order...[H]e was unable to conceive of international relations except in moral terms...His acceptance of...nonpower approaches to international settlements, such as arbitration conventions and cooling-off treaties, was reinforced by his own deep faith in democratic processes (409).

For Wilson, however, geopolitics and power considerations were an aberration of human goodness. He was concerned only with the moral outcome, yet, he did not believe that the means justified the ends. Wilson expresses his view with these words:

War before this one used to be a sort of national excursion...with brilliant battles lost and won, national heroes decorated, and all sharing in the glory accruing to the state. But can this vast, gruesome contest of systematized destruction...be pictured in that light...wherein the big, striking think for the imagination to respond to was untold human suffering?...Where is any longer the glory commensurate with the sacrifice of the millions of men required in modern warfare to carry and defend Verdun (Knock 107)?

Hence, according to this view, morality was perceived as a necessity in the process of attaining a lasting peace. According to Henry Kissinger, former American Secretary of State, this moral inclination manifested into ideals which "...held that peace depends on the spread of democracy, that states should be judged by the same ethical criteria as individuals, and that the national interest consists of adhering to a universal system of law" (30). Thereupon, international treaties and organizations--such as the League of Nations--would provide the state system with a moral doctrine through which peace would become an attainable aspiration.

According to the idealist perspective, there exists a fundamental tension between the moral law and traditional modes of national security. They are, in essence, diametrically opposed concepts, wherein the pursuit of one objective results necessarily in the abdication of the other. Nevertheless, this distinction was eradicated in the context of Wilson's political thinking. Indeed, the moral law was, in Wilson's view, the means whereby national security would be achieved. Recourse to war was illusory for it subverted the harmony which was inherently manifest in human nature; to pursue war was to engage in a process detrimental to national security. Likewise, to engage in a war for the explicit purpose of achieving national security objectives independent of principled considerations was tantamount to a declaration of war upon the premise of collective security. Thus arise the questions: How does a world order based upon the rule of law and moral principles provide for national security without violating the premise of its existence? Moreover, how are differing conceptions and interpretations of moral formulas reconciled without resulting in additional conflict? These were, indeed, questions which would plague the Peace Conference, especially with respect to the opposed positions of the United States and France.

The American position preceding the Paris Peace Conference was profoundly influenced by Wilson. He insisted that his Fourteen Points be the unequivocal basis for a settlement. However, "Wilson's idealism stopped short of the belief that his views would prevail in Europe on their inherent merits" (Kissinger 224). He clearly understood the European position and recognized that the diplomatic tradition which existed would persist unless it was acted upon by an external agency able to produce change. Thus Wilson, perceiving the financial degradation upon Europe as a result of the war, sought to exploit their dependence upon American aid so as to ensure the application of the Fourteen Points to the peace process. Thus, in a note to Colonel House written in April of 1917, Wilson argued that "[w]hen the war is over we can force them [Allied Powers] to our way of thinking, because by that time they will, among other things, be financially in our hands" (qtd. in Kissinger 224).

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Colonel House, writing in his diary, illustrated the prominent position the League of Nations held within Wilson's mind. House described how "[t]he President...desired to...take up the most important subject with Clemenceau--the League of Nations..." (Czernin 84). One may thus ask: the League manifested as the most important subject with respect to whom? France did not desire to be a part of such an abstract approach to the implementation of a peace process, and did not perceive that security requirements could be achieved against the backdrop of such principles.

Indeed, "[t]he French statesmen were fully aware that their program ran counter to the letter and the spirit of President Wilson's Fourteen Point peace program, to which France had subscribed to by accepting the Pre-Armistice Agreement" (Czernin 46). The French, however, were resolute with regard to their security objectives. Thus, according to Ray Stannard Baker, Wilson's foremost public relations officer, "[t]he French had their programme worked out before the Peace Conference met. They were the first to place their memoranda in the President's hands. No other nation approached them...in diplomatic preparedness of singleness of purpose" (qtd. in Czernin 47).

Henceforth, Clemenceau's unequivocal politico-military objective was the pursuit of national security for France. The French had a four-fold plan for achieving this overarching war aim. The first of these objectives was the restoration of Alsace-Lorraine to the dictates and control of French sovereignty. The second, and somewhat overlapping, war aim was to provide France with the ability to decide the extent to which Lorraine, which possessed high levels of iron ore and coal, would be included within their borders. Third, the territories which existed on the left bank of the Rhine River were to be severed from German rule, and these territories were to be granted autonomy, hence forming an independent state. Moreover, the state was to be occupied by the French military "...until such time as the enemy states have completely satisfied all the conditions and guarantees indicated in the Treaty of peace" (qtd in Czernin 45).

Conceptually, "France's peace aims were very simple: guaranteed security for France. The peace which was to be hammered out would have to make quite sure that Germany would never again be able to menace her" (Czernin 44). However, in order to achieve these aims, France would have to reconcile their strategy with the American inclination toward collective security--a concept quite foreign to the French, and all of Europe for that matter.

Georges Clemenceau, the French Head of Government, did not entirely disdain the concept of collective security, especially if it could indeed provide additional security for France. However, he questioned the ability of such a system to manifest into existence. Furthermore, he questioned exactly what such a system would consist of and how it would work. Ten days after his meeting with Wilson, Clemenceau addressed the chamber of deputies with these words:

> With regard to international guarantees...I will say that if France is permitted to establish her own defense...I, personally, will joyfully accept any additional supplementary guarantees that may be offered to us...I would be lying if I said that I immediately agreed with him [Wilson] on all points. As I remarked a little while ago, America is far removed from the frontiers of Germany. I have, perhaps, preoccupations which, I would not exactly say are foreign to him, but which do not affect him as closely as they do a man who, for four years, has watched his country being devastated...(Czernin 84-85).

Hereupon, France sought, with great energy, a settlement which would provide tangible security guarantees from a perceived German threat. On November 30, during an evening meeting in London, Marshal Ferdinand Foch, France's Commander-in-Chief, explicitly articulated and defended the concerns for French security. He argued that a dense population of Germans in the Rhine-- estimated at approximately fifty-five to seventy five million--may be inclined to endeavor, retrospectively, to their objective of 1914. He writes:

> In such an event, what would be the means of defense? If there were no material barriers set up, and no special precaution is taken, the

invasion of France, Luxembourg, and Belgium, might again be undertaken. More particularly, the Belgium Coast would be easier for the enemy to reach, for they now realized the importance of it, and would endeavor to cut England from France. The natural barrier against such an invasion was the Rhine (Czernin 48).

Lloyd George, in response to Mr. Foch's analysis, inquired of the specific objectives for which France endeavored. Foch argued that the objective would consist of creating a viable buffer state between France and Germany. The State, moreover, must not be neutral for "[i]t was perfectly useless to rely on neutral states as barriers" (Czernin 48). Foch therefore would work to assemble a coalition of nations on the left bank of the Rhine River. If this objective was completed successfully, Germany would be militarily incapable of westward aggression; however, if the buffer zone was henceforth not established, the Rhine would be vulnerable to an attack similar to that of 1914. And if this did occur, the French insisted vehemently that "…it was absolutely essential…" (Czernin 49) the American and British forces supplement their security requirements. Because the partitioning of Germany was deemed morally unacceptable by America, and because France insisted upon the strategic fallibility of collective endeavors toward security objectives, "…the only remaining solution to France's problem was an American and British pledge to defend it" (Kissinger 233).

To this end, however, the Americans and the British exemplified a profound reluctance. Thus, France's security dilemma was propounded by a psychological insecurity which only exacerbated the perceived need for an uncompromising security apparatus. Indeed, France "…now found itself in a truly tragic position. For two centuries it had struggled to achieve the mastery of Europe, but, in the war's aftermath, it no longer had the confidence in its ability to protect even its own frontiers against a defeated enemy" (Kissinger 228).

How were the French and the Americans to reconcile such fundamentally differing views on how to construct a viable settlement? Wilson, due to his uncompromising idealistic posture, "…from the outset, rejected all the plans drawn up by the French Foreign Office…" (Czernin 74). France, however, due to the devastation which it had incurred, was not willing to compromise its security objectives. "The attempt to reconcile American idealism with France's nightmares," according to Kissinger, "turned out to be beyond human ingenuity" (229). Kissinger, furthermore, implies that America's moral posture was reinforced by its geographical location. He writes:

> With no such assurances forthcoming, France was reduced to pleading for expedients. Geography protected America, and the surrender of the German fleet had dispersed British concerns about control of the seas. France alone among the victors was being asked to rest its security on world opinion (Kissinger 233).

What was France to do? Neither America nor Great Britain was prepared to agree to a formal security guarantee. Was France supposed to depend solely on the League of Nations? The options which were available to France were seemingly obsolete. They could not achieve security independent of American and British power; however, they were equally unable to attain a tangible guarantee. Thus the French continued to fight for the dismemberment of Germany and the creation of an independent buffer state. The United States and Great Britain, perceiving this policy as fundamentally destructive to the moral principle of self-determination, sought to create an incentive which would propel the French toward the abdication of such an action. Kissinger elaborates on this point with these words:

> In an effort to placate France, Wilson and the British leaders offered as a substitute for the dismemberment of Germany a treaty guaranteeing the new settlement. America and Great Britain would agree to go to war if Germany violated the settlement…[However], Great Britain and the United States did not really believe in a German threat; they offered their guarantees without being either convinced that it was

necessary or particularly determined to implement it (238).

In the end, because the United States' Senate did not ratify the Treaty of Versailles, the guarantee became a moot point (Kissinger 238). France's security objectives became, by default, dependent upon the principles of collective security.

Stephane Lauzane, editor in chief of *Le Mation*, a French publication, argued that the Versailles Treaty of 1919--which was very much a product of Wilson's moral thought as manifested through his works and deeds--was "…a compromise between a Wilsonian idealism and a Napoleonic realism which irritated Germany without offering France any security guarantees" (Graebner 499). Lauzanne contended, furthermore, that "[t]he Treaty does not give birth to a true League of Nations with a charter, court, army, police, and a means of coercion. As a matter of fact it constitutes little more than a debating Society…There will be much talk, much writing, but little or no action" (Graebner 500).

According to the final provisions of the Treaty, Germany was legally obligated to cede 13 percent of the territory which it had acquired prior to the war. Upper Silesia, which was considered to be important with respect to economic considerations, was appropriated to a newly established Poland, hence the manifestation of the "Polish Corridor." Moreover, Eupen-et-Malmedy, a geographically small territory, was appropriated to Belgium, and Alsace-Lorraine was expropriated to France (Kissinger 239). The German Army, according to the Treaty, had to be reduced to 100,000 volunteers, while its Navy was reduced to a level at which it was rendered almost obsolete (Shrirer 91, Kissinger 239).

The actual provisions of the Peace Treaty, in the end, only exacerbated France's security dilemma with respect to Germany. Kissinger describes this dilemma as a manifestation of a political "paradox."

> …France's vulnerability and Germany's strategic advantage were both magnified by the Treaty of Versailles despite its punitive provisions. Before the war Germany had faced strong neighbors in both the East and the West. It could not expand in either direction without encountering a major state…But after the Treaty of Versailles, there was no longer a counterweight to Germany in the East. With France weakened, the Austro-Hungarian Empire dissolved, and Russia out of the picture for some time, there was simply no way of restructuring the old balance of power, especially since the Anglo-Saxon powers refused to guarantee the Versailles settlement (242-243).

Notwithstanding the demise of the Treaty of Versailles in the American Senate, Wilson's thought was nevertheless still omnipresent in the Treaty's provisions. Moreover, in the end, due to power asymmetries, essentially France's weakness compared to the relative strength of the United States--France had little choice but to accept the American articulation of morality as it manifested in the ideal principles of collective security. Intransigence gave way to necessity, and the obvious lack of power left the French vulnerable to external influence, therefore circumscribing their range of choice.

The war aims of both the United States and France had been thrust into a position of a seemingly intractable conflict. America endeavored to achieve an international order based on the rule of law and moral principles through the League of Nations--the doctrine of collective security. France desired to achieve security through the mode of traditional alliances; peace settlements were to be determined through a profound analysis of military and geopolitical factors. America perceived the balance of power system as an inherently evil devise. Conversely, France perceived the doctrine of collective security as a political absurdity. At the conclusion of the Paris Peace Conference, it could be argued, the American version of diplomacy and international relations had one out, but not without implications.

The particular objectives of the Americans and the French at the Paris Peace Conference tend

to obscure the deeper moral implications which were inherent in the process. The essential problems which arise from the application of moral principles to international relations are thus: who decides as to what moral proposition is right? Must right moral prescriptions necessarily emanate from the powerful? If a weak state, such as France, seeks to impart what it perceives as moral upon the international order, how could such principles ever be enforced without the requisite power? Moreover, and more germane to the Peace Conference, how do nations reconcile their differing interpretations of what "should be" without exacerbating further conflict?

Wilson was cognizant of the vast human suffering which was produced by the war. Moreover, he perceived such an outcome of human action as without having recourse to moral principle, for if these were principled actions, the suffering, the pain, and utter destruction which troubled Wilson would cease to exist. Unfortunately for Wilson, his proposed alternative to war, the League of Nations, was not capable of alleviating such disasters of carnage such as the war which had just ended. Its flaws were both philosophical and practical in nature; the philosophical emanating from the practical. Not all nations and peoples conceive what is moral in the same way.

Despite France's willingness to examine Wilson's normative moral theorems, to concede that he was right would be, for the French, to declare that their security and survival as a nation was not only a secondary concern to Wilson's principles, but, moreover, to concede that their exhortations with regard to what security itself should consist of was, at its essence, immoral. The French and American positions stood in a profound, mutual, contradiction to each other. Indeed, the American side articulated that "such a peace [the French proposal] would then be made as would be contrary to everything we have stood for" (qtd in Kissinger 233). France was possessed of similar inclinations toward the American peace proposal.

The debacle over France's security in the context of the Paris Peace Conference of 1919 made manifest the problems inherent in applying moral principles at the international level. First, to claim that amorality pervades the international system is to argue that a nation's instinct and ability to protect itself does not conform to moral principles; that, essentially, acts of survival do not possess intrinsic moral value. This proposition, however, stands in contradistinction to historically existent conceptions and incarnations of social phenomena. John H. Herz, in an analysis of the root cause of political conflict, examines this concept with clarity:

> With the development of consciousness of the natural limitation of one's life, this life itself assumes a different character. It becomes something expanded, something between a beginning and a necessary end, filled with "lived through" …time, events making it a story in the remembrance, actual lived through, and prescience of which man becomes an "historical" being (2).

Fear of death, dread of postulated realities, and anxiety with regard to the unknown constitute the conceptual phenomena which perpetuate insecurity in the human mind. Indeed, the individual's natural contemplation of the problematic of mortality, the self realization that finite being is a tragically inescapable reality, creates a profound psychological propensity toward the principle of self-preservation.

Second, the idea that principle should be the basis of international order presupposes that there exists an objective moral reality which can readily be discerned by the observer. However, the mere existence of cultural variance provides problems for such an articulation. Kissinger writes:

> The whole domestic effort of a people exhibits an effort to transform force into obligation by means of a consensus on the nature of justice. The more spontaneous the pattern of obligation, the more "natural" and "universal" will social values appear. But the international experience of a people is a challenge to the universality of its notion of justice, for the stability of an international order depends on self-limitation, on the reconciliation of different versions of legitimacy…Not for nothing do so

> many nations exhibit a powerful if subconscious rebellion against foreign
> policy, which leaves the travails of the soul inherent in arriving at decisions
> unrewarded, against this double standard which considers what is defined
> as "justice" domestically, merely an object for negotiation internationally
> (qtd in Cleva 56-57).

A proposition which is purported to be moral in nature implies that the proposition must be "right." It is by virtue of its very postulation that a moral proposition must not be wrong. Hence, in international relations, if a nation x asserts that its policy with respect to nation y is moral, and nation y has a contradicting policy, it must follow that nation Y's policy is not moral and cannot be right from the relative perspective of nation x. The argument is applicable, moreover, in a reciprocal instance. Thus, any resolution of a conflict between competing prescriptions and conceptions of morality will always, by virtue of necessity, produce a perceived injustice on one side or the other. This was indeed the dilemma of the Americans and the French in the post World War I era; a dilemma which would require the resolution of a paradox in order to become fruitful policy.

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[1]Buehrig argued that "...underlying Wilson's whole policy of peace without victory...was an appreciation of the balance-of-power point of view: namely, that stability is to be found in an equilibrium of forces no less than in moral excellence" (274). Graebner, contrarily, argues that "...there is little evidence that... his [Wilson] later opposition to a German victory was motivated by a desire to preserve the European balance of power" (409).

Holocaust Past. Holocaust Future?
Modern Weapons, Modern War, and Modern Dangers

Death from a distance, from an enemy that cannot be seen or attacked, is what awaits many
enemies of the United States should they decide to engage the United States in warfare. The US is
actively pursuing technologies that will enable it to fight battles from a distance, without engaging
the enemy. What effect do such technologies have on warfare?

The world remembers with horror the massive extermination program the Third Reich carried
out on those it considered unfit to live. These included the Jews, Gypsies, and homosexuals, as well
as others. These people were placed in concentration camps where they were worked and starved to
death and, most notoriously, sent to the gas chambers. The fact that the Germans were able to
commit these heinous crimes gives us an important historical perspective. The extermination
program could not have occurred to the extent that it did without the aid of technology.

Edwin Black discussed the use of technology in the Holocaust in his book *IBM and the
Holocaust*, which detailed the use of the IBM Hollerith machine and its effect on the programs of the
Germans. In essence, the Hollerith machine was a collator that sorted through punch cards encoded
with data. Each hole in the card referred to a different trait of a person, whether it was sex, age, or
the language of his mother (Black 21). The machine could sort through millions of cards isolating
only those that fit preset criteria. These criteria could be adjusted to allow the machine to search for
every Jew in Germany or to look for a black haired homosexual baker in Bonn (Black 25).

As the world knows, nearly 6 million Jews were murdered in the Holocaust. The question is,
however, how did the Germans find all those people? According to Germany's 1933 census there
were only half a million Jews resident in Germany, less than one percent of the population (Black
89). Where then, did the other 5.5 million Jews come from? The Germans used a pseudo-science
that allowed them to quantify people's traits, and those of their parents and grandparents, in order to
identify those that held a trace amount of Jewish blood in their veins. Before the Hollerith machines
were introduced into the Nazi racial purity programs, the Nazis were only able to identify those who
were considered to be one-quarter Jewish (Black 90). However, with the introduction of the Hollerith
machines, they were able to identify those who were one sixteenth Jewish, and they were able to do
this at a greater speed with the automated system (Black 108). In Warsaw, the Germans were able to
identify the 360,000 Jews and force them into the famous Ghetto in forty-eight hours (Black 191).

Yet, the unearthing of the Jews was not the only thing that the Hollerith technology was used
for. The Hollerith machines were vital to the war effort also. The use of Hollerith machines allowed
the locations of rolling stock to be constantly kept up to date. The location information was only
forty-eight hours old, rather then the normal two-week-old information (Black 265). Such precision

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allowed trains to be located and routed quickly, whether they were filled with ammunition for the front or human beings for the gas chambers. The Hollerith systems even allowed the means of death to be tracked and recorded, whether the person was killed by gas, by natural causes, or by suicide (Black 21). It is interesting to note that "IBM was more than important to the Allies. It was vital" (Black 422). The Hollerith machine can be identified as one of the technological enablers of the Holocaust, for both the Germans and the Allies.

The implication of technology and the means in which it is employed in wartime is frightening. These implications cause one to wonder what effect modern technology can have. Regardless of the other implications, one of the more frightening implications was its effect of impersonality. Fathers and mothers, sons and daughters, all became nothing more than numbers. These people were "never a name... only... assigned numbers" (Black 21).

The military is always pursuing advances in technology that will give it an edge in battle. Weapons are being sought that will provide superiority in battle from a distance, to better secure those who do the fighting. *Popular Science*, in 2002, published an issue entitled *21ˢᵗ Century Soldier*, dedicated to the technologies now in use in the US military as well as those in development. Many of these technologies allow the soldier to engage in combat from a further distance than previously attainable. However, there is a growing trend toward those technologies that will enable the enemy to be engaged remotely. There is an inclination now toward unmanned technologies, such as battlefield robots, unmanned auto-cannons, and unmanned aerial vehicles. The latter is a piece of equipment that is already in use today. The Predator drone, now in use in Afghanistan and the Iraqi no fly zone, is one such unmanned aerial vehicle (UAV). Washington was criticized for its November 2002 attack in Yemen that used a Predator drone. The *Christian Science Monitor* reported that the strike, which used the remotely-piloted Predator Drone armed with laser guided Hellfire missiles, "infuriated Yemeni officials" (Smucker par. 4). However, one western diplomat, when commenting on the attack, noted that it was "good, clean, and clinical" (Smucker par. 19).

To what end are these technologies pursued? What purpose does it serve to pursue weapons that can destroy, in a blaze of power, entire enemy forces, without ever seeing or engaging, face to face, rifle to rifle, that enemy?

The ancient Chinese military philosopher, Sun Tzu, in *The Art of* War, commented on the best way to win a war. "To fight and conquer in all your battles is not supreme excellence; supreme excellence consists in breaking the enemy's resistance without fighting.... Therefore the skillful leader subdues the enemy's troops without any fighting" (Tzu Ch. 3 par. 2, 6). Major General Scales, of the US War College agrees with Sun Tzu's formula for victory. The objective of war is not to kill the enemy, rather it is to break its will, and thus firepower has a much better effect if used as a paralytic rather than "genocide through firepower.... No matter how efficient and precise a firepower system might be, victory is rarely defined by killing everyone on the other side" (Scales 15).

If victory then is defined by forcing the enemy to capitulate rather then wiping him out, then it is important to look at the effects of high power military technology. What benefits are reaped from enhancing technological dominance? Are there any consequences that result from relying on such technology?

One of the benefits of weaponry that can be used to attack from a distance, such as the Predator drone, is the ability for such technology to keep pilots out of harm's way. For example, the Israeli Defense Force (IDF) used Unmanned Aerial Vehicles (UAVs) effectively in 1982, when, the Syrians had set up 19 missile batteries in the Beekaa Valley. The IDF was able to fool the Syrian radar operators into "lighting up" the drones, giving away their positions. Anti-radiation missiles destroyed all radar and missile batteries, without loss to the IDF. The US raided the Valley a number of years later, after the Syrians had time to rebuild their defenses in the Beekaa Valley, without the use of UAVs. They lost two planes and two men; one killed and the other captured (Shukman 183). As David Shukman, the author of *Tomorrows Wars: The Threat of High-Technology Weapons*, put it, "a manned plane attacking air defenses is like an elephant attacking an elephant gun" (183). James

Dunning, author of *How to Make War*, notes two outcomes that technology will have. The first is the increased lethality of military forces. Second, remotely operated drones, he pointed out, will be able to perform surveillance, taking some of the danger and the workload off pilots (Dunning 43, 45).

Enhanced capabilities of weapons allow attacks to become more deadly and effective. Modern weapons can now do in a matter of days and hours what it took weeks and months to do in the First World War. This increases the historical daily loss by a factor of 2 (Dunning 307, 486, and 487). The new F-22, for example, is thought to be the most capable fighter in the world. This is in part because of the computers and battle management software that it employs, making it a highly formidable opponent (Brill *et al* par. 1). These computers work to enhance the precision of the weaponry and capability of this and other weapons, allowing it to track and attack more targets from farther away.

General Scales believes that the use of technology and appropriate tactics will enable ground forces to engage an enemy and collapse his will to fight quickly, and with minimal casualties (xxv). What have these advanced technologies given the US? According to Dr. Desch, editor for a series of articles on military tactics in cities, "There is no single nation or even unlikely coalition of nations that can challenge the United States in conventional or nuclear combat" (2).

The Prussian military strategist, Carl von Clasuewitz, who is often studied and cited in military academia, identified one of the problems with warfare known as the "fog of war." The "fog of war" refers to the lack of information and knowledge and the confusion that is always present in warfare. Several experts agree that technology, especially information technology, will be able to cut through the fog of war, allowing war to be waged more quickly, more efficiently, and with more precision (Crock *et al* par. 15; *Military Revolutions* par. 15; O'Hanlon par. 30).

The benefits here seem obvious; such blatant hegemony and primacy, very much a part of technological dominance, would add to security both at home and in the battlefield. Wouldn't it? What could be better than a society that technology has aided in making more secure? Yet, despite the positive aspects of these technologies and despite the fact that there is the possibility that war might be waged with fewer American losses, there are serious disadvantages to the use and pervasiveness of these technologies.

For example, in 1993, the US was a part of a UN peacekeeping force in Somalia working to halt the raging civil war. While there, the US forces engaged in a raid to capture lieutenants of the warlord Aidid, which took them into the center of Mogadishu. The mission, described in Mark Bowden's book *Black Hawk Down* and the film of the same name, went drastically wrong. The raid itself did not incur particularly high losses, only 18 American deaths, compared to the estimates of a thousand or more Somalis. It did, however, point out two things. The first was the overwhelming and dangerous faith that the American forces placed in their weaponry and technological mastery. The Rangers, believed to be among the elite of American forces, felt that the helicopters gave the American forces a "sense of righteous invulnerability" that was cracked when the helicopters were shot down (Bowden 95, 106).

The second identified what General Scales referred to as the "Victory Disease" (xiv). This is a disease that disallows high casualties; it is partially the aftermath of the *blitzkrieg* victory of US forces in Desert Storm. General Colin Powell stated that the deaths of eighteen soldiers in Vietnam would not have raised any problems, while in Somalia it resulted in the resignation of a general and forced the US forces down a road of withdrawal. As a result of the onset of the "victory disease" the American stomach for losses had drastically lowered (Bowden 417, 418; Scales xiv). This raises the question of how effective military action can be if the public is unwilling to accept losses, which is one of the defining factors of war. It is possible that the victory disease will force the military into further exploitation of the technological arena?

The idea of a bloodless battlefield, provided by technology, one where American forces take no losses, is not a new concept. In the 1950's it was thought that technology would eliminate the casualties of the battlefield. The technology that was supposed to eliminate conventional warfare was

strategic nuclear weapons (Scales 25). The result of those thoughts is readily visible: nuclear arms races, air raid drills, and the brink of nuclear war.

Brigadier General Wass de Czege relates that there is a belief that wars can be fought at arm's length, with Marines and infantrymen staying out of the range of the enemy by using indirect fire weapons (par. 1). Indirect fire weapons are those that do not require a direct line of sight to use. They can be manned from a safe distance away. However, according to Wass de Czege, the enemy does not capitulate because of what has been done; rather they surrender because of what may happen if they do not surrender (Wass de Czege par. 3). The problem with precision weapons, which are used from a distance in standoff positions, is that they "imply a willingness to gamble on the outcome" (Wass de Czege par. 5). In a standoff engagement, the enemy has the choice to surrender or not. But "for a strategic victory, the enemy regime must have no choice but to comply with the terms of peace" (Wass de Czege par 5, 7). A full surrender cannot be guaranteed without troops occupying enemy territory (Wass de Czege par. 7). In addition, an air war of attrition, designed to force the enemy to capitulate solely due to bombardment, "will inevitably lead to more casualties on our side" (Wass de Czege par. 10). As well, standoff weaponry tends to lead to more collateral damage and can result in more casualties of noncombatants (Wass de Czege par. 14). In a recent example of the latter, the *Christian Science Monitor* reported that last February a Predator drone was used to kill three people that looked similar to Al Qaede leaders. They turned out to be three unarmed peasants collecting scrap metal (Bowers par. 16). "Technology almost never serves as a magic bullet" (Yonas and Moy 131).

Perhaps the most dangerous consequence of using these weapons in warfare is that of asymmetrical warfare. Doctors Metz and Johnson of the Army War College relate that the greatest danger that faces the United States is that of strategic asymmetry, which is the use of tactics other then conventional military assault in order to gain an advantage (1). In short, rather than counter strategy for strategy, the enemy attacks by some very different method. There are a few examples of asymmetrical warfare close to America's hearts, which have happened within the past 20 years. The Kobar towers bombing in Beirut in 1982 is one; a second is the bombing of the USS Cole; the third were the catastrophic attacks on the Pentagon and the Twin Towers on September 11, 2001. These were all attacks that profited by their unconventional manner. Although an asymmetrical attack can target either military or civilian arenas, it will probably be more effective if levied against a civilian population.

Because of the very primacy of the US military, "challengers will seek to wage asymmetric warfare against us" (Desch 2). They will do this because they have no other means of retribution. Baron Otto von Bismarck's comment is still applicable today. "[These are times] in which the strong is weak because of his moral scruples and the weak grows strong because of his audacity" (qtd in Applegate 2). Due to the audacity of an enemy, they will be able to gain the advantage by waging asymmetrical warfare. Melissa Applegate, of Strategic Studies Institute, stated that the "steadfast pursuit of new and improved conventional capabilities – essentially getting better and better at what we are already the best in the world – may leave the United States without the proper tools and techniques to fight the emerging threat" (2). Asymmetrical warfare need not conquer the enemy, merely prohibit him from winning (Applegate v). The educated enemy will know better than to strike against the networked and aware troops on the battlefield; rather, he will see the weakness that lies in the civilian and support personnel sectors and attack them, perhaps even using weapons of mass destruction (Wass de Czege par. 10). "U.S. ascendancy to conventional military superiority provides the major incentive for adversaries to pursue asymmetrical challenges" (Bennett, Twomey, and Treverton 13). As the US Military is only beginning to deal with asymmetrical warfare, we are vulnerable to it as asymmetrical warfare offers low cost and high yield opportunities for waging war (Applegate 6, 14). Asymmetrical is, due to its definition, impossible to totally protect against. If the US Military pursues an increasingly technologically oriented strategy, they open themselves up increasingly to the threat of asymmetrical warfare.

It is common knowledge that post traumatic stress disorder (PTSD), a mental disorder characterized by various symptoms, is a widespread occurrence in those that have been in very stressful situations. Identified in the trenches of WW I, this disorder, also known as "shell shock," is very frequent in combat veterans and persons in war zones, military and civilian alike. There is another syndrome not unlike PTSD that shares some similar symptoms but results from a different root. Known as perpetration-induced traumatic stress (PITS), it exhibits itself in those who kill. Rachel MacNair, author of Perpetration-Induced Traumatic Stress, details this problem. It is exhibited often in combat veterans and executioners, those that kill and have direct knowledge of their killing. There is, however, an important and relevant historical case involving PITS.

The Nazi elite in the Second World War created a special group to carry out the Final Solution, the execution and elimination of the Jews. The Einsatzgruppen was formed specifically for this task; they were directly responsible for rounding up and shooting the Jews. However, they commonly suffered from extreme cases of PITS resulting in insanity, alcoholism and often suicide. It was a bloody and nasty business. Himmler once visited a detachment of Einsatzgruppen and observed the bloody job. He was repulsed by the actions, the close execution of so many people (MacNair 46, 47). "It was because of how ill he felt on this visit that he ordered a 'more humane' way for doing the killings" (MacNair 47).

The Nazi doctors understood the symptoms of PITS and related them to the proximity and personalization of the executions. The executioners never saw the faces of their victims; they shot them in the back of the neck, yet these necks still had the same characteristics of the faces, and would haunt the killers (MacNair 47, 48). It was because of the level to which the PITS symptoms arose and because of Himmler's reaction that the gas chamber began to be used. Although it was a far more expensive way of disposing of the Jewish population, it "allowed for greater distance between killer and victim" (MacNair 47). The psychological distance induced allowed the killings to be far less personal and easier to perform (MacNair 46 – 48). This is the same reasoning behind the locations of the death camps. All the concentration camps responsible for wholesale executions were placed outside of Germany, allowing deniability, distance, and impersonality between the German population and the Jews. The reasoning behind the German decision to move to the gas chamber is much the same as the American decision to no longer administer the death penalty by a hangman's noose or a firing squad but by the gas chamber, the electric chair, or lethal injection. These technologies all allow there to be greater psychological distance between executioner and executed.

The Nazi gas chamber is an example of a time and place where the psychological distance provided was necessary to facilitate the murders, easing the mind and emotions of the murderers. Richard Norman, author of *Ethics, Killing, and War*, discussed this idea of psychological distancing in his book. He argues, using examples from the Falklands war, that when war is fought from a distance there is "no sense of bridging the distance between persons" (Norman 182). This distance is bridged during hand-to-hand combat because the combatants must acknowledge each other and the skills of each other. Norman argues that it is more difficult to kill face to face than it would be to kill from a distance, because of our natural inhibitions, both psychological and moral (182, 183). These moral inhibitions make it "necessary to resort to the kind of distancing which blinds killers to the humanity of the killed" (Norman 183). Such distancing, Norman argues, results in a dehumanization and depersonalization of the enemy. "The distancing of the enemy in war is of a distorted and falsifying kind" (Norman 188). Such distance, and dehumanization, was created by the Nazis in the Holocaust through the use of the Hollerith machine and the gas chamber. Such distance, because it facilitates easier killing and might override normal inhibitions "cannot be defended as necessary or desirable" (Norman 188).

There is also the question of nuclear weapons, a specter that has haunted the world since their inception and first use in the WW II era. Yet, it has been seen that the destruction induced by these weapons can be achieved by other means. Robert Gardiner, in his book *The Cool Arm of Destruction*, discussed the problems of weaponry and moral insensitivity. In nuclear weapons he

recognized a weapon whose only capability is for use in "genocide" (Gardiner 131). "This is intrinsic to their nature: they cannot be used in any other way. Nuclear war means one thing, and one thing only: mass murder" (Gardiner 131). His assessment of nuclear weapons is correct. The death toll that could result from even small nuclear weapons may rise into the millions. However, this level of destruction is possible even with conventional weapons, as was demonstrated by the bombing campaigns of Japan and Germany (Gardiner 17, 18). If this is true of WW II era weapons, how much more dangerous are the modern technologies of death?

George Bernard Shaw, in his play *Man and Superman*, wrote on man and his perspective on weapons and killing. The Devil, speaking to Don Juan, states that man has changed little over time.

> In the arts of life man invents nothing; but in the arts of death he out
> does nature herself... In the arts of peace man is a bungler... Man
> measures his strength by his destructiveness... [His] energies rise up at
> the idea of death, these people: they love it; and the more horrible it is the
> more they enjoy it... Man, the inventor of the rack, the stake, the gallows,
> the electric chair, of sword and gun and poison gas: above all, of justice,
> duty, patriotism, and all the other isms by which even those who are clever
> enough to be humanely disposed are persuaded to become the most
> destructive of all the destroyers (Shaw 621; act 3).

This is perhaps an exaggeration of the truth; however it is only an exaggeration. Man's capability, to kill far outstrips his ability to aid life. A single nuclear weapon can destroy millions more than hospitals can save in a year from death by natural causes.

Society is based on a number of principles, one of which is a sense of collective human responsibility, the idea that a person is responsible for the results of his actions in relation to the entire human race. If this sense of responsibility is removed, will there be a cohesive society or will it be a mere "aggregation of independent individuals" (Gardiner 82). The question, then, is what is this responsibility? In one sense it is the involvement in the lives of others, rather than a clinical observation; it is an "ability to respond" (Gardiner 82). If man is connected to other men then a human is not merely flesh and blood; he is created of his relationship to others. Responsibility is also the recognition of accountability to the rest of humanity. "Our actions do not 'belong' to us alone, for their impact does not stop at the boundary of our own lives" (Gardiner 82). Man therefore is intrinsically responsible for governing his life in relation to the rest of humanity and to take into account the effect of all his actions in a far larger sum total of human life (Gardiner 82).

Unfortunately modern weapons remove this human responsibility. Their very complexity, for example, distributes the responsibility, or blame, between a myriad of scientists, designers and builders of circuit boards. Each is not responsible for the entire project, or even his own part, as there may be dozens of people engaged in making a single circuit board; the sum of the destruction spreads very thinly over all involved in the project (Gardiner 83, 84).

Weapon development, as it has moved from bludgeon to the thermonuclear Intercontinental Ballistic Missile, has removed the person farther and farther from the result of his actions, "increasing destructiveness, impersonality, and distance between combatants" (Gardiner 85). With modern weapons, killing is not something that is "done" and the person who does the killing does not "do" it. Rather, he merely presses a switch and death happens, often far off and out of personal range (Gardiner 86). The danger lies in the ease at which the killing can be done, and the lack of consideration required. Gardiner quotes philosopher and Catholic peace activist, Fr. Philip Berrigan, in a story he told about two young men manning a nuclear weapons silo. When asked if it would be difficult to fire if they were given the order, the answer was the act was "no different than going home and turning the key in the front door" (Berrigan qtd. Gardiner 87).

It is difficult to psychologically associate the act of turning a key or flipping a switch, such simple acts, with aggression. "The more destructive the weapons and the more efficient the apparatus of triggering them, the smaller is the degree of willingness required to put them to use" (Rapoport

qtd. Gardiner 88). Those who die have no identity; they are anonymous and impersonal and without existential reality; they barely exist. With this disconnect, war and the war games grow closer together (Gardiner 88-91).

This manner of warfare can lead to dangerous results. It can allow "for practically unlimited and indiscriminate violence: unlimited because [people are] unrestrained by any sense of human reality at the other end of the weapons" (Gardiner 92, 93). Gardiner sums up the danger of this psychological disassociation and its roots. "This disassociation is largely traceable to the nature of modern weapons. It is easy to kill – if the killing is done massively and at a great distance" (100).

Technology becomes the enabler of this disassociation. The two Holocaust technologies, the Hollerith machine and the gas chamber, allowed significant disassociation between the killer and death, allowing death to be exacted with greater psychological ease than if the technology was not used. Modern technologies, such as UAVs and cruise missiles, exacerbate this problem of psychological disconnect by adding even more miles between the combatants. The danger here is the possibility that a war without connection, without mutual fear and respect, might escalate into a Holocaust. As such weapons distance the user from the results and therefore from responsibility for death, the road toward such action is shortened.

There are those who might say, "That will never happen!" or "Not here, not now! Our governments know better than *that*." The fact of the matter is that action is easily rationalized in the name of survival and national security. History shows that it can happen here, now, with these governments. This rationalization happened in the WW II era. In 1937 the Germans bombed Guernica, Spain and the Japanese bombed Nanking, China. The world's response, and the US response, was moral outrage. They felt that civilian populations were never to be bombed. However, over the years of WW II, aerial bombing was legitimized by the Allied powers, until in 1945 the US firebombed Dresden, Germany, a town full of refugees without military significance. Fire bombing raids were conducted over Japan, killing hundreds of thousands (Gardiner 48-50). Then we dropped the atomic bomb.

These actions set two deadly precedents. The first allows wars of attrition to be waged from the air, in essence bombing the civilian population into submission. The second is a trend of self-legitimization; a government can totally change its position, from the moral outrage of Guernica to the twin tragedies of Nagasaki and Hiroshima. It can happen. It has happened.

The danger of these weapons lies in their ability to distance men from other men. It is a danger that results in asymmetric warfare and killing without responsibility, because it is easy to kill a non-existential enemy. However, for the sake of security these weapons should not, and cannot, be abandoned. They should, rather, be used with extreme caution, and an over-anxious pursuit of such technologies should be carefully weighed against their advantages and disadvantages.

Dwight D. Eisenhower, a man who was both General and President, leveled one more charge against the pursuit of more and more weaponry. "Every gun that is made, every warship launched, every rocket fired, signifies in the final sense a theft from those who hunger and are not fed, those who are cold and are not clothed. The world in arms is not spending money alone. It is spending the sweat of its laborers, the genius of its scientists, and the hopes of its children" (qtd. Shukman 233).

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"Allied Failure to Destroy Nazi Death Camps." History in Dispute, Vol. 5: World War II, 1943-1945. Robert J. Allison. St. James Press, 1999. Gale Group. <http://galenet.galegroup.com/servlet/histRC/>. 11 Nov. 2002.

This article gives argument for and against the bombing of the extermination camps of the Third Reich. It discusses the rational of each argument, both for and against the bombing of the camps. It was useful in looking at the decision making of the commanders in that era as well as their use of technology. It also provided historical perspective in that time.

Ante, Spencer E. et al. "High Tech is Starting to Kick In." Business Week. 16 Sept. 2002. i3799 p30. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

This article discus's the problems facing the technological security of the US. As well, it looks at the corporations that are working on such technology and will profit from the need for these technologies. It was useful in gaining a capitalist perspective on the subject of arms sales.

Arquilla, John and David Ronfeldt. "The Advent of Netwar: Analytic Background." Studies in Conflict & Terrorism. Jul – Sep 1999. v22 i3 p193. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This piece discusses netwar. It was useful in detailing the various arenas in which it may be used in and which actors may be most likely to use such a tool.

Arquilla, John and Theodore Karasik. "Chechnya: A Glimpse of Future Conflict?" Studies in Conflict and Terrorism. July-Sept 99. v22 i3 p207. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002

Describes how netwar has been waged in Chechnya. Especially useful were the descriptions of technology used by the Chechens in battles against the Russians. The article relates to asymmetrical warfare as well.

Ashley, Steven. "Warp Drive Underwater." Scientific American. May 2001. v284 i5 p70. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 19 Nov. 2002.

Discusses super speed underwater weapons. Especially discussed are super-caviating torpedoes. This piece was useful especially is its discussion on the fears of the future uses of these weapons.

Bartlett, Norman. "UAVs take flight: after decades as a backwater technology, unmanned airborne vehicles are now seen on TV in active service over Afghanistan in the war against terrorism." Design News. 20 May 2002. v57 i10 p21. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

Bartlett discusses unmanned aerial vehicles (UAVs). It addresses the different levels of UAVs and their use; as well as the pros and cons of the technology, and the costs. The discussion of UAVs was its main asset.

Barrie, Douglas. "U.K. Ponders Fine-Tuning With an Eye on UAV/UCA Needs." Aviation Week & Space Technology. 16 Sept. 2002. v157 i12 p26. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This article discusses the U.K.s investigation into the use of UAVs. It was most useful for its discussion of what some of the capabilities are.

Barry, Christian. "The Ethical Assessment of Technological Change: an overview of the issues." Journal of Human Development. 2001. v2 n2 p167-189. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 13 Nov. 2002.

Barry discusses technology and ethic. His treatment of technological change and its effect on people was useful.

Beschloss, Michael. "FDR's Auschwitz Secret: In an exclusive excerpt from his new book, historian Michael Beschloss revels the untold story of how Franklin Roosevelt decided against bombing the Nazi death camp." Newsweek. 14 Oct. 2002. p37. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Beschloss' piece addresses the problem of bombing Auschwitz. Includes political responses to the holocaust in the US. It was useful in providing a background on US response to the holocaust.

Bishop, Ryan and John Phillips. "Unmanning the homeland." International Journal of Urban & Regional Research. Sept. 2002. v26 i3 p620. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Ryan and Phillips deal with unmanned technologies for use in the urban environment. These technologies are intended for use in homeland security. Their discussion on various unmanned technologies in an urban perspective was this pieces most useful asset.

Bitzinger, Richard A. "The globalization of the arms industry; the next proliferation challenge." International Security. Fall 1994. v19 n2 p170. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Bitzinger deals with the globalization of arms production. Cooperative creations of said weapons and national defense budgets are addressed in this piece. Its discussion of arms proliferation and global cooperation was useful.

Bowers, Faye. "US Pulls out new tools, new rules; CIA slaying by drone signals Bush's resolve to hunt down Al Qaeda, even by controversial means." Christian Science Monitor. 6 Nov. 2002. 01.

Raises the issue of the rules that the government has in place for attacking in the Afghan war. Relates to the US slaying by drone in Yemen. It is useful in providing information on this attach as well as the ethics behind the attack in Yemen

Bunker, Robert J. "Information Warfare Conference." Military Review. Jul/Aug 1995. v75 i4 p102. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

These were the proceedings from a conference on information warfare. I found the article useful in its discussion of the paradigms of information warfare.

Burleigh, Michael. Ethics and Extermination: Reflections on Nazi Genocide. New York: Cambridge University Press, 1997.

This book was useful in its discussion of the psychological factors of the holocaust and for its treatment of the Nazi ethics.

Calvocoressi, Peter. World Politics 1945 – 2000. 8th ed. Essex: Pearson Education Limited, 2001.

This book details pretty much every political event from 1945 onward that is of any amount of international significance. I used it for background information on the international political system as well as for its discussion of weaponry and its uses.

Casagrande, Rocco. "Technology Against Terror." Scientific American. Oct. 2002. v287 i4 p82. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Cassagrande discusses technology used to detect bio-agents. The article was useful for its description of technology used to detect such threats and how it is used.

Cimbala, Stephen J. "Accidentals/Inadvertent Nuclear War and Information Warfare." Armed Forces & Society: An Interdisciplinary Journal. Summer 1999. v25 i4 p653. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This article speaks about the need for secure information technology. Specifically in relation to nuclear weapons and nuclear security. It also discusses a couple of non-Personal warfare technologies such as high altitude electro magnetic pulse. The discussion of such technologies used in warfare was the most useful part of this article.

"Complicity in Nazi-Occupied Territories." History in Dispute, Vol. 4: World War II, 1939-1943. Dennis Showalter ed. St. James Press, 2000. Gale Group.
<http://galenet.galegroup.com/servlet/histRC/>. 11 Nov. 2002.

This article discusses the role that local populations played in the holocaust. It offers two differing viewpoints; one that stating that the local populations played a large role in the holocaust and a second stating that the indigenous people had little role in the holocaust. it was most useful in provided the historical perspective for the holocaust.

Cooper, H.H.A. "Terrorism.." American Behavioral Scientist. Feb. 2001 v44 i6 p881 -893. Psychology and Behavioral Sciences Collection.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 25 Nov. 2002.

This piece describes and defines what terrorism is and how it is performed. It is most useful in its discussion of modern nuclear, biological, chemical, or cyber terrorism.

Cordesman, Anthony H. Terrorism, Asymmetric Warfare, and Weapons of Mass Destruction: Defending the U.S. Homeland. Westport: Praeger, 2002.

Cordesman, in this volume, discusses the various aspects of the U.S. and its relation to terrorism and asymmetrical warfare. It was most useful for its discussion of U.S. susceptibility to such attacks.

Covault, Craig. "Net-Centric Ops, UAVs Reshape Battlefields and Boardrooms." Aviation Week & Space Technology. 22 July 2002. v157 i4 p163. Academic Search Elite.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

This article discussed the use of a net worked operations sphere. It includes information on UAV roles that is useful.

Dawson, Jim. "Science and Technology Are a Focus of Debate on New Homeland Security Department." Physics Today. Aug. 2002. v55 i8 p22. Academic Search Elite.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 23 Nov. 2002.

Dawson discusses the roles of technology and technological advancement in the war on terrorism, especially in relation to homeland security. It discusses the role of the new Department of Homeland Security.

Delk, James D. "The Los Angeles Riots of 1992." Soldiers in Cities: Military Operations on Urban Terrain. p 89 – 102.

This chapter discusses the use of National Guard troops in quelling the 1992 riots in Los Angeles. It was most useful in discussing some technologies used in this type of engagement and for showing that urban fighting can be done without much actually killing.

"Why MOUT Now." Soldiers in Cities: Military Operations on Urban Terrain. p1 – 16.

This chapter addresses some of the reasoning behind training in military operations in urban terrain. It is most useful for addressing that the most prevalent sort of warfare in the future will be asymmetrical.

Dornheim, Michael A. and Michael A. Taverna. "War on Terrorism Boosts Deployment of Mini-UAVs." Aviation Week & Space Technology. 8 July 2002. v157 i2 p48. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

Dornheim and Taverna address the use of UAVs in the war on terrorism. It is most useful in its discussion of the various technologies and various drones available.

Eden, Steven J. "Leadership on future Fields: Remembering the Human Factor in War." Military Review. May/June 1999. v79 i3 p35. Military Library FullTEXT.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

This article addresses the relationship between modern weaponry and leadership. It was most useful in the manner it addressed how the modern battlefield might affect the individual soldier and leaders.

Escheverria, Antulio J. "Optimizing chaos on the nonlinear battlefield." <u>Military Review</u>. Sept./Oct. 97 v77 i5 p27. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 12 Nov. 2002.

Discusses the use of technology on the battlefield. Especially important is its discussion on the modern and non- conventional battlefield.

"Fast Track." <u>Air Force Times</u>. 26 Aug. 2002. v63 i5 p6. Military Library FullTEXT. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This article in Air Force Times discusses issues relevant to the war on terrorism. One area that is addressed and was important is the cost of such technology used in combating terrorism.

Franks, Frederick M. "Full-dimensional operations: A doctrine for an era of change." <u>Military Review</u>. Jan/Feb 97 v77 i1 p178. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 19 Nov. 2002.

Discusses the doctrines laid out in the army field manual in relation to different types of warfare. It also discusses the need to adapt the manual to discuss modern tactics of warfare. It was especially useful in relating the need for a change in the manual to modern technology and tactics.

Fulghum, David A. "Mini-Motors To Drive Small UAVs, Missiles." <u>Aviation Week & Space Technology</u>. 29 July 2002. v157 i5 p30. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

This article discuses micro-UAVs and other miniature weapons. Most useful were the weapons systems that are being brought out that can be miniature and effective.

"UAV Testers Call For Planes, Pilots, Funds." <u>Aviation Week & Space Technology</u>. 26 Aug. 2002. v157 i9 p34. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

This piece discusses the use of predator in action as well as their capabilities. It was specifically useful in addressing the current capabilities as well as the capabilities that are being pursued.

Fulghum, David A. and Robert Wall. "Stinger Eyed for UAV Role." <u>Aviation Week & Space Technology</u>. 4 Mar. 2002. v156 i9 p44. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

Fulghum and Wall discuss the carious missiles that are being looked at for using helicopters and UAVs. The article was most useful for its discussion of the expanding capabilities of remote technology.

"UAVs Built for Use From Large UAVs, Missiles." <u>Aviation Week & Space Technology</u>. 22 July 2002. v157 i4 p192. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

This article discuses the use of UAVs, including micro UAVs and the predator drone. It was most useful for its addressing of the subject of miniature UAVs.

Geddes, John. "High-tech Safety." <u>Macleans</u>. 27 May 2002. v115 i21 p31. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 23 Nov. 2002.

This article discusses the use of technology to protect soldiers in the field from friendly fire. It was most useful in its addressing the problem of friendly fire and the need for a solution.

Grange, David L., Richard D. Liebert, and Chuck Jarnot,. "Airmechanization." <u>Military Review</u>. Jul/Aug2001, v81 i4 p10 -21. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 23 Nov. 2002.

This article discusses the need for air mechanized fighting groups. Most useful was the discussion of the technologies used for this and for the discussion of the use of UAVs and UGVs in such a fighting group.

Grant, R.G. Warfare in the Modern World: History of Warfare. Austin: Raintree Steck-Vaughn, 1999.

This book details a simple history of modern warfare from 1945 onwards. It give some emphasis on weapons systems and their development.

Gray, Colin S. Weapons Don't Make War: Policy, Strategy, and Military Technology. Lawrence: University Press of Kansas, 1993.

This book discusses mostly the connection between warfare and policy, rather then weaponry. It was most useful for a couple points on the over-emphasis of technology and the misapplication of Clausewitz.

Greene, Joshua M. and Shiva Kumar. Eds. Witness: Voices From the Holocaust. New York, The Free Press; 2000.

This volume is a collection of interviews and statements by holocaust survivors. It will provide the closely human aspect of the holocaust and the time before and after it. It covers many facets, from normal daily life before the beginning to the camps and to the liberation.

Harley, Jeffrey A. Information, Technology, and the Center of Gravity. Winter 1997. Naval War College Press. 5 Dec. 2002.
<http://www.nwc.navy.mil/press/Review/1997/winter/art4wi97.htm>.

This paper addressed Clauswitz's center of gravity in relation to modern technology. It was useful in that it provided, from a military perspective, an address of some of the problems that might be faced with an over reliance on technology.

Howard, Michael. Studies in War and Peace. London: Temple Smith, 1970.

This volume discussed many historical cases of war and peace. I found it most useful for its discussion of airpower and of military power in modern international politics.

Jarnot, Charles A. "Air Mech Strike: Revolution in Maneuver Warfare." Military Review. Mar/ Apr 97. v77 i2 p79. Psychology and Behavioral Sciences Collection.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

Discusses a proposition to change the mechanization of the army from tanks to helicopters and other rotary wing aircraft. This article was useful in relating the potential for technological advance in such weaponry when it is used in this fashion.

Johnson, Eric A. Nazi Terror: The Gestapo, Jews, and Ordinary Germans. New York, Basic Books; 1999.

This volume, on the holocaust, will provide a historical documentation of the actual holocaust. It will also provide some insight into the machinations of the organs of German domestic policy, previous and during the war years, and how they acted to enable the holocaust.

Joffe, Josef. "Asymmetric Warfare." Time Atlantic. 24 Sept. 2001. v158 i13 p13. Psychology and Behavioral Sciences Collection.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

Discusses the use of low technology in warfare and the perspective of asymmetric warfare. It was useful in looking at how warfare can be asymmetrical and how modern weaponry is not always useful in combating this type of war.

Johnson, Douglas. "RE: Modern Technology and Warfare." E-mail to Stephan Faherty. 3 Dec. 2002.

This e-mail was in response to a couple of questions that I sent Dr. Johnson. It addressed the problems of asymmetrical warfare and how it relates to terror. I found it most useful in his descriptions of how homeland security may help to fight the problems of asymmetrical warfare.

"RE: Thanks." E-mail to Stephan Faherty. 4 Dec. 2002.

This e-mail was in response to my question on whether or not I could continue to send Dr. Johnson questions about my research. However, in the e-mail he elaborated on the need for technology and intelligence to work together. This was the most useful part of this e-mail.

Jones, Jeffrey B. "Theater Information Strategies." Military Review. Nov. 1994. v74 i11 p48. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Describes the necessity for wining the warfare and who this will affect us should deterrence fail. It was useful for addressing information warfare in a post deterrence scenario.

Kaufman, Gail and Amy Svitak. "Pentagon plan calls for joint training network, more simulations." Air Force Times. 15 July 2002. v62 i5 p23. Military Library FullTEXT. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

The article discusses the use of technology for training. Including the results of such training, which may be cheaper and better-trained soldiers. The subject of training is useful to look at especially in reference to the prevalence of technology in warfare.

Kreie, Jennifer and Timothy Paul Cronan. "Making Ethical Decisions." Communications of the ACM. Dec. 2000 v43 i12 p66. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Kreie and Cronan deal with some of the ethical dilemmas of information technology including the issues of information management and privacy. This is important because ethics must be addressed in dealing with technology.

Kolenda, Christopher D. "Technology, Leadership and Effectiveness." Military Review. Jul./Aug. 2000. v80 i4 p87. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 23 Nov. 2002.

This article discussed the role of technology in the modern army but it also stressed the need for leadership and the human quotient. This addressing of the human necessity and leadership necessity was what made this article most useful.

Lane, Charles. "The satellite revolution: photos of gulags, or John Travolta's yard." The New Republic. 12 Aug. 1996. v215 n7 p22. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

The public release of 1m resolution satellite photographs has brought varying consequences. The effect of this, as well as the international political responses and the results of the action are addressed in this piece. This is useful because it discusses the availability nearly military technology to the general public,

Langer, Lawrence L. "The art of atrocity." Tikkun. July – Aug. 2002. v17 i4 p67. Expanded Academic

ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

The article addresses the use of Jewish art as propaganda by the Nazis in the Terezin Ghetto. In addition it discusses the underground use of art by the same Jews, as well the relationship between people, culture, and genocide is discussed. All these are important because they give a historical perspective and historical information on the subject of the holocaust.

Lieven, Anatol. "Lessons of the war in Chechnya, 1994 – 96." Soldiers in Cities: Military Operations on Urban Terrain. p 57 – 75.

This chapter discusses the lessons learned in the Russian war in Chechnya. Included are references to relatively low-tech weaponry, such as armor, that is uneasily used in an urban environment.

Loeb, Vernon. "Bursts of Brilliance: How a string of Discoveries by Unheralded engineers and Airmen Helped Bring America to the Pinnacle of Modern Military Power." The Washington Post Magazine. 15 Dec. 2002. p 6-11, 23-26.

This article discussed the history behind precision-guided munitions as well as some of the modern technologies being used. It was most useful for its discussion of the history of these weapons.

Luke, Vern. "Too long ignored, electronic warfare deserves any attention it can muster." <u>Air Force Times</u>. 6 May 2002. v62 i41 p 54. Military Library FullTEXT. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 13 Nov. 2002.

This article discusses the need for an evaluation of the US electronic warfare technologies. It also addresses the use of such technology in previous eras. It is useful because it addresses electronic warfare use past and present.

Machiavelli, Nicolo. "The Prince." <u>Machiavelli; Hobbes</u>. Great Books of the Western World. ed. Robert M. Hutchins. trans. W. K. Marriott. Encyclopedia Britannica, Inc: Chicago, 1990. pp. 1 – 37.

This book is one of the classic works on international relations and warfare. I used it mostly for its perspective on warfare and government. Namely, how war is best waged and how such governments are best undertaken.

Mains, Steven J. "Adopting Doctrine to Knowledge-Based Warfare." <u>Military Review</u>. Mar./Apr. 97. v77 i2 p93. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

Discusses the use of technology, specifically IT technology, in warfare. It also relates the necessities of change that are needed to effectively use IT warfare technology.

Manwaring, Max G. <u>Nonstate actors in Colombia: Threat and Response</u>. Carlisle: Strategic Studies Institute, May 2002. <http://www.carlisle.army.mil/ssi/pubs/2002/actors/actors.htm> 3 Dec. 2002.

This monograph discuses the problem of nonstate actors on the stability of the state and the international sphere. This is relevant because often terror is committed by nonstate actors rather then state ones.

McGovern, Celeste. "War Technology. (Brave New World)." <u>Alberta Report</u>. 17 Dec. 2001. v28 i24 p48. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

McGovern discusses Special Forces and modern war technology. His addressing of various technologies that are being used to wage war is useful.

McKenzie, Kenneth F. <u>The Revenge of the Melians: Asymmetric Threats and the Next QDR</u>. Washington D.C.: Institute for National Strategic Studies, 2000.

This was a well-written volume that defined the asymmetrical threat. I used it for its definitions as well as the discussions on various threats that asymmetrical warfare poses.

Metz, Steve. "RE: Warfare and Modern Technology." Email to Stephan Faherty. 3 Dec. 2002.

This e-mail was in response to a couple of questions on asymmetrical warfare and terrorism that I sent Dr. Metz. It was useful for a number of sources that he gave me and in clarifying some of my thoughts about security and asymmetrical warfare.

Metz, Steven and Raymond Millen. <u>Future War/Future Battlespace: A Strategic Analysis of Army Roles</u>. Carlisle: Strategic Studies Institute, 3 Dec. 2002. Unpublished Mss.

This excerpt comes from an unpublished report on the changing nature of warfare and the army. It was most useful for its conformation of some conclusions that I have reached.

Moaz, Ifat. "The Violent Asymmetrical Encounter with the Other in an Army-Civilian Clash: The Case of the Intifada." <u>Peace & Conflict</u>. 2001. v7 i3 p243. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 28 Nov. 2002.

This article discussed the Intifada and its effect on people. I found it most interesting in looking at the differing groups of IDF forces and seeing how committing the acts that they did effected them.

"Military Revolutions." <u>Economist</u>. 20 July 2002. v364 i8282 p7. Academic Search Elite.

This article discusses various topic Including the defense industry and new

technologies used in the military and for defense. *The article discussion of these technologies made it useful.*

Murray, Williamson. Introduction. Future War. xiii – xviii.

The introduction to this book, Future War, is useful in outlining a couple of thesis and stating a couple points. One of which was the idea of the "Victory Disease."

Munro, Neil. "Infowar: AK-47s, Lies, and Videotape." Communications of the ACM. July 1999. v42 i7 p19. Expanded Academic ASAP.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Munro deals with the issue of technology and information warfare, not only computer warfare but also the mass media. Information technology is an important subject in technology and warfare, this article is useful in its addressing of these topics.

"Nazi Genocide of Jews, 1939-1945." DISCovering World History. Gale Research, 1997. Gale Group. <http://galenet.galegroup.com/servlet/histRC/>. 11 Nov. 2002

This article gives a short discussion on the holocaust. Subjects include labor exploitation, extermination and the ghettoization of the Jews. It is useful in providing information about the holocaust.

Neiman, Max. "Urban Operations: Social Meaning, The Urban Built Form and Economic Function." Soldiers in Cities: Military Operations on Urban Terrain. p 139 – 148.

This chapter discusses the various paradigms of urban life and the problems that are faced fighting there. It was most useful for its discussion of social and economic problems that may aid or impede fighting in the urban arena.

Nowak, Rachel. "Pulling power: they're out there somewhere… we can feel their irresistible pull." New Scientist. 21 Sept. 2002. v175 i2361 p42. Expanded Academic ASAP.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Nowak relates how technology, developed in the cold war, is being used to hunt diamonds. This technology that once was used by the US is now being used to hunt diamonds. The article is useful because it discusses the proliferation and nonmilitary use of military technology.

O'Brien, William V. Nuclear War, Deterrence, and Morality. New York; Newman Press, 1967

This book presents the catholic viewpoints on the subject of nuclear, and modern, warfare.

Parmalee, Patricia J. "Attacking Manpads." Aviation Week & Space Technology. 25 Mar. 2002. v156 i12 p19. Academic Search Elite.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

Parmalee gives a quick treatment to the military's search for a technology that can be used to detect shoulder-fired missiles. It was most useful in showing how they might attach such a system to a UAV.

Pasternak, Douglas and Eleni E. Dimmler. "A home-grown nuclear threat." U.S. News & World Report. 23 Sept. 2002. v133 i11 p40. Academic Search Elite.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Pasternak and Dimmler deal with the problem of nuclear proliferation and terrorism. In addition it talks about the technologies that are used to combat the problems of technology and nonproliferation.

Pearson, David. "Low-Intensity Operations in Northern Ireland." Soldiers in Cities: Military Operations in Urban Terrain. p 103 – 120.

This chapter discussed the use of troops in keeping civil order in Northern Ireland. It was most useful in showing tactics that can be used at such times.

Peraino, Kevin. "A Solution to Flight Risk." Newsweek. 23 Sept. 2002. v140 i13 p50. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This article discusses the uses for UAVs, both in the area of homeland security and in war. The article was most useful in the descriptions of uses.

Pincus, Walter. "U.S. Strike Kills Six in Al Qaeda; Missile Fired by Predator Drone; Key Figure in Yemen Among Dead." The Washington Post. 5 Nov. 2002. A01.

Pincus reports on the predator drone attack in Yemen. He also tells some of the reasoning behind the attack, and the US military's response to questioning. It is useful in providing information on the predator attack.

Posen, Barry R. "Urban Operations: Tactical Realities and Strategic Ambiguities." Soldier in Cities: Military Operations on Urban Terrain. p 149 – 166.

This chapter discusses the tactics and strategy of urban warfare as well as many of the problems surrounding urban war. The chapter was most useful for its discussion of how general weapons can be used effectively in urban warfare.

"Predators Patrol Iraqi 'No-Fly' Zone." The Washington Post. 25 Oct. 2002. A24.

Predator drones are being used to patrol the Iraqi no fly zones and strike targets in southern Iraqi. It is useful in providing information on how drones are being used now.

"Religious Response to the holocaust (1940s)." American Decades CD-ROM. Gale Research, 1998. Gale Group <http://galenet.galegroup.com/servlet/histRC/>. 11 Nov. 2002.

This piece discusses the American response to the news of the holocaust. Focusing particularly on the religious response. However, it includes some information the political response to the holocaust.

Reinwald, Brian R. "Retaining the moral element of war." Military Review. Jan./Feb. 98 v78 i1 p69. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 19 Nov. 2002

Discusses war and the effect upon it by technological progress. Most significantly for this research it discussed the human factor of war.

Ricks, Thomas E. and Vernon Loeb. "Afghan War Faltering, Military Leader Says; Myers Cites Al Qaeda's Ability to Adapt." The Washington Post. 8 Nov. 2002. A01.

Article relates the adaptability of Afghan fighters to the use of high-tech equipment by the US forces. It is useful in providing a perspective on how technology is currently being used and its effectiveness.

Rielly, Robert. "The Darker Side of the Force." Military Review. Mar/Apr. 2001. v81. i2. p58. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This piece describes the effects of cohesion in a unit, both positive and negative, however it focuses more on the negative. It was useful in treating group dynamics and immoral behavior.

Risen, James and Judith Miller. "C.I.A. Is Reported to Kill a Leader of Qaeda in Yemen." New York Times. 5 Nov. 2002. 1.

Risen reports on the CIA attack on Al Qaeda members in Yemen. The attack is the first confirmed attack using a predator since May. It is useful in providing information on the predator attack.

Risen, James and Marc Santora. "Man Believed Slain in Yemen Tied by U.S. To Buffalo Cell." New York Times. 9 Nov. 2002.

The article describes the Predator attack previously as well as one of those killed in it, an American tied to an Al Qaeda cell in NY. It is useful in providing some information n what has been discovered in the wake of the Yemen predator attack.

Robertson, Jack. "Remember Sputnik!" Chilton's Electronic News. 16 Sept. 1991. v37 n1878 p10. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Robertson discusses the need for technological programs to protect US security. It is useful because it discusses sentiments held about technology and its role.

Robins, Kevin and Les Levidow. "Video Games and virtual war." New Statesman & Society. 24 Nov. 1995. v8 i380 p28. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This article provided descriptions of some of the implications of distance warfare and its video game scenarios. I found it useful in the respect that is provided some implications that video gives to both the armed forces and the home viewers.

Salminen, Pertti. The Impact of Arms Technology on Military Doctrines. Helsinki: War College, 1992.

This volume, published by the Finish War College, discusses the doctrines put in place due to the advancement of nuclear technology. It discusses mostly NATO countries, in Europe, though it does mention the US. It was most useful in its discussion of how battles would be fought against certain types of non-nuclear forces.

Schmitt, Eric. "U.S. Would Use Drones To Attack Iraqi Targets." New York Times. 5 Nov. 2002. 16.

The article discusses the use of UAVs from patrolling and attack in southern Iraqi. It is most useful because it discusses the various uses this technology is being put to.

"Send in the Drones." Economist. 10 Nov. 2001. v361 i8247 p73. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

This article discusses how drones may be used in the future. it is most useful for the predictions that are made for the future of air war

Shanker, Thom. "New Incentives for Pilots of Remote Planes." The New York Times. 16 Oct. 2002. 22

The Article discusses some of the incentives given new pilots to get them to join Predator Squadrons. It also addresses dome of the problems surrounding the recruitment of pilots for these groups. It is useful because it relates attitudes within the military about UAVs and piloting UAVs.

Starry, Michael D. and Charles W. Arneson. "FM 100-6: Information Operations." Military Review. Nov.-Dec. 1996. v76 i6 p3. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

This article discusses information doctrine in the US military. It is especially useful in addressing how such doctrine and its attendant technology can and has been used.

Stix, Gary. "Fighting Future Wars." Scientific American. Dec. 95. v273 i6 p92. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Describes the possible effects of technology on warfare. It is especially useful in giving a treatment of future war and what might come to be.

"Sounding Out Snipers." Scientific American. Jul. 2001. v285 i1 p33. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 23 Nov. 2002.

Discusses technology that can be use to detect and track snipers. The article was useful in its references to a new technology that can make urban, or non-urban, warfare easier, but it was also useful in mentioning another technology that is being built to fool this bullet tracking equipment.

Tamari, Dov. "Military Operations in Urban Environments: The Case of Lebanon, 1982." Soldiers in Cities: Military Operations on Urban Terrain. p 29 – 56.

This article discusses the paradigm of "New Wars." It was most useful for the thesis that man of the "new wars" will be fought in urban settings and will encompass terrorism as a major factor of warfare.

Taverna, Michael A. and Andy Nativi. "Italy Acquires CL-289s, Mulls Follow-on UAV Buy." <u>Aviation Week & Space Technology</u>. 8 July 2002. v157 i2 p52. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

This piece discusses the purchase of UAVs for the Italian army. It is useful in addressing modernization efforts by other states.

"The Killing Game." <u>Economist</u>. 15 July 2000. v356 i8179 p82. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 23 Nov. 2002.

This article discussed the act of killing in warfare, an idea that is not always addressed. It was most interesting in its attesting that perhaps there is pleasure gained from killing in the battlefield.

"Theories of the Holocaust." <u>History in Dispute, Vol. 4: World War II, 1939-1943</u>. Dennis Showalter ed. St James Press, 2000. Gale Group. <http://galenet.galegroup.com/servlet/histRC/>. 11 Nov. 2002.

This article provides a dual viewpoint of the origins of the holocaust. One viewpoint was the intentional one, stating Hitler always intended the end to the Jews that happened, and the other was the functional response, the extermination was the best function. It is useful in providing information on Hitler's possible thought patterns.

"The German Army and Atrocities in World War II." <u>History in Dispute, Vol. 4: World War II, 1939-1943</u>. Dennis Showalter ed. St. James Press, 2000. Gale Group. <http://galenet.galegroup.com/servlet/histRC/>. 11 Nov. 2002.

Discusses the Relationship between the German Army and the Holocaust. The article provides two viewpoints, one that states that the Wehrmacht was willing and active in participation and the other states that it was not active and willing in the holocaust. It is useful because it provides information about the holocaust.

Towell, Pat. "Crusader May Be Precursor To More Defense Cuts." <u>CQ Weekly</u>. 20 July 2002. v60 i29 p1963. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

Towell writes about a number of new weapons systems that will enhance the military. These technologies are intended to make the military lighter, faster, and more effective. This is expected to allow the military to work better. The discussion of these technologies is it most useful aspect.

Tainor, Bernard E. "Military Operations in an Urban Environment: Beirut, 1982 – 84. - <u>Soldiers in Cities: Military Operations on Urban Terrain</u>. p 121 – 130.

This chapter discusses the Beirut occupation and some of the lessons that the military learned from that engagement.

"United States Policies and the holocaust." <u>History in Dispute, Vol. 3: American social and Political Movements, 1900-1945</u>. Robert J. Allison ed. St. James Press, 2000. Gale group. <http://galenet.galegroup.com/servlet/histRC/> 11 Nov.2002.

This article discusses the different viewpoint surrounding the US reaction to the holocaust. One states that the US allowed too many Jews to be killed while the other defends the US belief of the US's that held the best way to save the Jewery was to win a quick war. This piece is useful because it provides a look into the war and the American response.

Vaux, Kenneth L. <u>Ethics and the Gulf War: Religion, Rhetoric, and Righteousness</u>. San Francisco: Westview Press, 1992

The book provides a good treatment of the ethics of fighting the gulf war and in its pages raises a number of questions about warfare and the Gulf War. It was must useful for its treatment of technology and its effect on warfare.

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Vizard, Frank. "UAVs see Combat." Popular Science. Feb. 2002. v260 i2 p64. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

The article discusses the use of Predator drones in combat, especially relating to Afghanistan. The most useful part of this article was it description of some of the limitations of the predator drones.

Walker, P.F. and E. Stambler. "...and the dirty little weapons." Bulletin of the Atomic Scientists. May 1991. v47 i4 p20. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

Presents a challenge to the assumption that the Gulf War was fought entirely with precision weapons. It described many of the non-precision weapons used in the conflict. It was especially useful in addressing the idea that Iraq was not an entirely surgical war.

Walker, Richard W. "Can DOD transform itself? Defense chieftains say success hinges on data management." Government Computer News. 23 Sept. 2002. i29 p1. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002

Walker discusses the Department of Defenses work to make better use of technology. In addition he discusses some of the problems associated with the implementation of new technologies. The treatment of defense department work and goals in the area of technology as well as the problems associated with implementing such technology are useful.

Wall, Robert. "Force Protection UAVs Advance." Aviation Week & Space Technology. 26 July 2002. v157 i9 p33. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 21 Nov. 2002.

This article discusses the use of UAVs. Specifically it describes capabilities that they are being given or that are being investigated for troop protection.

"Hummingbird UAV Begins Flight Test Program." Aviation Week & Space Technology. 4 Feb. 2002 v156 i5 p37. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

This article addresses the development of an unmanned helicopter UAV by the Army. It is interesting and useful in that it shows how UAV development and research is expanding.

"Predator UAV Tested with New Payloads." Aviation Week & Space technology. 2 Sept. 2002. v157 i10 p47. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 20 Nov. 2002.

The article discusses the use of Predator drones. It was particularly useful in its discussion of the expanding capabilities of drones.

"UAVs, Counter-Terror Top Pentagon Demos." Aviation Week & Space Technology. 11 Mar. 2002. v156 i10 p28. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 22 Nov. 2002.

This article discussed the various counter terror programs that the DoD is pursuing. It was most useful for the description it gave of those programs.

"UAVs, Networking Hit Military Mainstream." Aviation Week & Space technology. 11 Mar. 2002. v156 i10 p66. Academic Search Elite. http://www.montgomerycollege.edu/library/fulltextremote.htm. 22 Nov. 2002.

The article addresses the adoption of UAVs by Sweden and Singapore. It is most useful in showing that militaries are modernizing and UAVs is one of the areas that such modernization is being done.

Wall, Robert. and David A. Fulghum. "UAVs Spotlighted as Defense Priority." Aviation Week & Space Technology. 11 Feb. 2002. v156 i6 p26. Academic Search Elite. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 13 Nov. 2002.

This article highlights the bush administrations thoughts on UAVs. It is useful in showing how the UAV role is expanding and how their budget is expanding as well.

Waller, J. Michael. "War and the role of the mass media: changing technology and a new king of war for the United States present both the U.S. military and news reporters with new challenges and ethical dilemmas." Insight on the News. 26 Nov. 2001. v17 i44 p15. Expanded Academic ASAP. <http://www.montgomerycollege.edu/library/fulltextremote.htm>.22 Nov. 2002.

Waller, in his article, discusses mass media and war, the new paradigms of the media and warfare as well as the challenges and dilemmas thereof. His treatment of the technologies of warfare and mass media are useful because both have relation to the use of technology in war.

Weinberg, Gerhard L. "Stalingrad and Berlin: Fighting in Urban Terrain." Soldiers in Cites: Military Operations on Urban Terrain. p 17 – 29.

This chapter discussed the urban battles in Berlin and Stalingrad in WW II. It was most useful for its treatment of how technology has helped urban warfare and perhaps how it can.

Wiesel, Ellie. "Night." The Night Trilogy. New York: Hill and Wang, 1972.

Wiesel provides a very good source on life in the concentration camp and on some of the Psychology effects of the holocaust. His poetic writing style is extremely effective at conveying such emotion.

Wirtz, James J. "The Battles for Saigon and Hue: TET 1968." Soldiers in Cities: Military Operations on Urban Terrain. p 75 – 88.

This chapter addresses the TET offensive in Vietnam. It is most useful for the descriptions of lessons learned for the urban fighting in that offensive.

Wood, Ray O. and Matthew T. Michaelson. "Close Quarters Combat and Modern Warfare." Military Review. May/June 2000. v80 i3 p106. Psychology and Behavioral Sciences Collection. <http://www.montgomerycollege.edu/library/fulltextremote.htm>. 13 Nov. 2002

This article discusses the need for training in close quarters combat. It was especially useful in the argument that such training is needed because war still comes down to the last six feet of hand-to-hand combat.

"World War II (era), 1928-1945." DISCovering World History. 1997. Gale Group. <http://galenet.galegroup.com/servelet/histRC/ >. 11 Nov. 2002.

This article discusses the era surrounding World War II, beginning at the eve of the depression, 1928, to the close of the war, 1945. It is useful because it provides this information on the WW II era.

Yohihara, Toshi. Chinese Information Warfare: Phantom Menace or Emerging Threat?. Carlisle: Strategic Studies Institute, Nov. 2001.
<http://www.carlisle.army.mil/ssi/pubs/2001/chininfo/chininfo.htm>. 3 Dec. 2002.

This article discusses the Chinese perspective on information warfare. It is most useful for the perspective on information warfare and its uses.

Zimm, Alan D. "A Causal Model of Warfare." Military Review. Jan/Feb. 2001. v81 i1 p47. Psychology and Behavioral Sciences Collection. 20 Nov. 2002.
<http://www.montgomerycollege.edu/library/fulltextremote.htm>. 13 Nov. 2002

Zimm describes maneuver warfare but focuses on moral warfare, in the development of his causal model. Most interesting is the relation between moral warfare and destruction as well as asymmetry.

Literature
Outstanding Presenter/Author: Joanna Caccavo

Mentor: Dr. Elaine M. Toia
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Judge: Michael Joyce (Vassar College, Poughkeepsie)
Judge's Comments: Joanna approaches Flauberty's sly and passionate novel with a sly passion and great verbal flare, reading closely and arguing deftly. She brings an informed sense of literary history yet remains undaunted and able to find a contemporary view. Her oral presentation was lively, engaging and exploratory.

The Juxtaposition of Romanticism and Realism in Gustave Flaubert's <u>Madame Bovary</u>

"One single creature capable of the nobility of dreams and aspiring to a better world is thrown into this milieu; she feels alien and oppressed; she suffers so much in solitude that she is altered and degraded . . . Is this moral? Is it consoling? The question does not seem to have occurred to the writer; his only concern was: is it true?" (Sainte-Beuve qtd. in Man 326). Written only a year after the publication of Gustave Flaubert's (1821-1880) masterpiece <u>Madame Bovary</u> (1856), Charles Augustin Sainte-Beuve's review summarizes both the plight of the title character, Emma Bovary, and the intent of Flaubert's brand of Realism. Throughout the novel, Flaubert irreverently strips away Emma's romantic illusions and increasingly undermines her portrayal as a Romantic heroine; from maidenhood to malcontent to thoroughly malicious adult, Emma evolves throughout the novel from a figure typical of Romantic fiction to a delusional adulteress more characteristic of a Realist novel. Flaubert accentuates her transformation by through Romantic and Realist passages and details, and as the story progresses, he wears away the artificial romantic veneer of Emma's life to reveal the rotten but ever more human, realistic elements beneath.

The Romantic movement that swept Europe in the eighteenth and early nineteenth centuries first emerged as a rejection of the literary values of the previous movement-- in this case, the Enlightenment. Romantic writers extolled emotion, idealism, and passion—all concepts that the impressionable Emma Bovary embraces during her early years and stubbornly lives by throughout <u>Madame Bovary</u>. Realism, which emerged in the nineteenth century as a reaction to Romantic literature, was never a cohesive literary movement but treated in detail the material world of people and things, ignoring mysticism and spirituality (Heath 28). Emile Zola (1840-1902), an icon of Realist literature, once said: "I have simply done on living bodies the work of analysis which surgeons perform on corpses" (Zola in Becker 159). Zola claimed to portray life objectively. Flaubert's penchant for drama puts him in a category different from that of Zola; his realism offers up detailed descriptions of the physical world, but is focused specifically as a direct reaction to Romantic literature instead of reacting indirectly. In <u>Madame Bovary</u> his irony is thick, almost cruel, and it is targeted at Emma Bovary, the idealistic, discontented wife of a small-town doctor.

In Part I of the novel, Flaubert is content to revel in Romantic excess, placing carefully chosen barbs here and there. He presents the reader with a protagonist whom he will tear down, or, perhaps more accurately, a figure who he will strip of all pretensions. When the reader is introduced to Emma, she seems to be the typical Romantic heroine, beautiful, modest, and idealized: "The breeze eddied around her, swirling the stray wisps of hair at her neck . . . The parasol was of rosy iridescent silk, and the sun pouring in through it painted the white skin of her face with flickering patches of light. Beneath it she smiled at the springtime warmth; and drops of water could be heard

falling one by one" (MB in Lawall 860). Critic Mrs. Harold Sandwith sums up the dreamy tone of Emma's early days: "Emma, the youthful bride, lost in melancholy reflections before her predecessor's wedding bouquet—Emma, the wife, smiling farewell to her husband over the flowering plants at her window—whose heart has not yet yearned over her?" (Sandwith 19). But how genuine is this perfection? Critic Dacia Maraini says that Emma, even at this early stage, is only playing a role, that "her submissiveness and filial devotion are only theatrical techniques" (Maraini 6). Certainly, Maraini's viewpoint is viable if one considers the novel holistically, and, indeed, in the flowery description of Emma can be found real, down-to-earth flaws. When Charles Bovary notices Emma's hands, the reader is told that the nails are "almond and tapering, as polished and shining as Dieppe ivories. Her hands, however, were not pretty—not pale enough, perhaps, a little rough at the knuckles" (MB in Lawall 858).

This commonness in the midst of beauty is only the first hairline crack in Emma's Romantic persona. Another comes with the abrupt shift in point of view at the end of Part One Chapter Three. Charles wonders, "Up until now, had there ever been a happy time in his life?. . . He had lived fourteen months with the widow, whose feet in bed had been like icicles. But now he possessed, and for always, this pretty wife whom he so loved" (MB in Lawall 870). Then, Flaubert's narrator turns to Emma, whose thoughts, next to the idealistic ardor of Charles passionate love, are mundane and almost supercilious: "before her marriage she had thought that she had love within her grasp; but since the happiness which she had expected this love to bring hadn't come, she supposed she must have been mistaken" (MB in Lawall 870).

Critic Victor Brombert points out in his essay "Madame Bovary: The Tragedy of Dreams," that "it is not her [Emma's] intellect, but her capacity to dream and to wish to transform the world to fit her dreams that sets her apart" (Brombert 85). A long passage describing the Church's nurturing of Emma's youthful romantic fantasies ends with a sudden turnabout, in which the narrator says that Emma "rebelled before the mysteries of the faith just as she grew ever more restive under its discipline" (MB in Lawall 873). Immediately after, a series of "could haves" regarding her honeymoon ends in Emma's disenchanted view of Charles. But even though she now realizes that Charles is an "everyman" who wore "drab everyday clothes and inspired neither laughter nor dreams" (MB in Lawall 874), Emma still resolves to carry out everyday life in a lady-like fashion. When the newly-married Emma and Charles dine at the home of the Marquis, Emma is fascinated by the duc de Laverdiére, a decrepit old man who once led a life of daring and passion: "Emma's eyes kept coming back to this pendulous-lipped old man as though he were something extraordinary, someone august. He had lived at court! He had slept with a queen!" (MB in Lawall 879). The implication of these passages is that the bubble of passionate, splendor-filled fantasies Emma has been living with in until this point is still there, though buffeted by rough, unconcerned reality. The Romanticism surrounding Emma is still undeniable strong, though, and critic Victor Brombert remarks that Emma resembles a female Don Quixote, and describes her as an almost pitiful, gullible creature, "inflamed by too many books" (Brombert 85). The more sober, disenchanting elements of her character are as yet unrevealed.

The next stage in Emma's life begins when she arrives in the provincial town of Yonville. At this point, the reality of Emma's condition is evident to the reader, but Emma has still not caught the brunt of her own delusions. Emma's romanticism has become semi-delirious, uneven, and even corrupt. Her illusions are so strong that they interfere with her feelings as a mother. When she discovers that she is pregnant, she hopes that her child will be a boy: "This idea of having a male child was like a promise of compensation for all her past frustrations. A man is free, at least—free to range the passions and the world, to surmount obstacles, to taste the rarest pleasures. Whereas a woman is continually thwarted" (MB in Lawall 902). Then, casually, almost cruelly but in complete accordance with reality, "the baby was born one Sunday morning . . . 'It's a girl!' cried Charles" (MB in Lawall 903). Emma then neglects her young daughter, Berthe. She simply does not fit into Emma's world because she was not born in accordance with her mother's dreams. After hurting

Berthe through frustrated disregard, Emma's "anxiety . . . gradually wore off; and she thought of herself as having been silly and good-hearted indeed to let herself be upset over so small a matter" (MB in Lawall 919). Similarly, Emma takes another step in casting off Charles by hurling herself into a relationship with the oily Rodolphe, with whom she thinks can realize her fantasies. But Rodolphe's sappy declaration of love during the famous agricultural fair sequence, which is interposed line-by-line with images of farming and manure, makes obvious to the reader how insincere he really is. He predictably turns out to be nothing but a mercenary who takes advantage of Emma's self-centered blindness. Emma's fervent lust is mocked by Rodolphe's casual, dismissive, and indulgent attitude. The narrative switches to Rodolphe's perspective briefly to illustrate this; "They had had to exchange miniatures and cut handfuls of each other's hair; and now she was asking for a ring—a real wedding band, a sign of eternal union . . .Emma's continual raptures, which his bourgeois common sense despised, seemed to him in his heart of hearts charming" (MB in Lawall 952). Even Emma's few remaining hopes are not spared.

By Part III of the novel, Emma's gradual decline has accelerated into wholesale breakdown. Her second affair, this one with a younger man name Léon lacks even that delirium that characterized her relationship with Rodolphe. It quickly disintegrates, and Emma becomes a dull, lifeless monster whom even her lover finds frightening. Her romantic notions are now so feeble that she has even grown semi-conscious of the hopelessness of her situation, but she knows of no other way to cope. Near the end of her relationship with Léon, Emma realizes what Flaubert has been telling the reader all along:

> She was as surfeited with him [Leon]as he was tired of her. Adultery, Emma was discovering, could be as banal as marriage. But what way out was there? She felt humiliated by the degradation of such pleasures; but to no avail: she continued to cling to him, out of habit or out of depravity; and every day she pursued them more desperately, destroying all possible happiness by her excessive demands . . .Still, she continued to write him [Léon] love letters, faithful to the idea that a woman must always write her lover. (MB in Lawall 1026)

Realism and Romanticism in this passage, one might notice, is inverted. Instead of following a flowery passage with a realistic response, Flaubert's narrator states forthright that Emma is ruining her life and ends with Emma's pitiful sense of romantic duty. No longer interested on balanced contrast, Flaubert revels in the unabashed ugly reality of Emma's life and drowns whatever passionate, inspiring feelings she has as soon as they arise. Emma Bovary is by now thoroughly depraved, both in love and in financial matters. When she finally realizes how deeply in debt she has sunk herself and her family, Emma devotes herself all the more completely to the pursuit of carnal satisfaction. Her transformation is grotesque: "There was something mad, though, something strange and sinister, about that cold, sweating forehead, about those stammering lips, those wildly staring eyes, the clasp of those arms" (MB in Lawall 1021). The real Emma emerges from behind her shield of red roses and shallow dreams. And what of that final surge of Romantic idealism? Emma poisons herself, thinking, with one last burst of childish hope, "Dying won't amount to much! I'll fall asleep, and everything will be over" (MB in Lawall 1042). Of course, her death is not peaceful, but horrifyingly long and painful. The final irony of Emma's life is her vision of the disfigured beggar who had disgusted her—the hideous creature she herself had become. Appropriately, Flaubert lays out the proverbial burial shroud with a frank, objective statement: "She had ceased to exist" (MB in Lawall 1048).

Critic Henry James noted in his essay "Style and Morality in Madame Bovary" that Emma Bovary unsuccessfully pursues love and abandons her family "while remaining absorbed in romantic intention and vision while fairly rolling in the dust" (James 347). By interweaving realistic passages with romantic ones, Flaubert accents the corruption of romance that grows too uncontrolled and all

encompassing at the expense of reality. The gradual, pathetic, deterioration of one unable to differentiate between the two, Flaubert seems to be saying, is inevitable and not at all extraordinary.

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Maraini, Dacia. Searching for Emma. Trans. Vincent J. Bertolini. Chicago: Chicago UP,1998. Nineteenth-Century French Studies. 12.3 (1984).

Sainte-Beuve, Charles Augustin. "Madame Bovary by Gustave Flaubert." Madame Bovary. Ed. Paul de Man. 325-343.

Sandwith, Mrs. Harold. "Mrs. Harold Sandwith." Emma Bovary. Bloom. 19-23.

Multicultural / International Studies
Outstanding Presenter/Author: Rachel M. Smith

Mentor: Elizabeth Bodien
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Judge: Dr. Saheed Mohammed (Marist College, Poughkeepsie)
Judge's Comments: Rachel's presentation accounted for a tremendous variety of perspectives on a controversial topic. Her work demonstrated broad knowledge of empirical and theoretical information. She synthesized the ideas and data available to her in a controlled and moderate fashion, balancing emic and etic approaches as well. To her credit, she provided a very rational discussion of a frequently emotive issue-a hallmark of true scholarship. All the papers were excellent.

Female Genital Surgeries: Cultural or Savage?

Female genital surgeries have been performed traditionally for thousands of years (Leonard). Western scholars estimate that these surgeries originated during the time of the Egyptian Pharaohs (Smucker). In Africa, Europe, the Middle East, Asia, end even America the "coming-of-age ceremonies" that accompany these surgeries are deep-rooted in the lives and culture of the people who have practiced them (Schweder). A controversial debate on the legitimacy, savagery, or tradition of these surgeries started around the feminist movement during the late 1960's and early 1970's (Leonard). The discussion has involved scientific and anthropological investigation that has given rise to many positions and approaches over the last thirty years. Some of the approaches include the functionalist perspective, psychoanalytic interpretation, feminist's interpretation, the human rights approach, the theoretic approach, or evidence drawn from observed survey research, and the cultural relativist perspective (Leonard). With analysis of these perspectives, the intention is to understand if female genital surgeries are cultural or savage.

First we need to clarify the various types of surgeries. The World Health Organization (WHO) established a four-part classification system for the varying degrees of female genital surgery. The least comprehensive surgery labeled Type I procedure involves the removal of the clitoral hood as well as some or the entire clitoris. This procedure is commonly referred to as "sunna" (Leonard, Abosharaf, Lane and Rubinstein). In Sudan "Sunna kashfa" implies the "cutting of only top or half of the clitoris" which is called "clitoridectomy" in medical text (Shell-Duncan and Hernlund). Type II procedure, often referred to as "excision", is the partial or complete removal of both the labia minora and clitoris. Excision is claimed to make up 80% of all the female surgeries done in the world (Leonard). Shell-Duncan and Hernlund explain how, "a sharp distinction between clitoridectomy and excision is difficult to draw since one grades into the other". Lori Leonard defines the Type III procedure as, "the removal of all the external genitalia, including the clitoris, the clitoral hood, labia minora, and a portion of the labia majora, which is then stitched together, leaving in most cases only a small opening for the passage of urine and menstrual blood". This procedure is known as "infibulation" or "pharaonic" circumcision, which occurs in less than 15% of all female genital surgeries (Shell-Duncan and Hernlund, Shweder). Type IV procedures consist of several rarely used practices, including "introcision", which is the cutting of the internal genitalia, and a variety of vaginal manipulations (Shell-Duncan and Hernlund, Leonard).

Before we look at the approaches, who performs these surgeries, and when are they necessary? Traditional healers, trained to untrained midwives, doctors, and even barbers perform

these surgeries. These procedures can be carried out on baby girls that are a few days old to adolescent teenagers (around the time of puberty). In some cases "de-circumcisions" are necessary to open the small hole for marriage and childbirth (Abusharaf). Re-infibulation may also be necessary to reclaim the original "smoothing out" appearance, after birth and in extreme cases, after intercourse (Abusharaf, Shweder).

What are the potential health risks? There are short-term and long-term health risks that accompany these surgeries. Complicated procedures including excision and infibulation provoke the more life threatening consequences. These complications include severe pain, blood loss, anemia, shock, repeated infections, urinary retention, tetanus (that is obtained from the use of unsterilized instruments) to menstrual problems, difficulties in childbearing, scar formation, which can cause infertility, and even death (Shell-Duncan and Hernlund, Leonard, Lane and Rubinstein, Sweder). In response to health risks, according to Leonard, in "only 30 studies have health effects of genital cutting been examined, and in only eight have any signs of complications been systematically assessed". Both Shweder and Leonard went on to cite Carla M. Obermeyer who said, "medical complications [were the exception rather than the rule]" (Shweder, Leonard). Shweder suggests that the death toll is due to poverty or low socioeconomic status, malnutrition, and disease, not the complications that accompany even the most drastic forms of female genital surgeries.

Webster's New World Dictionary defines functionalism as, "theory or practice emphasizing the necessity of adapting the structure or design of anything to its function". When the functionalist perspective is applied to female genital surgeries, it implies a function or role change within the cultural community. Leonard cites Arnold van Gennep who argued that, "its function in the context of the initiatory process is to modify the personality of the individual in a manner visible to all". This initiatory process can be compared to many other "rites of passage," such as tattooing, cutting of hair, removal of teeth, as well as amputation of fingers or earlobes. Similar to female genital surgery, all of these practices suggest a function within each communal and non-communal culture(s).

According to Leonard, the psychological needs, desires, and impulses of an individual, is what the psychoanalytic interpretations center on. Huffman explains the psychoanalytic theory as one of the major schools in psychology. Sigmund Freud (the father of this perspective) believed that "problems are caused by conflicts between what people believe to be acceptable behavior and their unacceptable motives, which are primarily of sexual or aggressive nature". Leonard cited Felix Byrk, who focuses on the dual nature of female sexuality. This duality implies two changes: one change would occur within the vagina itself. Byrk explains how female genital cutting is a way of "helping along the shifting of the erogenous zone from the clitoris to the vagina". The other duality is how the cutting of the "common property" clitoris represents the transition from "sexually-unrestrained" girl, to mature "private possession of her husband". Furthermore, a tribal member of the Gikuyu (a tribe in Kenya) feels "that this is an essential step into responsible adulthood for many African girls" (Shweder 4).

There have been other psychoanalytic interpretations. Leonard cites Bruno Battelheim who focuses on Freud's "ego-based motives" that assume young girls feel they have inadequate "less complex and less important ceremonies," and in turn "female rituals sprang up as parallels or copies of male rituals". Therefore, the elimination of female genitalia is a young female's way of displaying her entrance into womanhood, as male circumcision can represent a similar entry into adulthood.

The Foundation for Women's Health Research and Development (FORWARD) clarify that "any definitive and irremediable removal of a healthy organ is called mutilation" (Shell-Duncan and Hernlund, Lane and Rubinstein). Before, but more abundantly accepted since the feminist movement, female genital "mutilation" has presumably been associated with male supremacy and female subordination of "their bodies and their sexuality". The feminist position often implies oppression, violence, and cruelty as the cost of the custom. Leonard cites Mary Daly who depicts female genital surgeries as "mutilation," "barbaric," or "a massacre inflicted" upon women. Daly categorizes female genital "mutilation" as a "Sado-Ritual" that is comparable to Chinese foot binding and witch

burnings as well as chastity belts that control women's freedom and sexuality.

There are criticisms of the feminist's perspective. One critique is of the feminist methodology. According to Shweder, "the health and sexual consequences of the practice is not sufficiently supplied with credible evidence". For example, Shweder cites Obermeyer who explains that when she "examined research reports (from a 435 article research base that consisted of female surgery literature) actually containing original evidence, she discovered numerous methodological flaws," including unclear descriptions of evidence, small representative samples, and no control group.

Another critique in the feminist's perspective is concerning the practitioners. In many cases women themselves conduct the procedures. Shweder said, "the practice is almost always controlled, performed, and most strongly upheld by women." Men's roles vary in how little they actually contribute toward the event; in fact, they avoid interference and leave the "powers" up to the women. This implies a flaw in how men have control over women.

In Sudan, the anthropologist Rogaia Mustafa Abusharaf conducted fieldwork in 1996 and in 1998 on infibulations or "pharaonic" circumcision. Abusharaf purposely chose to conduct research in a township called Douroshab, because infibulation, "the most drastic" of the procedures, is the common surgery performed. Abusharaf uses personal narratives as a way to "provide an understanding of the ritual as presented in women's own word's, which reflect ['s] their own truths".

In response to feminist's concerns about the health problems of infibulation, Zakia commented on how, "pharaonic is unnecessary and painful, and in many cases it causes infections, very bad ones …I allowed my daughters to be circumcised sunna for that reason"[sic]. In response to feminist's claims on decreased sexuality, a grandmother named Suaad is quoted saying:

People say that if you cut the clitoris you don't enjoy sex, but we can say to the same people: do you think if your tongue is removed you will stop feeling hungry? I have sex almost five times a week. It is very enjoyable and I know too about orgasm, tharwa. I have tharwa jinsia, that indescribable sense of pleasure that gives one the feeling of touching the sky. It makes one shiver [sic]. It is clear that a woman of the community thoroughly supports the procedure. In fact her comment is implying that life is better because she has the surgery performed. This is what Faiza, a woman from the town, said in relation to how infibulation presumably suppresses women:

Sudanese women work hard and many hold high positions in society. Pharaonic circumcision ensures the woman's strong place in the family. She is very trustworthy because she does not allow men to take advantage of her. She is her own person, even for the man she is married to. The wound heals; the relationships remain strong [sic].In addition, female participants in Kenya, Mali, and Sierra Leone "believe that they have been improved by the ceremonial ordeal and symbolic process". What are we to make of these views?

Another perspective is the human rights approach, which is largely based on the ethics of moral value, belief, and principle. The human rights banner has served as a voice to dispute the practice on the grounds that it is a "medically unnecessary" practice (Leonard). According to Leonard, in 1997 the Convention on the Rights of the Child in correspondence with The United Nations outlawed female genital surgeries, stating, "no child shall be subjected to torture or other cruel, inhuman, or degrading treatment or punishment". It's important to note that these practices are not only performed on children, but adolescent and adult females.

Anti-cutting laws in Africa, Europe, Canada, and the United States have discouraged the continuation of the practice, however the conviction of cultural independence, the spirit of traditional practice, and in some cases mere rebellion ensures that elimination of the practice will be problematical. Shweder explains a hypothetical scenario of a female Somalia teenager who understands the value "of beauty, civility, and feminine dignity" that accompanies an "initiated woman's body." After research on the practice, and support of her parents and community, she would have no alternative but to risk unsanitary circumstances due to the illegality of the practice in so many countries. It is important to point out that the majority of female genital surgeries are already occurring under unsanitary conditions. It is highly unlikely that the legalization of such practices

would result in more hygienic procedures. These conditions are crucial when applying the human rights perspective.

In response to cultural interferences, the 1989-1990 Sudan Demographic and Health Survey found that out of 3,805 women interviewed, 89% were circumcised. Of those women, 96% would circumcise their daughters, and 90% preferred its continuance (Shweder). Shell-Duncan and Herlund quote a Uganda woman saying, "foreigners . . .who call us bad names, call us primitive and call our circumcision rites genital mutilation. It makes us want to do more". This quote is evidence that people are protective about their traditions and resent ethnocentric criticism.

The theoretic approach relies on surveyed information that accounts for different hypotheses. Leonard cites Fran Hosken, who has attempted to plot the demographic and widespread implications of female genital surgeries for a period of 25 years. According to Leonard, Hosken researched her theories through "questionnaires mailed to health departments in regions of Africa" where the procedures are practiced. Through years of surveying, explanations, such as "making women marriageable and enhancing their ability to produce; restraining women's sexuality and keeping them faithful; honoring one's family and perpetuating a custom approved by the ancestors; and carrying out an initiation ritual or rite-of-passage" lead Hosken to draw conclusions on the underlying motives for the perpetuation of female genital surgery. Some of her conclusions include "the castration of female sexuality," or "the denial to one of the most important human rights--the right of all persons to control their own lives, free from outside interference, without threat or fear" which are both comparable to the feminist and human rights approaches.

Haviland introduces cultural relativism as, "the idea that one must suspend judgment on other peoples' practices in order to understand them in their own cultural terms" (51). In its essence the cultural relativist perspective is a "moral force for tolerance" (Lane and Rubinstein). Lutkehaus and Roscoe explain cultural relativity as anthropology's "assertion of the moral equality of cultural orders" and to "defend non-Western traditions from Western ethnocentrism" (xiii). Lane and Rubinstein cite Melvin Spiro who believes there are three types of cultural relativism: descriptive, normative, and epistemological (2). Descriptive relativism is the recognition of how different cultures have different beliefs and practices. Normative relativism suggests approval for different moral beliefs for each individual culture. Epistemological relativism questions whether one can even grasp another cultures beliefs adequately enough to evaluate their practices (2).

Through descriptive relativism, female genital surgeries can be compared to male circumcision that occurs in many countries. A woman of Douroshab named Suaad was interviewed by Abusharaf. She said, "My own views is that there's no difference between boys' circumcision and girls' circumcision. Both are painful, so how come they're not saying boys' circumcision is also violent?" (9). In Suaad's comment she recognizes a difference by questioning why activists have not attempted to condemn male circumcision. In doing so she implies an understanding of how male circumcision is accepted in other cultures.

Normative relativism can also be applied to the words of the women in Douroshab, Africa. A 25-year-old woman named, Aziza said, "I am convinced that circumcision is a good practice. Maybe not the pharaonic but just the 'sunna'" (Abusharaf 8). The same woman, Suaad, that was quoted earlier, is from the same village as Aziza, is a grandmother and she is "one hundred percent behind pharaonic circumcision" because sex is "more enjoyable than with an uncircumcised or sunna circumcised woman" (9). This is an example of how the cultural relativist perspective becomes frustrating. Two woman of the same culture have two different opinions. They both believe that some type of circumcision should be applied, however, the procedure applied is questionable.

This confusion is what leads the epistemological relativist application to understanding, and questions whether anyone is able to comprehend the customs, even the people who practice them. Lori Leonard is an anthropologist that conducted fieldwork in Southern Chad, on the Sara people, first from 1993 to 1994, and then returned in 1998. In 1930 the first cutting ceremonies were practiced in Bakum. "Friends on the other side of the river" made belittling comments to the girls of

Bakum such as "immature, unformed, and uninitiated" (14). This encouraged two cousins, Najal and Namde, to arrange their own cutting ceremonies, and carry on the operations without permission or approval from their parents or community. By 1973 the practice was adopted by the village, however, parents here aren't happy because it isn't their custom (13).

Later on in 1980, in the village of Myabe, the "chief of land" forbade girls to get cut and has assigned fines for those who do it (Leonard 11). A girl is quoted saying, "We did it for pleasure only. For new clothes and oil on our bodies and people pay us. I was happy." Another girl went on to say, "Girls who have done it won't let you dance with them"(12). This implies that young girls are feeling pressure to pursue the procedure for acceptance and approval, even though the authoritarian leaders of the community look down on such a tradition.

This comparison is more evidence that suggests interpretation goes against the grain of popular thought. In both of these villages that were less than 100 kilometers apart from each other, girls didn't practice female genital cutting as a "traditional practice, an ancient rite, or a cultural relic" (Leonard 15). Leonard goes on to suggest that out of the 1.7 million Sara people that share language, culture, history, and 45,000 kilometers of land "there are multiple, diverse stories on female genital cutting" (16). If there is this much diversity in two villages of the same people, what does that imply for understanding female genital surgeries for the world?

According to the empirical argument, objective evidence must be obtained for accurate data. However, knowing that only "20 million rather than 200 million women had been cut" doesn't diminish the importance of the debate, because the debate still goes on.

Just as Haviland said to suspend judgment, a higher moral principle of suspending interpretation should be attempted. From an etic (outsider's) view in any of the many positions stated, intervention in this manner is nearly impossible. Even when "data [is] collected by a researcher of specific temporal and spatial context…not all members of a society hold or behave according to a single set of norms, which in any event are constantly affected by social, political, and economic changes" (Lane and Rubinstein 7). There are native activists that are aware of the many health concerns that accompany these practices. The insider's perspective may be the view that is even moderately prepared to do something about it (8).

Leonard cites Susan Sontag's essay, "Against Interpretation," that in its essence is saying that understanding comes when we approach knowledge with a blank slate of perception. If we take the approach of seeing clearer, hearing clearer, and feeling clearer we can absorb information that normally wouldn't be a consideration. Leonard said, "A factor is not always what it may appear to be at first glance, and to feel more of it can offer something of the pure, untranslatable, sensual immediacy of some of its images, and this is the primary objective of understanding, as antecedent to explanation" (18).

The implications of such a science of "setting aside personal frameworks and assumptions" when applied to female genital surgeries suggests "intense human interaction and reflection" that would in turn recycle the opinions and data created from previously discussed philosophies, and ultimately bring the argument full circle to whether it is a cultural or savage practice (Leonard 19).

The cause of investigation may be that of globalization, modernism, and inevitable change (Leonard 15). Mario Vargas Llosa is the former presidential candidate of Peru who wrote in the journal Foreign Policy:

Even though I believe this cultural argument against globalization is unacceptable, we should recognize that deep within it lies unquestionable truth… this century, the world in which we live will be less picturesque and imbued with less local color that the one we left behind. The festivals, attire, customs, ceremonies, rites, and beliefs that in the past gave humanity its folkloric and ethnological variety are progressively disappearing or confining themselves to minority sectors, while the bulk of society abandons them and adopts others more suited to the reality of our own time (Belsie 1).

The way of dealing with a cultural practice as sensitive as female genital surgeries is by gathering and analyzing massive amounts of information. This same philosophy can be applied to

many controversial debates. If one civilization decides that another cultures traditions are invalid, inhumane, or savage the world may be left with a dry hum of totalitarianism. Ethnocentrism strips humanity of its vast vibrations that currently echo throughout the universe. This conformity would be an unfortunate loss for mankind. However, the true key to understanding only surfaces through education. The consequence of education will inevitably be the loss of innocent explanation. The genuine debate is how to propose the option of intellect. Is humanity prepared to give up its immense vitality at the expense of knowledge? Initially, the debate centered on whether female genital surgeries are cultural or savage. If it's cultural it's comparable to the anything goes approach of ethical relativism, which implies that no one is allowed to make a judgment on someone else's cultural practices. If it's savage it's equally as simplistic as ethnocentrism that believes his or her cultures way is right and everyone else's is wrong. When more information is explored on the issue it becomes more complex and the judgment is truly defined by the standards of the individual.

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*Note: Belsie's article did not include the complete title.

Philosophy and Religious Studies
Outstanding Presenter/Author: Elizabeth Baker

Mentor: Dr. Nancy Hazelton
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145 College Road
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Judge: Timmian Massie (Marist College, Poughkeepsie)
Judge's Comments: Elizabeth was able to discuss the issue of ignorance throughout
history-albeit too briefly. She was able to show how people use ignorance as a means to
an end-or at least the ability to manipulate ignorance for their own ends.

Is Ignorance Truly Bliss?

Emotions guide a person's day-to-day existence. Unfortunately, this sentimentality oftentimes
results in seeing or believing in something that does not exist. Simone de Beauvoir (1908-1986) was
aware of this fact, and spoke about it in "Women: Myth and Reality," as did Francis Bacon (1561-
1626) in "The Four Idols." While both writers spoke about several different ideas, they both found
the populace's lack of knowledge disturbing, perhaps even more so because few realized just how
unaware they were. Ignorance is a factor that confronts most humans on a daily basis and yet few
seem aware of its presence.

People possess several biases. A human being cannot view a situation dispassionately. The
very nature of humanity requires one to leave an imprint of oneself on all that one touches; to have an
opinion. Indeed, it is almost appears as though locked away in the dark recesses of the human mind
lies a hidden chamber of bias and prejudice, of emotion (Bacon 420). At birth every human has a full
range of emotion, and so no matter how honest a person may appear, the truth of an occurrence
becomes distorted (Bacon 420).

When news that Bill Clinton had an affair with Monika Lewinsky, a young intern, reached the
public, the populace threw itself into an impassioned whirlwind. At first, they denied that such an
offense had occurred, a "fact" that was supported when Mr. Clinton himself denied the affair. Not
only did he deny the affair, but he denied it under oath in an offense known as perjury
(Avinashraina).

The fact that Mr. Clinton lied under oath disheartened the public because they had placed the
president upon a pedestal. Therefore, his repetitive perjury disillusioned the people, as they saw their
vision of the ideal American president shatter before their very eyes. It was not so much the fact that
Mr. Clinton lied under oath: nor, as stated by Elton Gallegely, about "violating Article II, Section 3 of
the Constitution, which states the president shall take care that the laws be faithfully executed." No.
What truly crushed the American people was the fact that the president that they had believed to
know completely, they had not known at all.

Humans adopt an idea or theory as their own by nature. Unfortunately, once assimilated into
the mind, nothing can sway the doctrine's owner from their blind faith in this theory's veracity
(Bacon 425). In Plato's *Allegory*, he told of a world where people sat, day after day in awe of the
figures cast upon a cave wall. They would receive a prize each time a person correctly identified a
figure. Chains bound the people that participated in this game, both at the neck and at the ankles.
These chains represented human ignorance. The people in Plato's cave had absolutely no idea that
their vision encompassed nothing but an illusion. They did not know that there existed a world other
than their own, a world where truth was attainable. People in this world of light were not chained.
There existed no need. They were free to go out and learn as much as they possibly could. When one

from Plato's *Cave* was freed to ascend to the world of knowledge, at first he resisted, for when "he is compelled to look straight at the light, will he not have a pain in his eyes which will make him turn away to take refuge in the objects of vision which he can see?" (Plato 317).

The pains that Plato speaks of, that the newly freed prisoner suffers, are pains of disillusionment. He discovers that all he had known as true was a in actuality a lie, and so, until he becomes adjusted to the light, to the truth and knowledge, he will act "pained and irritated" for people become easily aggravated when proven wrong(Plato 317). However, over time and with the help of a teacher, the former prisoner becomes adjusted to this new world. Ignorance and misconceptions are horrible to live with. Once this former prisoner has attained higher learning, he then becomes compelled to return to the world of ignorance where he attempts to inform his former comrades of their lack of knowledge.

However, upon their arrival, this newly enlightened being is not given a warm welcome. Nobody wanted to believe that the world in which his or her whole life had been spent was a lie. As a result, the cave's inhabitants became angry, hurt, and disillusioned. Indeed, it seemed as though the people in Plato's cave would rather have continued to live in a state of ignorance, for although all that they knew was false, to them it represented safety and was everything.

Bacon understood this fact all too well. He knew that once people were faced with information that was capable of shattering their illusions, people would "distort and color them in obedience to their former fancies"(425). Thus, even when information contrary to popular belief arises, humans refuse to accept that they had harbored misconceptions. Instead they bend and contort this new information until it resembles their previous beliefs.

One can apply this idea to those with eating disorders, especially those who suffer from anorexia nervosa. People who suffer from Anorexia have stopped eating because they wish to rid themselves of body mass. It's a psychological disorder that convinces the afflicted of their obesity. No matter how thin a person may be, she constantly tells herself that she could become thinner or that she is overweight. Indeed, if anyone were to tell an anorexic that she looked too thin, the response would be "I need to loose a couple of pounds." Amber Trotter, a record breaking track runner admitted to suffering from anorexia. "Before I knew what was happening, not eating became an overwhelming addiction, and I dropped down below 100 pounds," Amber said. "I really started getting into the non-eating thing" (152). No matter how many people complimented Amber on her slender physique, it didn't matter. She accepted the compliments that she received, and then continued not eating and "[running] 60 miles a week" because she thought that she would receive even more compliments, become even thinner.

People detest having all they have known throughout their entire lives proven a lie. When some idea or belief that a person held dear is shattered, oftentimes the person becomes lost, confused and unsure of where to go. A popular belief, "That of the feminine mystery" (Beauvoir 823) has been around for centuries. Men cling to this idea as an explanation for why they cannot comprehend women. However, this mystery does not exist. Although its lack of existence has been proven by women time and again, men still stubbornly decree that women possess mystical powers derived from their mysterious nature.

Indeed, all women do possess a secret place that no one save herself may go. Men do not refer to this when they speak of a mystery, however. Instead of an actual "mystery," a place of secret wishes and desires known solely to the woman herself, men decree anything incomprehensible or illogical to their mindset as part of the feminine mystery. For this reason, a beautiful woman may either be called a "Muse" or "Madame de Pompadour" (Beauvoir 822). Such a woman may inspire an artist who had lacked a vision to paint, much in the way of a muse. Unfortunately, she can also cause a man to forget his married state and plant the seeds of an illicit romance in his head, as Madame de Pompadour, Aspasia and countless others have done in the past. Both views of women, although conflicting, remain widely accepted for a simple reason. The larger the amount of conflicting tales that "explain" the behavior of women, the less that they actually explain and the more the theory of

the "female mystery" becomes accepted. After all, how else would it be possible to personify both a goddess and a devil?

However, this theory causes a problem because in reality a mystery does not exist. "The myth of women is a luxury," (Beauvoir 827) something that only those with money enough can afford to believe in. Literary artists love to create a novel that revolves around a mysterious woman. Oftentimes the author portrays the woman as a fleeting character with a dark secret that the lead male finds nearly impossible to solve. Unfortunately, this idea, while exciting and interesting in theory, is abysmal in practice. The woman's secret exists neither as dark nor as mysterious as the author undoubtedly intended; Often the reader discovers it half way through the novel (Beauvoir 827). Immigrant workers and people who inhabit third world countries have neither the time nor the energy to deluge themselves in fantasies. Men and women work together side by side during long hours of backbreaking work. They share almost everything and possess neither the time nor the energy to create tales about each other. They do not believe the women have a mystery all their own.

Human beings resist change, and so cultural ignorance "grow[s] for the most part either out of the predominance out of a favorite subject" (Bacon 427). Whatever catches a person's interest usually tends to be the things that a person loves the most. Magic has fascinated people for centuries, and so have the mysteries of the occult.

The Salem Witch Trials represent an important part of American History. However, the women that burned at the stake did not practice witchcraft. "The women accused are mostly widows without children to support them. Because they have a life interest in lands that will pass at their deaths to their male relatives, they become targets of greed: by accusing them of witchcraft and having them stoned or beaten to death, those men will inherit the land immediately" (Witch Craze xiii). There was no proof that these women practiced the dark arts, not even the slightest indication. The people who proclaimed their magical misdeeds did it solely for their own material gain. Some might say that no witches were killed who did not confess, and to this one might say "That she confessed while chained and being tortured explains much" (Witch Craze 17). While many of the so-called witches did admit to practicing the magic of the occult, they did so under severe torture and oftentimes the threat of death.

It appears as though people live in a world of their own creation. This world is not a mystical place, nor is it a world of fairy tales. Sadly, people live in a world of ignorance. Just as the people who inhabited Plato's cave resided in a counterfeit world, a world where all that appeared true was false, so do people today. The men who believe in a woman's "feminine mystery" dwell in ignorance willingly, either because they do not wish to attempt to understand something perceived as complex, or because they do not wish to admit to a mistake, "If the loved one's behavior is capricious, her remarks stupid, then the mystery serves to excuse all" (Beauvoir 823). As humans cannot be unbiased, an individual's tale is distorted by personal emotion (Bacon 420).

A man would not like to admit to the fact that he made a mistake, and so by believing in something that does not exist, and by living in ignorance, he may live a much happier life. When faced with not only the loss of the presidency but the destruction of his marriage as well, Bill Clinton's fear of these losses resulted in his perjury. By refusing to accept that which in his mind was not an infidelity, Clinton managed to alleviate some of his fears. After all, if no affair had occurred, then his marriage would continue as it had, and he would retain the presidency. Likewise, by refusing to admit that she had a problem, Amber Trotter did not have to worry that she may unintentionally be killing herself in an attempt to feel better about herself.

Perhaps the greatest instance of ignorance occurred during the burning times. Men proclaimed their women witches solely because they yearned for that which the women possessed. In order to make the fact that they had sentenced their own family members to death more palatable, they deluded themselves into believing that these women truly practiced of the dark arts. This way, when they informed the local magistrate of the woman's offense, they would believe that they had acted in a way benefiting the whole community. However, if people do not learn to accept the truth without a

sugar coating, then they will live as their ancestors did, in a state of ignorance.

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The Arts
Outstanding Presenter/Author: Heather Pisani

Mentor: Dr. Beth Kolp
Dutchess Community College
53 Pendell Road
Poughkeepsie, New York 12601-1595

Judge: LTC Richard H. Hoff, PhD (United States Military Academy, West Point)
Judge's Comments: Ms. Pisani adeptly condensed a wealth of information on a fairly
obscure art-form into a concise and clearly written paper. Her presentation and discussion
of pieces of this work complemented the paper well. Bottom line: I want to see more and
learn more about Japanese scroll painting.

Japanese Scroll Painting and *The Tale of Genji*

Releasing oneself from the narrow scope of the Western mind is easier said than done, but
beyond its confines awaits a world of discovery. Perhaps the most fascinating art of antiquity can be
traced to Japan, a country so geographically isolated from the main continent but still inexplicably
connected. Much of Japanese culture and history has its root in that of the Chinese; despite this, it
differs deliberately. It was within the distinctive Heian era (794-1185 C.E.) that Japan began to
produce timeless masterpieces of art and literature. The illustrated poetry of the previous Nara era
(646-794 C.E.) developed into the intricate Heian picture scrolls, while prose unexpectedly emerged
from the minds of women in the royal courts. Japanese artisans and calligraphers built the foundation
for scroll painting through certain conventions developed indigenously. *Fukiyuki-yatai, hikime
kagihana*, and *tsukurie* all joined to form a unique style that combined painting with prose. The best
known of all scrolls re-tells the story of *The Tale of Genji* through a complementing set of illustrated
scenes and narrative that ultimately gained a reputation equal to that of its epic predecessor.

Throughout its long history, Japanese culture has alternately borrowed extensively from
neighboring China and then experienced periods with no contact whatsoever (Morris 8). As a result,
many ideas from Chinese culture were originally taken whole but then assimilated to create a style
exclusive to Japan. Prior to the Heian era, painting had focused on all things Chinese, including both
the nature of its land and the culture of its people, in a style called *Kara-e*. The classification of
artistic "style" was based on the subject matter of the work; that is to say that before the 8th century,
Japanese art looked to China for ideas. As Japan became introverted, as it did in the Heian period, the
country was able to artistically experience a great deal of growth (Ichimatsu 14) that generated
Yamato-e, a style known for its indigenous subject matter (Ichimatsu 14). It was in this period that
Japanese art began to thrive. Religion and spirituality were the focus of the earliest examples of
Yamato-e (Grilli 7), but as the style developed, it was the beginning of East Asian art designed for the
purpose of entertainment (Grilli 8). Softness (through the use of muted colors, beautiful scenes of
nature, passive facial expressions, and lack of motion) became a signature characteristic of *Yamato-e*
(Terry 24), an aspect that will be explored later. Ultimately, the artistic softness greatly influenced the
feeling of many of the picture scrolls Japanese artists produced during what is known as its "golden
age," between the 12th and 13th centuries (Grilli 1).   In this period, hundreds of books of scrolls were
constructed that have now been preserved carefully and cautiously stored in national and private
museums (Grilli 1).

Scroll painting began first in China and was further developed in Japan. Its origin can be
traced back to certain Chinese works, for example Bai Juyi's *Song of Everlasting Sorrow* (Turner

157). In Japanese history, scroll painting was introduced during the 7th century (Grilli 2). It was in the Nara period that experts feel that the art began to show signs of its potential; the era's *Sutra of Cause and Effect* displays stylistic components similar to that of the future picture scrolls (Grilli 2). Also indicative of the scrolls to come was the 9th century trend of illustrating poetry, namely the *waka* genre. *Waka* or *tanka* as it is also called, refers to the 31-syllable poems used in daily communication between the higher ranks of the Japanese (Miyeko 9). The earliest surviving scrolls of Japan date back to the 12th century and to the trained eye it is clear that their art was one that had been practiced carefully for at least a century, due to the refinement of their composition (Grilli 2).

"*Emaki-mono*" translates literally into "illustrated narrative hand scroll" (Stanley-Baker 79), and the construction of each one was the work of many people. The final products have been attributed to professional painters schooled at *edokoro* (specialized academies), priests and monks who, at a level somewhere between skilled artisan and beginner, learned the trade and, finally, amateurs, who were often aristocrats and included women (Grilli 9). There was a division of labor in the creation of the scrolls with one group drawing the pictures and indicating possible colors, and another group responsible for filling everything in (Stanley-Baker 79). Accompanying the pictures was the native Japanese calligraphy *kana*, completed typically by wealthy and educated amateurs (Grilli 9).

There were many conventions characteristic of the Japanese picture scrolls and to the *Yamato-e* style. Their innovativeness and quality are worth a sense of awe from the modern viewer. In no uncertain terms, they are magnificent. Frequently used was the technique called *fukinuki-yatai*, literally the "stage with the roof blown off." Its genius rests in the creation of a high vantage point for the viewer to look down into the scroll scenes (Miyeko 10). This was accomplished by eliminating roofs from the interior drawings and often diagonally splitting the pictures, showing at once both the interior and exterior (Turner 158). The interior views were usually of still scenes, focusing on the emotional aspects of the episode (Turner 157). All of this afforded the reader a more intimate view, conducive to personal involvement within the story, an attribute that will be touched upon in detail below.

Another unique trait of the *emaki-mono* is termed *hikime kagihana*, or "line eye and hook nose" (Stanley-Baker 81). Unarguably a fascinating aspect of the scrolls, it allotted each character a mask-like face that did not identify him or her absolutely to the reader (Stanley-Baker 81). Rather, one had to be familiar with the text and able to note position or posture in order to determine the identity of an individual (Stanley-Baker 81). The faces of both men and women were full, painted white with thick black brows (Turner 158) and their frames were tucked away beneath stiff robes (Miyeko 10). The women had lustrous thick black hair that from behind came to a point atop their heads (Turner 158). Physical differences were only apparent between characters of the aristocracy and those of lesser social status; thin, short hair and the appearance of a nose when viewed from the side were used for the latter (Turner 158). The overall lack of facial expression had a deeper, psychological reasoning. As alluded to earlier, readers often imagined themselves as an integral part of the story, and in order for this to occur, the characters pictured had to be nearly interchangeable (Miyeko 10). Each person was identifiable based on his or her character descriptions in the text but not so much otherwise (Miyeko 10). There was such closeness cultivated between the viewer and the scrolls, due largely to the visual appeal of peering into the lives of the characters, literally into their homes, along with their stylized appearances that allowed the imagination to play a key role. The exact origin of *hikime-kagihana* and *fukinuki-yatai* are not clear, however, due to the skill with which they were used, it is widely thought that they were tools that had been instituted for quite some time (see illustration) (Miyeko 10).

Another original characteristic of the *Yamato-e* styling is *tsukurie*, literally meaning "built-up pictures" (Turner 157). The color was painted in layers, allowing the picture to have a raised quality (Turner 157). The schemes chosen included "pale mauve to deep browns, purples, oranges, and greens," which all contributed to a decidedly noble and festive feeling (Lee 306). In accordance with

the carefully selected colors, placement of everything – characters, objects - was a key underlying theme. Lee notes that "*Yamato-e* is a calculated decorative style" and that the way objects and characters are placed, along with color and texture, contribute to the ambiance of each scene depicted (307). Interestingly, mood was indicated by the angles used within each picture (Lee 307). Typically, the larger an angle was, the higher the level of agitation within the scene (Lee 307). Suffice to say that the angles acted as a barometer of emotion to be found throughout the scrolls, shaping everything from homes and gardens to the patterns found on each character's clothing (Lee 307). Adding to the already beautiful pictures was the use of clouds acting as boundaries around the scenes, a technique evident in many scrolls (Lee 307). The clouds created a ceiling that halted each episode in a seemingly arbitrary but picturesque manner. Overall, the above conventions combined to form a valuable interpretation of Japanese culture in the Heian period.

The importance of the conventions used, namely *fukiyuki-yatai* and *tsukurie* cannot be exaggerated. The intent was for the *emaki-mono* to be "read" in the way traditional prose is, as opposed to being mounted vertically as a painting might be (Grilli 4). They were traditionally read upon a flat surface, so due to this unique positioning of the reader, the conventions were vital to their success (Grilli 4). The reader sat at what was equivalent to a coffee table, where he or she could easily unroll the *emaki-mono* between the hands and follow the story as it progressed from right to left (Grilli 4). In an effort to better preserve the scrolls, in museums they are currently hung to prevent the constant rolling and unrolling that undoubtedly speeds their deterioration (Grilli 4). Although each scroll's height limited the artistic capability from a vertical perspective, from the "birds-eye view" or *fukiyuki-yatai*, bestowed upon the reader, there was an indefinite horizontal possibility (Grilli 4). The raised planes of color, or *tsukurie*, also lent themselves to the effects rendered by these visual masterpieces; it was not as though the reader was simply looking at a picture; it was as though he or she was actually within the landscape. The backgrounds and the colors selected were designed to "loom larger" and the direction of hills and rivers were meant "to lead the eye into simulated distances [. . .] to lure the looker onward from scene to scene" (Grilli 4). Truly, they were splendid masterpieces.

Deemed the greatest of all *emaki-mono* is the interpretation of Lady Murasaki Shikibu's *The Tale of Genji*, or *Genji monogatari* (*monogatari* translates literally as "discussions about things" of this world; in other words, it denotes a secular tale) (Grilli 4). It has been hailed as both the "quintessential embodiment of classical Japanese culture" (Miyeko 13) and the "undisputed masterpiece of Japanese prose" (Danly 2087). It is widely considered world literature's first novel (Danly 2087) and was written in 1000 C.E. by Lady Murasaki when she was 30 years old (Miyeko 2). The author, born into an aristocratic family, held the position of lady-in-waiting to the empress (Danly 2087); it is most likely from this experience that in *Genji* she was able to give a reliable account of the events at court (Danly 2087). *Genji* spans over 75 years, containing 430 different characters, in the course of over 1090 pages in the Seidensticker translation (Miyeko 2). Notably, it also contains 795 examples of *waka* (Miyeko 2), which were important to daily communication in Heian life (Morris 180).

Murasaki's depiction of court life in Heian Japan has proved timeless. Essentially, it is the story of a former prince, his life and loves, and - following his death - the people he leaves behind (Danly 2087). The prince, Genji, is dubbed "the shining one" and is an exceptional man, in terms of not only his looks but also his sensitivity (a quality of great value in the Heian era), culture, and success romantically (Miyeko 3). The story corresponds largely to the Buddhist belief that "life is a wheel," in which situations placed before one are either indicative of the future or reminiscent of the past (Danly 2091). Genji lives his life somewhat recklessly, but his youthful endeavors ultimately do catch up with him, contributing to the main theme of the text (Danly 2087), which is a distinct tone of melancholy. Although he is perfect in appearance, the reader realizes that the prince is human nonetheless, as the original circumstances progress from being outwardly utopian, especially regarding love, to how they exist in reality (Danly 2090). This train of thought gains prevalence

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throughout the course of the story, a quality to be examined later as it relates to both the text and the picture scrolls.

The *kana* calligraphy, briefly mentioned earlier, is of special importance when referring to *The Tale of Genji*. *Kana* provided a certain "freedom of expression" that drastically changed the face of both arts and literature (Miyeko 7). The symbols used were for individual syllables, similar to that of a Western alphabet, and without which the 31-syllable poems or *waka*, signature to *Genji* in both its prose and scroll formats, could never have been written (Miyeko 7). The introduction of *kana* enabled poets and novelists to create the first vernacular literature (Miyeko 7). Women were discouraged from writing in the Chinese language, so as a result they took full advantage of *kana* because it was available to them and was easy to learn and use (Miyeko 8). In essence, it allowed the women writers of the era, such as Murasaki and her contemporary Sei Shonagon, to produce the works they did, respectively *Genji monogatari* and *Makura no Soshi* (in English, *The Pillow Book*) (Miyeko 8). *Kana* was truly ideal for the production of the long, introspective narratives of the period (Danly 2088) and in addition to this, it came into play at precisely the right time; in order for the women of Japan to produce literature, along with *kana* they needed not only leisure time but also financial stability (Danly 2088). They had both, due to the traditions of "matrilineal inheritance," in which they were amply provided for and thus self-sufficient to a degree (Danly 2088). The above factors combined were pertinent for determining the emergence of the female writer in the Heian era, and thus *Genji monogatari*.

In Western thought, often a visual interpretation is not considered equal to its literary counterpart. It should be noted that the text and scrolls hold the same level importance in Japanese history (Stanley-Baker 80) and the compilation of the latter was not a simple endeavor. The first known set of scrolls for Murasaki's work dates to 1120-1130 C.E. (Stanley-Baker 80). Originally totaling a minimum of twenty individual hand scrolls complete with several hundred pictures and narrative sheets, there were elaborate depictions of each of the novel's fifty-four chapters (Stanley-Baker 80). The *Genji* scrolls have been credited to a painter by the name of Fujiwara Takayoshi, although it is largely accepted that they were the doings of more than one person (Terry 60). Their text is thought to be compiled by at least three different calligraphers, notably Minamota no Arihito, Fujiwara no Tadamichi, and Fujiwara no Koremichi (Stanley-Baker 80), and the paintings are attributed to women of the court, two of which are known to be Ki no Tsubone and Nagato no Tsubone (Stanley-Baker 80). The indigenous *kana* calligraphy proved indispensable, as it was used to tell an abridged version of *Genji*, and each scene was accented with slivers of gold and silver foil in various shapes and sizes (Miyeko 9). With more than one colorful illustration for each chapter, the scrolls were of the "alternating" style, meaning that each section of text was followed by a section of painting, and so on (Grilli 6). Lady Murasaki's great novel was brought to life via a sub-category of the *Yamato-e* style called *onna-e*, or feminine painting (Stanley-Baker 84). *Onna-e* was designated for narratives that were "introvert[ed]" and centered on "emotional feelings" (Stanley-Baker 84). Unfortunately, due to the delicate nature of the *Genji* hand scrolls, only a small portion has survived. Only twenty picture segments and twenty-eight pieces of narrative still exist and they are split between the Gotah Museum and the Tokugawa Reimeikai Foundation, both in Tokyo (Miyeko 9). It is impossible to know how closely the scrolls stayed to Murasaki's original text because such a small fraction remains (Stanley-Baker 80). Nonetheless, these elaborate portrayals symbolizing the height of the art of *emaki-mono* are now mounted for posterity.

The Tale of Genji, as depicted through both literature and art, has a distinct air of sadness; its characters are reflective of the ending of the Heian period, one that had been full of "poetry and peace" (Stanley-Baker 81). It is safe to say that this feeling of melancholy was one that extended throughout the period and acted as a common thread between both the scrolls and prose, eventually becoming so prevalent that it was even given a name. *Mono no aware*, although having no direct English translation corresponds to *lacrimae rerum*, translated as meaning "the pity of things" (Morris 311). This is commonly considered the theme of Murasaki's novel. Overall, the people agreed that

superficial beauty is perpetually fleeting, and sadness is inevitable (Morris 196). They had an innate acceptance of the belief that their world and their life would not last forever and it was entirely a "conjunction of aesthetic enjoyment with sorrow" (Morris 197). Life was considered as a road leading to death, and sadness was felt in every change, whether it was the end of a season or the end of a relationship (Makota 31). Critics of literature and art of the period agree that the inherent realism had a strong sense of elegance, through the value placed on aesthetic beauty, and pessimism (Makota 31, Morris 197). Lady Murasaki is widely thought to have viewed literature as a quest for truth, beauty, and virtue among all that is undeniably sad (Makota 35). She explored love in terms of emotion, and when this was paired with *mono no aware*, she was able to create a literary masterpiece.

As the above illustrates, *emaki-mono* and *Genji monogatari* are intricately linked. Lady Murasaki's work has provided a timeless muse for the work of scroll-painters throughout Japan, and through the groundbreaking conventions of *fukiyuki-yatai, hikime kagihana*, and *tsukurie* not only was the culture and history of the period brought to life, but also was one of its literary masterpieces. The times of the Heian period are still identifiable to the modern mind due largely to the products of some of the finest artisans and novelists that have ever lived. The *emaki-mono* along with the literary works of Murasaki Shikibu and her contemporaries have provided an indelible, timeless resource for a realistic view into the world that they inhabited so long ago. Regarding artistic and literary endeavors, the Heian era was surely a civilization at its height.

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Communications, Media Studies, Speech, and Popular Culture
Outstanding Presenter/Author: David King

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Judge: Dr. Jerome L. Wyant (Mount Saint Mary College, Newburgh)
Judge's Comments: David King's "The Gift of Music: The Artist Versus MP# and A Changing Marketplace" presents a wealth of research on the provocative issue of music rights and the deleterious results of rampant piracy of music with its severe consequence for the individual artist. David has imbibed large draughts of research and he's packaged it nicely for the reader. As assembled, his research makes the salient point that "we all lose when music is stolen, pirated, or illegally duplicated." After adumbrating on the untenable situation of music theft, King goes on to investigate what can be done to staunch the flow of abuses in contemporary society. The main point is clear: "Although legislation and technology are slowly adapting to combat piracy and illegal use of digital music, the digital age requires the music industry and the artist to be pro-active, not reactive." King's paper also provides an apt introduction to someone not familiar with the skullduggery that goes on behind the scenes of the music industry; the paper is creative in that it discussed the positive as well as the negative aspects of MP3.

THE GIFT OF MUSIC
The Artist vs. MP3 and a Changing Marketplace

Imagine a world without music. Music creates and changes emotions, promotes individual well being, helps to define social identity, aids in early human development, and accompanies us through the best and worst moments of our lives, and through much of the time in between (The Power of Music). Music is a gift to the world - making the musician the gift giver.

MP3 technology, however, has combined with the Internet and computer CD writing drives to initiate the complete metamorphosis of music from retail stores to millions of home computers. As this change progresses, artists - the gift givers - may ironically be left behind if they do not adapt to the changing conditions of the new digital music marketplace. For the first time in history, the harmonious relationship between musicians and their audience/consumers could be ripped apart and sent in polar opposite directions, where the two are pitted against each other, fighting over money and music.

Faced with this dark future, the artist has several options. MP3 technology has changed the music marketplace significantly, and to stay successful in this new music marketplace, the artist must adapt and change with the demands and technology of the market, while legislation and new protective technology may provide additional support.

In the last two decades, it would seem that the retail division of the music industry has been more than fair to the consumer. While the Consumer Price Index (CPI), which has risen 77.8 percent during the life of compact disc (CD) technology, indicates that the average price of a disc should be a whopping $38.23, the average retail price of a disc is $14.64, a 32 percent *reduction* since '83 ("CD's Are A Better Value Than Ever"). CD's, according to Harvard Magazine author Tom Pelton, contradict the general CPI, but instead follow the typical path for electronic goods over the last 20 years, entering the market at a higher price, then improving in quality while prices fall or remain

stable (Pelton). Since their introduction in 1983, CDs have improved in quality, durability, length and selection, while music artists have increased the number of songs they release on their albums, and have even offered enhanced CDs that contain videos and additional material. Still, users continue to complain about CD prices. This is because, as New York Congressman Ed Towns observes, "No one can compete with 'free' " (Towns).

In 1987, the IIS, or Institute for Integrated Circuits, began work on Digital Audio Broadcasting, a branch of their EUREKA EU147 research program aimed at perceptual audio coding. Soon they developed the MP3, or Moving Picture Experts Group Audio Layer 3, which is a compression format that converts music into a high-quality compact file. Using this 3rd level data reduction, an audio file can be compressed to one 12th of its original size, while still maintaining close to the original sound quality (Fraunhofer-Gesellschaft).

Combined with the Internet and computer CD writers or "burners", MP3 technology has changed from this convenient space-saving marvel to the center of a disturbing music consumer trend. In mid 1999, two Northeastern University students created Napster, a peer-to-peer network that allowed MP3 files to be downloaded and shared freely through a simple Internet connection. As word of mouth and media coverage increased throughout the year, Napster became engulfed in fame, popularity, and in a tidal wave of controversy. By the end of 2000, this MP3 sharing giant had an estimated 38 million members - but was also being sued by the Recording Industry Association of America (RIAA), and multi-platinum musicians Metallica and Dr. Dre, for sidestepping numerous copyright laws. After a long battle to stay alive, which included several attempts at industry appeasement, Napster filed for chapter 11 bankruptcy on June 3rd, 2002. At its peak, it illegally distributed over 1.6 *billion* songs in one month (Blazek).

Even while Napster was still alive, a multitude of peer-to-peer sharing software emerged, copying and improving on Napster's design. The main improvement - besides adding movies, documents and software to the sharing pool - was allowing users to connect to each other directly, eliminating the need for a 'central point of management' (Kazaa). Kazaa, Morpheus and Grokster are the best current examples of this direct p-2-p software, which makes traditional lawsuits like those brought against Napster's creators much more complex, as assigning blame is more difficult ("Media Giants Want Internet Ruling"). While media companies like the RIAA scramble to shut down these Napster offspring, 179 million copies of Kazaa's file-sharing "desktop" software have been downloaded as of February 2nd, 2003, according to Kazaa's website (Kazaa).

One of the pillars of economics states, "there is no free lunch" (McConnell 3). While consumers bypass the traditional retail stores and enjoy free music in MP3 format, the music industry and ultimately the artist pays the cost - and may eventually starve in the process. In a five-year span, from 1994-1999, $59.2 billion were lost internationally through global piracy. During this time frame, the US had the largest piracy losses at $16 billion (Beruk). Currently, media companies lose $8 to 10 billion in revenue every year through piracy of digital movies and music (Reuters Limited), and CD shipments have dropped from 442.8 million units in 2001 to only 398.1 million in 2002, a 10.1 percent loss ("RIAA Releases Mid-Year Snapshot of Music Industry").

This loss is magnified by the structure of the money flow 'food chain' of the music industry, which forms a giant inverse pyramid, with the artist at the bottom. When artists record an album, they are typically given an advance from their record company. Once the album is released, any earnings from the sales of units are used to pay back, or recoup, the cost of making the record. In William Krasilovsky's industry guide, This Business of Music, once producer's royalties, packaging costs, "free goods" allowances for promotion, and several other miscellaneous expenses are deducted from a typical "all-in" contract, the artist is commonly left with a 3 percent royalty rate - less than 50 cents on each unit sold (21). Even worse, these figures are based on an album/ single that *makes* profit, as 85 percent of album releases cannot recoup their costs in the first place (Krasilovsky 22). The implication of this is that the artists, although they create the music, are hurt the most from these MP3 losses, but they are far from the only losers:

The record company incurs the recording costs, while the pirate
and the counterfeiter steal the profits [...] artists lose out on royalties,
music publishers lose out on mechanical licensing fees, union members
lose payments to trust funds, and the government is cheated out of income
tax payments. In the end, we all lose. (Krasilovsky 81)

As this above statement illustrates, we all lose when music is stolen, pirated or illegally duplicated. While Krasilovsky uses publishers and government as examples, Ed Towns takes this a step farther, noting that the long-term loser will become the consumer, as less music will be available when the financial incentive is taken away and musicians can no longer look at music as a viable career path (Towns). Aside from these leakages in industry and artist revenue caused by music piracy, copyright laws are being broken and sidestepped. This, as RIAA's website acknowledges, is a great injustice in itself: "To all artists, 'copyright' is more than a term of intellectual property law that prohibits the unauthorized duplication, performance or distribution of a creative work." To an artist, a copyright represents the emotion, hard work, time and money that went into creating this property - this gift - and copyright law gives the owner of this unique property the right to "...reap the benefits" ("What is Copyright?").

There are several possible strategies that artists can rely on to counteract the negative effects of MP3 technology and piracy. To begin with, artists can rely on legislation - but not sensational direct copyright infringement lawsuits against every peer-to-peer sharer, which are simply not the answer. As Congressman Howard L. Berman states in support of 2002's Peer to Peer Prevention Act Bill, the costs of an all-out litigation war would be too high for all parties involved, as copyright owners would pay unreasonable lawsuit expenses, downloaders would experience privacy violations, internet service providers and other intermediaries would have to pay high costs to comply, and an already overcrowded federal court system would only become more clogged (Berman). The other major problem with these p-2-p suits is that again, by eliminating the need for a 'central point of management', or a litigation target, direct p-2-p software has made traditional lawsuits like those brought against Napster slippery, as well as money and time consuming ("Media Giants Want Internet Ruling"). Due to high-cost and difficulty placing blame, the Hollywood courtroom battles seems to have died with Napster.

Instead, artists may seek protection through digital music laws, a leading method of prevention. The Audio Home Recording Act of 1992 was the first step in a long progression of laws designed to restrict and punish illegal piracy and downloading, but was designed with companies and new digital technology as the target, rather than the offending individual. The Digital Performance Right in Sound Recordings Act of 1995 was a precursor to the Millennium Copyright Act, allowing for copyright owners to authorize digital transmission of their work ("Digital Music Laws"). The Digital Millennium Copyright Act was a milestone in international copyright law, overhauling and expanding standards to allow for the changing digital marketplace. The act prohibits the manufacture and distribution of technology and devices designed to 'circumvent' copyright law, clarifies the responsibilities and liabilities of Internet service providers in relation to any infringing users, and contains an improved agreement for artists to gain royalties from digital recordings (The Digital Millennium Copyright Act of 1998). Finally, the No Electronic Theft Act of 1997 attempts to cover the piracy issue by outlining criminal punishments for infringements, and applying them not only to those who make profit, but anyone in possession of copyrighted works. "Sound recording infringements" can be criminally prosecuted - which could potentially lead to 3 years in jail or a $250,000 fine if the offender did not act with a profit motive, and up to 5 years for a user who acted for "...commercial advantage or private financial gain" ("Digital Music Laws"). In 2002, a new bill known as the Peer to Peer Privacy Prevention Act was created by U.S. Representative Howard L. Berman, which is designed to *protect* infringing users, instead focusing on punishing parties liable for digital music theft (i.e. P2P's), and establish guidelines for preventative actions by the copyright owner ("The Truth About the Peer to Peer Privacy Prevention Act"). Though these digital music laws

are more promising, as they are progressive, allow for prosecution of offenders, and update through the passage of new laws, they are still reactive, and the digital marketplace moves much faster than the courtroom. Also, it is not realistic to catch every offending user and give them time in jail or a fine, and these laws take a lot of time, support and money.

In a recent piracy prevention study by consulting firm KPMG, 81 percent of industry executives polled, from both major players and independents, relied on encryption to prevent piracy (Reuters Limited). Sony's Key2audio is the current leader in the application of encryption, with over 21 million units on the market. Currently, Key2audio prevents playback on computer disc drives, and therefore prevents track copying or conversion from CD audio to MP3 format using a hidden signature applied to the CD when the initial 'master' is created (Key2audio). Ashley Steel, a partner in KPMG's Communications and Entertainment practice, is not enthusiastic about such preventative measures: "The next stage of encryption just means it will take a hacker a couple of days longer" (Reuters). Earlier versions of Key2audio, including the encryption on rapper Eminem's 2002 release "The Eminem Show", were easily circumvented not only by hackers - who bootlegged it so heavily that its release was pushed up to an unusual Sunday date - but also regular consumers, who needed little more than a marker or a piece of tape to mask the protection code (Worley). Added cost to current encrypted CD's makes discs even less competitive with the 'free' standard MP3's have set, and current protection makes the CD's unable to play in all devices, including computer CD drives, creating inconvenience to consumers (Ray). John O'Ryan, CEO of media protection company Macrovision, is working to improve this field. Macrovision has emerged with the Safeaudio and Safeauthenticate encryption technologies, the latter of which cannot be copied or shared, but can play in a PC, and will add 50 cents to the CD price at most ("Crack-Proof Protection?").

While 81 percent of industry executives found a theft-free safe-haven in encryption (Reuters Limited), Steel observes a fundamental problem in this choice, which is reliance on protective technologies and legislation rather than a "...real questioning of business models." According to Steel, "[Media companies] complain about the Napsters,...but why do Napsters exist? Because the marketplace wants them" (Reuters Limited).

Although legislation and technology are slowly adapting to combat piracy and illegal use of digital music, the digital age requires the music industry and the artist to be proactive, not reactive (Ray). Instead of blind reliance on these strategies, which take money and time to develop and work, the artist must eventually adapt and change to conform to the needs of the new digital marketplace.

Artists can start by embracing aspects of MP3 that can be beneficial to their music, increasing exposure and matching the instant gratification that p-2-p file sharers give today's consumers. The Internet and MP3 technology give independent/ up-and-coming artists a worldwide yet cheap place to showcase their music. MP3.com is a website where mainstream and independent artists coexist in a copyright-friendly environment: "With more than 10 million visitors to our site each month, MP3.com is the best place to reach your audience and build your fan base. MP3.com gives you the tools you need to market yourself effectively online and earn money!" (MP3.com) On MP3.com, digital copies of music are made available for download with permission of the artist, who has the option to arrange an online retail deal through the site, selling CD's for as much as 10 dollars. For new and established artists alike, a website is a must, as it is a great promotional tool and is integral in keeping touch with their core fan-base (Rapaport 88). Premiering songs from new albums in MP3 format has become more commonplace, a strategy used recently by multi-platinum artists like Nelly and Justin Timberlake of "NSYNC", who debuted their respective lead singles "Hot in Here" and "Like I Love U" on America Online (America Online). Even peer-to-peer sharing software, although it gives no royalties to an artist and is illegal, exposes the user to many new artists and songs that they would not hear otherwise. One positive aspect of MP3 technology is that the retail music market is becoming more diverse, as new genres are gaining in popularity and consumers are listening to a wider variety of music ("RIAA Releases 2001 Consumer Profile"). In these ways, the internet has become the 'common denominator' of music, allowing small, independent, and amateur artists to be

heard just as easily as millionaire major label artists.

To supplement revenues lost through MP3's and piracy, touring and artist-to-artist transactions like production and collaborations will become a more reliable source of revenue. Unlike MP3's, which can duplicate songs at qualities extremely close to that of a CD, the experience of attending a live performance cannot be simulated so easily. The spontaneity, visuals and atmosphere of a performance cannot be burned to CD or shared through p-2-p networks. With the advent of the music video and music on television, image and visuals have become almost as important as the music - and concerts and tours meet this shifting consumer demand well. Writer Jon Pareles, way back in 1991, observed that MTV has emphasized the importance of image over sound (Burnett 96). Financially, most of the most successful acts today demand a percentage of the gross receipts of the concert, which can vary from 60 to 90 percent of the gross (Weissman 153). For other artists, this strategy may be effective on a smaller scale, playing individual events, joining onto smaller tours, or opening and playing 'side-stages' on the larger venues. In addition to the revenue from the performances, tours are always good for promotion, which can lead to increased sales, and many artists can cut through much of the industry red tape by selling CD's at these events (Rapaport 44).

Throughout the history of popular music, production has been a lucrative and integral component of the music industry, and has grown in importance with the emergence of the independent producer. The producer plays many roles, from overseeing the creation of a new recording to creating music, arranging and writing songs (Krasilovsky 38); the latter is why many artists can dabble in the field of production, and see significant financial benefit. The production royalties from a given album can be from 3 to 5 percent of the retail-selling price of the record, and they can often negotiate large advances, as much as $50,000 or more for an album (Weissman 58). Also, the producer's royalty is the first deduction out of the artist's base royalty, meaning that the producer will receive royalties on a recording many steps before it finally trickles down to the artist (Krasilovsky 21). Collaborations work in a similar way, with the primary artist paying the guests first, out of his royalties. In collaborations, the guest may even negotiate for a joint-work publishing cut, where the artists who participate in the collaboration co-own the rights to the song (Krasilovsky 121).

Finally, artists can make better music. Many of the consumers of the MP3 digital marketplace cite the lower quality of music today as the reason they download MP3's rather than purchasing the record. The *Rolling Stone* article "Do CD's Cost Too Much?" acknowledges that too many of today's music releases do not justify their price tag. In fact, this article takes this a step farther, claiming that label executives, to cover up for the lack of good music being released, have made MP3 technology the scapegoat for stagnant sales (Eliscu 34). Even if this was true, consumers are more likely to support the artist with their $14.64 if they make a record that is actually *worth* it, which in turn creates a larger core fan-base. A recent study by Ipsos-Reid supports this consumer-based theory: "…it was found that 81% of consumers who download music from P2P networks have maintained or increased their purchases of retail CD's from their favorite [artists]" (Ray). Increasing the quality of the recordings is the most traditionally effective strategy for success, and is becoming even more important in the new highly competitive digital music world.

These proactive artist based strategies are only the strongest examples out of many things artists can do to adapt to the new digital age while waiting for protective legislation to pass or more effective encryption to be developed. Unfortunately, these may not work for all artists - some may not have the talent to become a producer or songwriter, may not want the hassle and stress of touring and independent promotion, and may like the security of snuggling under a major label's wing while the label fights the MP3 piracy battle, spending time and money on digital music law and encryption. Unlike many wars though, this time it may be *safer* for the artist to actively fight, rather than to seek shelter.

As congressman Ed Towns observes, "Without profitable artists…there won't be any content left to enjoy" (Towns). To stay successful in the new music marketplace, which is changing so

rapidly because of MP3's and the Internet, the artist can rely on legislation and new technology, which may play a part in thwarting piracy, but most importantly must adapt and change, as this proactive approach is the fastest and smartest way to "stay ahead of the game". Using a combination of these methods, the music industry may finally be able to "…compete with free…" (Towns), artists can be assured of a brighter financial and creative future, and consumers can continue to receive the gift of music for generations to come.

Works Cited

America Online. 2002. America Online Inc. <http://www.aol.com>.

Premiering songs from new albums in MP3 format has become more commonplace, which is a strategy used recently by multi-platinum artists like Nelly and Justin Timberlake of "NSYNC", who debuted their respective lead singles "Hot in Here" and "Like I Love U" on America Online.

Berman, Howard L.. "Introduction of the Peer to Peer Piracy Prevention Act." 25 July 2002. U.S. House of Representatives. 28 Nov. 2002 <http://www.house.gov/berman/floor072502.htm>.

This statement is by Congressman Howard L. Berman in support of the Peer to Peer Prevention Act Bill, where he outline the ineffectiveness of peer-to peer lawsuits like those brought against Napster. The costs of an all-out litigation war would be too high for all parties involved, as copyright owners would pay unreasonable lawsuit expenses, downloaders would experience privacy violations, internet service providers and other intermediaries would have to pay high costs to comply, and an already overcrowded federal court system would only become more clogged.

Berman, Howard L.. "The Truth About the Peer to Peer Privacy Prevention Act." Oct. 1 2002. 22 Jan. 2003 <http://writ.news.findlaw.com/commentary/20021001_berman.html>.

This is an explanatory article by the creator and supporter of the 2002 Peer to Peer Prevention Act Bill. This bill is designed to *protect* infringing users, instead focusing on punishing parties liable for digital music theft, and establishes guidelines for preventative actions by the copyright owner. Protective legislation is a method to combat the negative effects of MP3 technology and piracy.

Beruk, Peter. "Five Years: $59.2 Billion Lost." The Software and Information Industry Association. 24 May 2000. 16 Oct. 2002 <http://www.siia.net/sharedcontent/press/2000/5-24-00.html>.

In the span of five years, a whopping 59.2 billion dollars were lost due to global piracy. Although Asia and Europe have also been hit hard, North America accounts for the largest share of these losses. This article highlights the serious impact copyright violations and piracy have had on the world.

Blazek, Melissa. "A Napster Timeline." Grammy.com. 3 June 2002. Recording Academy. 16 Oct. 2002 <http://www.grammy.com/features/0130_naptimeline.html>.

In mid 1999, two Northeastern University students created Napster, a peer-to-peer network that allowed MP3 files to be downloaded and shared freely through a simple Internet connection. As word of mouth and media coverage increased throughout the year, Napster became engulfed in fame, popularity, and in a tidal wave of controversy. By the end of 2000, this MP3 sharing giant had an estimated 38 million members - but was also being sued by the Recording Industry Association of America, and multi-platinum musicians Metallica and Dr. Dre, for sidestepping numerous copyright laws. After a long battle to stay alive, which included several attempts at industry appeasement, Napster filed for chapter 11 bankruptcy on June 3rd, 2002.

Burnett, Robert. The Global Jukebox: The International Music Industry. New York: Routledge, 1996.

This book provides an extensive look at the changing landscape of the music industry around the globe. The portion used in this work concerns the relevance of touring and concerts in today's music marketplace, as MTV has emphasized look and image more as the sound of an artist.

"CD's Are A Better Value Than Ever." RIAA. 8 Nov. 2002 <http://www.riaa.com/News_Story.cfm?id=555>.

In the last two decades, the retail division of the music industry has been more than fair to the consumer. Since their introduction in 1983, Compact Discs, or CDs, have improved in quality, durability, length and selection, music artists have increased the number of songs they release on their albums, and have even offered enhanced CDs that contain videos and additional material. While the consumer price index, which has risen 77.8 percent during the life of CD technology, indicates that the average price of a disc should be a whopping $38.23, the average retail price of a disc is $14.64, a 32 percent *reduction* since '83.

"Crack-Proof Protection?" 2002. TechTV. 25 Nov. 2002
<http://www.techtv.com/audiofile/musictech/jump/ 0,23009,3368132,00.html>.

This web page is a section of a three part interview with John O'Ryan, CEO of media protection company Macrovision, who is working to improve this field. Macrovision has emerged with the Safeaudio and Safeauthenticate encryption technologies, the latter of which cannot be copied or shared, but can play in a PC, and will add 50 cents to the CD price at most.

"Digital Music Laws." RIAA. 11 Nov. 2002 <http://www.riaa.com/Copyright-Laws-4.cfm>.

This site lists and explains recent digital music laws, a leading method of piracy prevention. The Audio Home Recording Act of 1992 was the first step in a long progression of laws designed to restrict and punish illegal piracy and downloading. The Digital Performance Right in Sound Recordings Act of 1995 was a precursor to the Millennium Copyright Act, allowing for copyright owners to authorize digital transmission of their work. Finally, the No Electronic Theft Law attempts to cover the piracy issue by outlining criminal punishments for anyone in illegal possession of copyrighted works.

Eliscu, Jenny. "Do CD's Cost Too Much?" Rolling Stone Magazine. July 4-11: 34.

This current article explores compact disc pricing in today's music marketplace, analyzing the strategy of lowering disc prices to boost stagnant sales. Since this is more of an industry strategy rather than an artist-centered strategy, the portion of the article that was most helpful was the section about how the music quality on many discs released today simply does not justify the 'steep price tag'. This supports the concept that artists should make better music to stay successful in the new digital marketplace.

Fraunhofer-Gesellschaft. "Mpeg Audio Layer-3." Fraunhofer Institute For Integrated Circuits IIS. Fraunhofer Institut Integrierte Schaltungen. 11 Nov. 2002
<http://www.iis.fraunhofer.de/amm/techinf/layer3/index.html>.

In 1987, the IIS, or Institute for Integrated Circuits, began work on Digital Audio Broadcasting, a branch of their EUREKA EU147 research program aimed at perceptual audio coding. Soon they developed the MP3, or Moving Picture Experts Group Audio Layer 3, which is a compression format that converts music into a high-quality compact file. Using this 3rd level data reduction, an audio file can be compressed to one 12th of its original size, while still maintaining close to the original sound quality.

Kazaa. Sharman Networks Limited. 27 Sept. 2002 <http://www.kazaa.com>.

This is the website for the peer-to-peer music sharing software of Kazaa.

Even while Napster was still alive, a multitude of peer-to-peer sharing software emerged, copying and improving on Napster's design. Kazaa has added movies, documents and software to the sharing pool and has eliminated the need for a 'central point of management'. While media companies like the RIAA scramble to shut down these Napster offspring, 143 million copies of Kazaa's file-sharing "desktop" software have been downloaded as of November 9th, 2002, according to Kazaa's website.

Key2audio. Sony. 22 Oct. 2002 <http://www.key2audio.com>.

This is the website of Sony's Key2audio, which is the current leader in the application of encryption, with over 21 million units on the market. Currently, Key2audio prevents playback on computer disc drives, and therefore prevents track copying or conversion from CD audio to MP3

format using a hidden signature applied to the CD when the initial 'master' is created. Key2audio is a good example of encryption as piracy protection.

Krasilovsky, M. William, and Sidney Shemel. This Business of Music. New York: Billboard Books, 2000.

This Business Of Music is a detailed guide to the music industry and its many laws and branches. As this paper is from an artist's perspective, this book is probably the best resource an artist can have. It has an extensive chapter on copyright laws, which MP3 pirates are in constant violation of, and a chapter entitled "Bootlegging, Piracy and Counterfeiting." In addition, it contains other relevant chapters on contracts, publishing, songwriting, and copyright infringement.

McConnell, Campbell R., and Stanley L. Brue. Economics: Principles, Problems and Policies. Boston: Mcgraw-Hill, 2002.

This is a current Economics textbook, used in basic economics education. The book outlines several important principles of the global economy, including the phrase, "there is no free lunch." This means that although someone may be treated to 'lunch', or a good or service, someone is paying the cost - resource suppliers, manufacturers, etc.. In the case of the music marketplace, consumers are enjoying free music, but the industry and the artists are paying for these MP3 losses.

"Media Giants Want Internet Ruling." BBC News. 11 Sept. 2002. 9 Nov. 2002 <http://news.bbc.co.uk/2/hi/entertainment/2250867.stm>.

This article summarizes the newer legal fight against music file sharing sites Kazaa, Morpheus and Grokster. These improved versions of Napster allow users to connect to each other directly, eliminating the need for a 'central point of management'. This feature of Kazaa, Morpheus and Grokster make traditional lawsuits like those brought against Napster's creators much more complex, as assigning blame is more difficult.

MP3.com. Vivendi Universal Net USA Group. 22 Sept. 2002<http://www.MP3.com>.

MP3.com is a legal alternative to the Internet peer to peer sharing sites like Kazaa and Grokster. It not only aids the artist by diverting users away from these illegal sites, but also helps up-and-coming artists by providing them with a place to showcase their music. MP3.com provides free web space for artists to not only post MP3's of their music, but also acts as a retailer for their independent material. This is an example of how, instead of attacking MP3 piracy, artists can use the Internet and MP3 technology to their advantage.

Pelton, Tom. Right Now - Windex for an Index. 16 Jan. 2003 <http://www.harvard-magazine.com/issues/ma97/right.windex.html>.

This article in Harvard's online magazine explains and examines the Consumer Price Index, taking the statistics of several goods and services and placing them in a more practical context. For instance, while the price of electronic goods may remain stable or rise, the CPI does not take into account the huge advances made in this sector.

Rapaport, Diane Sward. How To Make and Sell Your Own Recording. New Jersey: Jerome Headlands Press Inc., 1999.

How To Make and Sell Your Own Recording provides the recording artist with a great "who's who" and "what's what" of the music industry. It not only contains information about copyrights and piracy, informing and warning the artist, but also has tips on establishing a website, and Internet marketing and promotion. The latter is integral for an up-and-coming artist to survive in the future.

Ray, Dan. "The Music Industry's Red Tide." 10 Apr. 2002. Futuremusic. 23 Nov. 2002 <http://www.futuremusic.com/april02.html>.

This article by Futuremusic writer and contributor Dan Ray offers several important ideas and facts concerning the battle against piracy. First, he cites a recent study by Ipsos-Reid, where it was found that 81% of consumers who download music from P2P networks have maintained or increased their purchases of retail CD's from their favorite artists. Also, he stressed that the solution to piracy must be proactive, not reactive, which becomes a theme in the second half of this paper.

Reuters Limited. "Study: Stop Trying To Lock Out Pirates." 25 Sept. 2002. 25 Sept. 2002<http://news.com.com/2102-1023-959388.html>.

This is a current study done by the consulting firm KPMG. It outlines one of the newer theories in the battle against MP3 piracy, that artists should give up trying to stop internet pirates and focus on the bigger picture - how to use the internet to their advantage. Ashley Steel, a partner at KPMG, observes that the reason search engines exist is because the market demands them, and questions the effectiveness of new technology designed to stop piracy.

"RIAA Releases 2001 Consumer Profile." RIAA. 8 Nov. 2002 <http://www.riaa.com/News_Story.cfm?id=512>.

Released by the RIAA, this article presents an overview of music consumer traits in 2001. It reveals one positive aspect of MP3 technology, which is that the retail music market is becoming more diverse, as new genres are gaining in popularity and consumers are listening to a wider variety of music.

"RIAA Releases Mid-Year Snapshot of Music Industry." RIAA. 8 Nov. 2002<http://www.riaa.com/News_Story.cfm?id=552>.

Much like the SIIA study, this highlights the impact of piracy and copyright violations on the music industry. For instance, US music shipments have dropped 10.1 percent in 2002, and 17 less CD's have gone platinum.

"The Digital Millennium Copyright Act of 1998." The Library of Congress. 19 Sept. 2002 <http://lcweb.loc.gov/copyright/legislation/dmca.pdf>.

The Digital Millennium Copyright Act was a milestone in international copyright law, overhauling and expanding standards to allow for the changing digital marketplace. The act prohibits the manufacture and distribution of technology and devices designed to 'circumvent' copyright law, clarifies the responsibilities and liabilities of Internet service providers in relation to any infringing users, and contains an improved agreement for artists to gain royalties from digital recordings.

The Power of Music. The Performing Right Society. 10 Nov. 2002 <http://www.thepowerofmusic.co.uk>.

This website reminds the reader of "the power of music." Music creates and changes emotions, promotes individual well being, helps to define social identity, aids in early human development, and accompanies us through the best and worst moments of our lives, and through much of the time in between. Music is a gift to the world - making the musician the gift giver. The curse, however, has become MP3 technology and the piracy and copyright violations, which steal the gift away from the artist.

Towns, Ed. "Piracy Hurts Everyone Both Online and Offline." The Hill. 22 May 2002. US Congress. 16 Oct. 2002 <http://www.thehill.com/052202/ss_towns.shtm>.

This is an article written by New York Congressman Ed Towns, on the topic of Internet piracy, which he says, "...hurts everyone, on and offline." Towns brings up several strong arguments on the topic of piracy, including the fact that the marketplace is having serious trouble competing with free music, which is provided through the internet in MP3 format, and that without the profit incentive for artists, there may not be any new music to enjoy.

Weissman, Dick. The Music Business: Career Opportunities and Self Defense. New York: Three Rivers Press, 1997.

This book presents the music business in much the same way as Krasilovsky's and Rapaport's works, though this is divided up in a simpler way, into specific aspects one could specialize in, including production and promotion. Specifically, Weissman gives important details on both producer and tour revenue percentages.

"What Is Copyright?" RIAA. 3 Nov. 2002 <http://www.riaa.com/Copyright-What.cfm>.

This page, presented by the RIAA, provides a simple explanation of copyright law, and its value to the artist, as "...to all artists, 'copyright' is more than a term of intellectual property law that

prohibits the unauthorized duplication, performance or distribution of a creative work." To an artist, a copyright represents the emotion, hard work, time and money that went into creating this property - this gift - and copyright law gives the owner of this unique property the right to "...reap the benefits". These make the law even more important to protect.

Worley, Becky. "Sony's CD Encryption Hacked." TechTV. 23 May 2002. 29 Oct. 2002 <http://www.techtv.com/news/security/story/0,24195,3385847,00.html>.

Earlier versions of Key2audio, including the encryption on rapper Eminem's 2002 release "The Eminem Show", were easily circumvented not only by hackers - who bootlegged it so heavily that its release was pushed up to an unusual Sunday date - but also regular consumers, who needed little more than a marker or a piece of tape to mask the protection code.

Gender Studies
Outstanding Presenter/Author: LuAnn Nash

Mentor: Prof. Donna M. Allen
Erie Community College
4041 Southwestern Boulevard
Orchard Park, New York 14127

Judge: Dr. Denise Bauer (State University of New York, New Paltz)
Judge's Comments: A well developed thesis that points clearly to how sexist practices and social norms in some African nations have been the driving force in the spread of AIDS in Africa. A well illustrated and organized presentation, too!

Is the Omission of Women's Rights the Driving Force in the AIDS Epidemic in Africa?

"South Africa is thought to have the highest number of people with AIDS in the world"

("South Africa Auditors Urge AIDS Reviews" 1).

"Every 25 seconds, an African contracts the HIV virus and every day, at least 6,700 Africans die of AIDS" (Akukwe 1).

"Women in South Africa are brutalized both inside and outside of their homes" (Usdin 1).

Not only are women brutalized in South Africa, women throughout the continent are being violated, and unspeakable practices have resulted in women's rights being trampled and ultimately in the deaths of millions of women to the scourge of AIDS.   At the 2002 International AIDS conference in Barcelona, Spain, it was reported that 67 percent of those infected with HIV/AIDS in sub-Saharan Africa are women (Donnelly). In 2001, approximately 800,000 infants were infected with HIV through mother to child transmission, and more than 10 million African children have had their mothers die from AIDS ("HIV/AIDS"). The omission of women's rights has led to these tragedies and is the driving force of the AIDS epidemic in Africa.

Premarital sex, recreational sex, sex abuse, coercive or transactional sex, and sex offered as a gift are prevalent practices on the continent of Africa (McGeary). South Africa is called the rape capital of the world with its social dynamics of a male hierarchy and its violence against women, which is fueling the HIV/AIDS epidemic (Usdin). With the African patriarchal cultures, orphaned children, and the epidemic of violence against women, there are underlying concerns about male dominance and the unequal status of women, resulting in sixty-seven percent of the HIV/AIDS patients in Africa to be women and young girls (Donnelly).

Lobola

In South Africa, the custom, lobola, has a direct connection in spreading HIV/AIDS. In lobola, men are given rights over women, and violence is commonly condoned as a way of maintaining control (Usdin). This custom dates back to ancient times and is still practiced in Africa. The lobola system, which means to give a dowry, reinforces the belief when a woman marries a man, she becomes his property. The husband then has the right to do with his wife as he wishes. The wife

believes she must obey her husband, for she feels it his right to expect her obedience. In a lobola culture, a wife has no way to defend herself. Often a man will use his bride as a means of exploitation (Richler). With this exploitation pervasive, it is common that violence will occur in a marriage when a wife asks her husband to wear a condom while making love. Often a woman is beaten and is accused of having an affair with another man if she makes such a request (Usdin). In Africa, men have power over women, and women must be submissive to men.

Dry Sex

Another factor that violates women and has led to the increase in the number of HIV/AIDS victims is the abominable practice of dry sex promulgated in South Africa. It is believed that vaginal lubrication signifies infidelity in a marriage. Women are violently punished if they do not submit to this horrendous ritual of dry sex. To avoid violent punishment, many women must insert herbs and other substances to dry up the lining of the vagina (Usdin). The women must first prepare a basin of bleach or saltwater and in the solution soak herbs, tobacco, or fertilizer. After the herbs are well soaked, the women then insert the solution into the vagina. The lining of the vagina will swell, and the natural lubricants will dry up. This is not only very painful but is very dangerous for the female. The drying agents will not allow the natural friction and can easily tear the walls of the vagina, which results in the spread HIV/AIDS increasing twofold (McGeary).

Rape

Because a woman's consent is not an issue for having intercourse in many African cultures, many women are taken by force, and the spread of AIDS continues. At random, men can force a woman to have sex. Without fear of repercussions, he can force a woman to have sex with him without her approval. Some call South Africa the rape capital of the world. During the process of a rape, the community will look the other way. They often assume a wife has been unfaithful to her husband, and he is punishing her (Usdin). Others believe that if a woman wearing revealing clothes sexually arouses a man, he has the right to rape her ("The Reality Behind Child Rape"). This culture also allows for silent crimes of incest. Brothers will have intercourse with their sisters and fathers with their daughters ("Ethiopia: I am Fighting Mental Slavery").

Theories

Promiscuity runs rampant in Africa. With the African customs, traditions, and rape, many women lose their virginity before they become 15 years old, and along with the loss of virginity may come the transmission of the AIDS virus. The Women's Health Project investigated three theories regarding factors leading to the increase of rapes in Africa. According to the "Cleansing Theory," it is believed that sleeping with a virgin or a grandmother can cleanse a man of HIV/AIDS. The "Prevention Theory" suggests that men should choose young girls as sexual partners because it is believed sexual partners cannot contract HIV/AIDS from a virgin. The final theory, the "Vengeance Theory," concludes that rapes occur, so HIV positive man will not have to die alone ("The Reality Behind Child Rape").

The project concluded that a child raped in South Africa was the result of social dynamics of male hierarchy and violence against women and children ("The Reality Behind Child Rape"). The UN Commission on Human Rights (UNCHR) called for urgent efforts to address an apparent increase in sexual violence against children in South Africa ("South Africa; Call for Creation of National Center on Child Abuse").

Cultural Belief vs. Religious Belief

A main factor in the spreading of HIV/AIDS in Africa is the cultural norm whereby married men have multiple sex partners, which places married women at the greatest risk for contracting the HIV/AIDS virus (Usdin). The official Muslim and Catholic Church pronouncements prohibit the use

of condoms during sexual intercourse, which, under these circumstances, contributes to the transmission of the HIV/AIDS virus. Most of the African women are intimate with only their husbands, but the husband may have many sexual partners. Up to 80 percent of HIV positive African women are in long-term relationships, and the HIV virus was acquired from their partners. Many Africans claim to be practicing Christians and Muslims, and having multiple sex partners is in direct conflict with many African men's religious beliefs and The Muslims' Qur'an states: "Tell the believing men to lower their gaze and protect their private parts. That is purer for them. Verily, Allah is All-Aware of what they do" (The Noble Qur'an 24:30). Many men will deny the fact that they must make changes in their sexual behaviors. African religious and cultural norms have made married women believe it is impossible to ask their husbands to use protection during intercourse because they are expected to be obedient to their husband's wishes. With so much unprotected sex, a single HIV infected male can spread HIV/AIDS to numerous women.

Another way African women are further victimized is in the way the Catholic and Muslim religions have been very vocal in their condemnation of the various African countries' condom campaigns. This makes conditions for African women even more unendurable. The Catholic Church doctrine condemns the use of condoms. Many in the church believe that men must have self-control. The church leaders insist that to change this religious policy would be implying that the Church accepts promiscuity (DeYoung). But is this policy not a valid concern when so many African women are dying from a disease that they feel they do not have control over?

Another reason for the horrific spread of the deadly virus is that the African Muslim Communities, along with many other religious leaders, refuse to even acknowledge HIV/AIDS because they consider it a disease which affects only homosexuals. The Muslims feel homosexuality is a severe transgression against mankind (Lacey). In fact, Islamic clerics have gone so far as to halt plans for proposed educational seminars:

The council of Islamic Clerics in Nigeria... condemned a planned seminar on HIV/AIDS prevention as violating Islamic law. Iman Ibrahim Umar Kabo called it a Western gimmick to spread immorality in our society. The Zambian President has proclaimed Christianity the state religion has also called condoms a sign of weak morals. Early this year Zambian health officials cancelled ads prepared for state –run TV and radio after religious leaders said their promotion of condoms would lead to promiscuity. When the Kenyan government announced plans [last month] to import 300 million condoms to prevent the spread of AIDS, Sheik Mohammed Dor of the Council of Imams and preachers said the country was committing suicide and encouraging sexual experimentation among young people. (DeYoung 1)

Acknowledging HIV/AIDS Ostracizes Community Members

Another reason HIV/AIDS is so prevalent is that once a person acknowledges the fact that he/she is infected with HIV/AIDS, he/she is often branded a monster. Following their refusal to be tested, men often are having unprotected sex with vulnerable women, thus spreading their disease. Very few African men will allow themselves to be tested for the HIV/AIDS virus. It is considered a weakness in their manhood to have HIV/AIDS. Once these men become infected, they feel they can become even more promiscuous. They refuse to use any form of prophylactic (McGeary). Lack of understanding of the virus is another reason that AIDS is so prevalent in Africa. Though surveys show that Africans are becoming aware that there is a sexually transmitted disease that is incurable, most still believe they are immune to the deadly virus, and there is little discussion and education about the prevention of AIDS (McGeary).

The Orphaned Adolescent Girls Left Behind

Many orphaned adolescent girls become prostitutes in order to feed their families and as a result will fall victim to the AIDS epidemic. By becoming prostitutes, these young girls earn enough

money to survive and feed their families (Donnelly). With the AIDS epidemic killing so many mothers, the epidemic has left many children orphaned. Many of the extended families are unable to take care of the orphaned children. This has led to a rise in the number of child-headed households in South Africa. In South Africa, the government will pay a grant to poor families, but the grant will end when a child reaches the age of seven. Therefore, many young children will try to become heads of their households. In many of these families, a young girl may resort to prostitution in order to feed her siblings. There are other cases when a family member or a relative will assist a child in his education in return for sexual favors ("South Africa; Call for Creation of National Center on Child Abuse"). Young girls living in poverty are often enticed or coerced into having sex with someone older, wealthier, or in a position of authority in order to stay in school or to support themselves and their families (Donnelly.)

HIV Mothers

African cultural norms are not only victimizing the African women, they are also spreading the HIV/AIDS virus to a new generation of innocent African newborn babies. A single HIV infected male can spread HIV/AIDS to numerous women, resulting in unplanned pregnancies. In South Africa, there are between 70,000 and 100,000 babies born HIV positive every year. African women are further victimized when their newborn children are unable to receive the life-saving drugs, available but often unattainable. The drug, nevirapine, is so expensive that the majority of pregnant African women with AIDS do not have access to the drug. One tablet of nevirapine is to be taken by a pregnant woman during labor, and a single teaspoon of nevirapine syrup given to the baby within the first 72 hours of birth could reduce the HIV virus by 50 percent (Donovan). However, there is a refusal to follow accepted protocol. Though there have been rulings ordering the use of these drugs, too often the results have been ineffective or non-existent:

The Preotria High Court ruled Dec. 14, 2001 that the South African government had to make nevirapine available to all women who gave birth in a public hospital.... The German Drug Company Boehringer Ingelheim has offered nevirapine free to all developing countries. However, there has been little headway with the South African Governments to accept this offer. (Donovan 1)

Although the curative drugs AZT and Retrovir are available in Africa, Africans who suffer from the HIV/AIDS do not have the financial ability to purchase these drugs. The majority of Africans are living in poverty. The curative HIV/AIDS drug AZT costs more than $5,000 while the drug Retrovir costs $6,500 for a one-year treatment ("Nigeria; Why Condoms Cannot Prevent HIV/AIDS").

Africa is Making Attempts to Change

Increasingly, attempts to change the situation in Africa have, in and of themselves, become a vehicle of violation against women, while other actions are moving in a positive direction.

Swaziland

African women are further victimized in attempts to stop the spread of HIV/AIDS by bringing back an ancient custom of virginity testing. Virginity testing is a public ceremony where young girls genitalia are inspected in public, and a certificate is then awarded to the young virgin (Usdin). The Kingdom of Swaziland plans to stop the spread of HIV/AIDS by implementing a five-year ban on sex for virgins, believing this will control the spread of HIV/AIDS. King Mswati III ordered all young women to undergo a test to make sure they are virgins. The undefiled then must wear the ancient traditional Swazi badge of virginity, a tassel worn around the neck to certify virginity. Under the decree, men may not touch the virgin women, and these women are not allowed to wear jeans or trousers. A Sengas, the girl's aunt, is appointed to advise the young virgin on all wifely duties

including the wedding night. The Swaziland Kingdom has devised a sex manual, which the Sengas use to teach young men and women about sex and how to avoid it. The medical community has dismissed virginity testing as pseudo-science ("African Kingdom Plans to Fight the Spread of HIV by Rewarding Virginity").

Buganda

The Kingdom of Buganda has its own plan to stop the spread of HIV/AIDS by rewarding all virgins. Ironically, even this policy brutalizes and degrades women. In the Buganda kingdom, King Muwenda Mutebi is bringing back an ancient tradition of rewarding young individuals who remain virgins until their early 20's. A young man will receive a few heads of cattle while a young lady will receive a stove or a refrigerator. The young ladies would have to undergo virginity testing while the young men are taken at their word. Many claim it is a violation of a woman's rights ("African Kingdom Plans to Fight the Spread of HIV by Rewarding Virginity").

Crusaders for the HIV/AIDS Crisis

Many Africans are trying to make the world more conscious of the pandemic in Africa by traveling to cities and speaking out on the crisis. The United Nations has many African volunteers who are trying to make a difference through lectures on the severity of the AIDS crisis. These crusaders travel the world to make people aware of this pandemic. One crusader, Brigitte Syamalevwe, 44, a Zambian teacher, and her husband, a medical doctor, found they were inflicted with HIV/AIDS in 1992. Brigitte Syamalevwe and her husband have become HIV/AIDS activists, traveling throughout Africa to educate law people as well as church officials on the safety of condoms. While being HIV positive, Brigitte became pregnant and delivered a child that was HIV negative. Brigitte has 11 children; all are all HIV negative ("Ethiopia: I am Fighting Mental Slavery").

Recently, the United Nations Developing Program and the Business Women's network began an alliance to help spread HIV/AIDS education in Africa. Across Africa, this alliance has ten million members who encourage women to become empowered and to help educate African women about the HIV/Aids virus (Morgan).

Concluding Thoughts

The omission and/or alienation of women's rights and the dominant male hierarchy are the driving force in the AIDS epidemic in Africa. With the African patriarchal cultures and the epidemic of violence against women and children, there needs to be a change in the unequal status of women. Hopefully, activists like Brigette Syamalevwe, and programs like the United Nations Developing Program, as well as the Business Women's Network can inform and educate the African people. African women need to become empowered and take a stand against lobola and the horrendous ritual of dry sex. The accepted practices of promiscuity among married men must be changed. With so many Africans inflicted with HIV/AIDS, society must find a way to educate the African people. Only by empowering women and having men change their ancient customs and traditions will society be able to inhibit the spread of HIV/AIDS in Africa.

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Literature
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Childhood in Shakespeare's England:
An Analysis of *A Winter's Tale*

The issues of familial life and the raising of children occur frequently within Shakespeare's plays, but the situations presented seem only partially to follow the reality of the time (Amussen 85). As with other, albeit less mundane, concerns, the task of resolving just how accurately Shakespeare chose to present the period view of childhood is left to a careful analysis of his plays. Childrearing practices, historically, have shown a trend toward continuous change, with each successive generation moving in a direction which continues upon the move toward more modern (i.e. 'humane', by our, albeit contemporary, standards) methods of parenting (deMause 1). Given this, we must be aware of the vast differences which will exist between the modern viewpoint we inevitably bring to the canon and the viewpoint of Shakespeare's contemporaries, analyzing the plays in accordance with the latter.

Fortunately, there are an abundance of situations in which family plays a critical role within the canon which we may observe in comparing the family life of Shakespeare's world to that of the reality of the time. For the purpose of this analysis, the play to be looked at will be *A Winter's Tale*, because it provides three distinct issues to be analyzed: Infanticide (which can be looked at through the court's reaction to Perdita's abandonment); Education among gentry versus among the lower classes (seen in Perdita's upbringing); and the balance of power between parents and children. Furthermore, *A Winter's Tale* provides both a male and a female child to be analyzed within the same play. This is of less importance than the three points mentioned above, because even though, as discussed by Amussen, Greenblatt and others, the raising of males was very different from that of females, there is no direct comparison between Mamillius and Perdita to be made from what is presented within the text, and therefore it serves to provide us with very little useful information.

The primary concern of this piece will be on Perdita, not merely because she is the child around whom most of the plot seems to center but also because two of the three issues addressed are brought up in relation to her. The raising of Perdita, though it occurs later in the play, is of more significance both to the plot and the study of childhood than is that of Mamillius.

Our first serious introduction to Perdita comes with the scene at the court, where Paulina brings her before Leontes in the hope that he will pardon the child upon seeing it. Unfortunately, his murderous jealousy persists nevertheless. The court feels strongly enough about the injustice of killing Perdita that its members go so far as to reprimand the king; certainly a rather clear statement that the play, at least, frowns upon the action. But what is not immediately clear is whether the objection lies with infanticide itself, or merely with the unjust treatment of a legitimate heir. That is

to say, does the court object because it is morally wrong to kill an infant, or simply because his motive is based upon flawed reasoning?

Contrary to the view the play seems to imply, infanticide was not an abhorred practice at the time. It was, rather, something done when deemed necessary. Indeed, it was such a part of the culture that "English ballads and other popular literature of the period offer numerous accounts of female servants who abandon or kill children born out of wedlock" (Greenblatt 2915 n.7). What may be surprising to the modern reader, however, is that the practice of infanticide was by no means restricted to fairy tales, but rather formed an accepted part of the culture of the time.

> ... enough is already known to establish that, contrary to the usual assumption that it is an Eastern rather than a Western problem, infanticide of both legitimate and illegitimate children was a regular practice of antiquity, that the killing of legitimate children was only slowly reduced during the Middle Ages, and that illegitimate children continued regularly to be killed right up to the nineteenth century. (deMause 27)

This is extremely important, because it illustrates that the court would have reacted as it did purely because those involved felt that Hermione was innocent. If, on the other hand, they had been in agreement with Leontes, that is, concurring as to Hermione's adultery, the abandonment of an illegitimate child would likely have been seen as perfectly acceptable. In this regard, at least, Shakespeare's portrayal seems to follow accurately the situation of the time and the outlook upon this aspect of childhood, as most of those involved do hold to Hermione's innocence. But it is merely a parallel of result, not of cause. The cause, rather, seems indeed to be a genuine empathy for the child

Whether or not the court reaction conforms to the norms of the period is therefore contingent upon the motive of those involved. In determining this, we must begin at 2.3.91, where we see Leontes first ordering the execution of wife and daughter. "This brat is none of mine. / It is the issue of Polixenes. / Hence with it, and together with the dam / Commit them to the fire" (2.3. 93-96). As a starting point, this provides us a foundation devoid of ambiguity; this statement is clearly one demanding that his daughter and wife be slain. For our purposes, his later decision to instead abandon the child is immaterial. In the eyes of the characters involved, abandonment was tantamount to a more straightforward execution, with death seen as quite inevitable.

The first objection proffered by the court comes from a nameless Lord, who, despite Leontes' rage, is bold enough to reply, "And on our knees we beg, / as a recompense of our dear services / Past and to come, that you do change this purpose / Which, being so horrible, so bloody, must / Lead on to some foul issue" (2.3.149-153). This man is pleading to Leontes' sense of humanity and kindness. Rather than offering the argument that the child is legitimate, he instead simply claims that to kill it would be horrible. The structure of the argument here is important, because it seems to suggest to the reader that, independently of whether Leontes is right or wrong in his accusations, the Lord believes the action to be wrong. Otherwise, he would be arguing for the child's legitimacy, rather than the atrocity of the action as a way of preserving its life.

Antigonus, on the other hand, responds in a slightly more ambiguous fashion to the situation, when, in response to Leontes' inquiry of what he will risk to save the child (lines 162-163), he concludes his speech as follows. "I'll pawn the little blood which I have left / To save the innocent; anything possible" (2.3.166-167). The meaning of his response is less easily determined than was that of the Lord, above. By referring to saving the innocent, he is, perhaps, going back to make a judgment about Hermione's adultery (or lack thereof, as ultimately was proven). If that is the case, then Antigonus follows the traditional model more closely than does the Lord – he wants to save the child simply for the fact that it is not a bastard, rather than out of any compunction against killing children in general.

His later statement, however, may do a bit to contradict that conclusion.

> Come on, poor babe, / Some powerful spirits instruct the kites and
> ravens / To be thy nurses. Wolves and bears, they say, / Casting their
> savageness aside, have done / Like offices of pity. Sir, be prosperous / In
> more than this deed does require; and blessing / Against this cruelty, fight
> on thy side, / Poor thing, condemned to loss (2.3.185-189)

From this, an entirely different conclusion might be drawn, namely that Antigonus is indeed as sympathetic to the interests of the child – for its own sake – as are the others present. Based upon this additional information, it is not too far fetched to interpret his earlier, more ambiguous statement, in a different light. The combination of the two could paint him instead as being wholly caring about the baby on a human level, independent of whether or not it is legitimate.

It would seem therefore that Shakespeare used the court's objection merely as a means of contrasting Leontes' character more sharply with the rational and compassionate world in which he lived. The behavior of those involved therefore has no direct bearing upon the norms of the time, and likely would have been as it was even given different circumstances, standing as just another example of how Shakespeare often chose to disregard the social norm when it conflicted with the plot he was attempting to portray.

Following Perdita's abandonment and failed infanticide, she was then raised by a shepherd and his son, two figures far removed from the life of nobility she would have lead in court. The question is therefore raised as to just what sort of upbringing Perdita might have had, and whether it would have served to give her the necessary skills to have the mannerisms she is described as having, or whether those mannerisms must merely have been a byproduct of genetic predisposition as the play claims.

According to Amussen, "Until the age of six or seven, girls and boys were raised together, usually wearing similar clothes (children's versions of women's clothes) and engaging in similar activities" (91). After this point, however, the sexes diverge in terms of education. Whereas most males had the opportunity to continue in their schooling, "The educational opportunities for girls were more limited than those for boys. Few girls attended school after the age of about seven, though girls from gentry families might be educated at home" (Amussen 94).

Unfortunately for Perdita, her new caretaker is *not* a member of the gentry, but rather an old shepherd. For most females raised in such an environment, the opportunities for the sort of education necessary to behave properly in a court situation were limited. The initial conclusion might, therefore, be to assume that her social graces and appropriate skills were indeed inherited through the blood, represented as the inexplicable mannerisms the other characters claim she has rather than being grounded in any actual education. Before reaching that conclusion, however, there are certain things which may indicate otherwise, and these therefore need to be looked at in more depth.

Most notable and immediate is that, upon finding Perdita, the shepherd was immediately wealthy above his standing – which meant, in short, that he had the funds to ensure Perdita was further educated if he so chose. Might she, in that case, have been educated above and beyond what her (ostensible) class would suggest? It is certainly possible, but as Amussen mentions, even were that the case there is an additional sticking point.

> The skills of the housewife were clearly skills, but they were not
> specialized ones; beyond that, the expectation was that they would work
> with their husband in whatever trade he followed. Therefore, girls'
> education sought to give them a range of skills which could be adapted to
> whatever activity, commercial or agrarian, their husbands might pursue.
> (Amussen 94)

Here, clearly, there is an incompatibility. In no way would the skills and trade of the lifestyle the shepherd might envision for Perdita parallel those she would have, had she been educated at the court. We are left, therefore, with a situation in which she would not, in either case, have been educated in the same manner, at least not according to history.

It is important to take note, however, of the belief at the time that people had a position in life, according to the Great Chain. Under this system of belief, one's birth played a large factor in determining what avenues were open to him or her later in life. Therefore, though Shakespeare may have chosen to shatter historical plausibility in representing Perdita as he did, this portion of the play stands far more in line with contemporary beliefs than does the court reaction to her attempted murder. Shakespeare's audience would have been far more willing to accept character traits, skills and behavior as inherited than we are today; the society of the time revolved around blood playing more of a factor that nurture could, and it is in fact just this concern which causes the paranoia about possible cuckoldry to be as severe as it was at the time. Therefore, we are left with the interesting circumstance of having an event accurate to the beliefs of the period, but in defiance of what we, as modern thinkers, are lead to believe through logic.

Another area of a different significance than we would intuitively assign to it is that of Mamillius and his mother. The role of Mamillius is more limited than is that of Perdita, but he is a part of the only instance within the play of a [young] child interacting with a parent, which makes his brief scene a unique and potentially fruitful area of analysis. Additionally, with Mamillius the play briefly touches upon the practice of sending children to wet nurse, an issue under debate at the time.

The first glimpse we have of Mamillius is his entry in Act 2, Scene 1, where he, his mother and their ladies enter and have a brief conversation. This conversation serves two primary purposes. The first is to impart upon the audience the idea of this portion of the play as occurring during the winter. More important in the analysis of childcare, however, is that the scene provides an instance of Hermione interacting with her child.

In this scene, we can see that Hermione's attitude toward Mamillius is one somewhat remarkable in its gentleness, at least for the time in which they lived. As the scene opens, Mamillius has been agitating her. To use her own words, "Take the boy to you. He so troubles me / 'Tis past enduring" (2.1.1). This in and of itself is hardly a remarkable statement. What is, however somewhat atypical is how her attitude shifts, going from agitated to doting mother in the span of less than thirty lines. At the time, the role of a child in the household was even more straightforward than was the role of a husband or wife – simply put, the child was expected to obey their parents in all things (Amussen 90). Because in this instance the child in question is also heir to the throne, the behavior of the ladies present is easily explained – deference to one of his position is of course expected. But Hermione has fewer such restrictions, and is yet very careful to be as diplomatic as possible with her son.

The matter of whether her diplomacy was called for given his status as prince is essentially an irrelevant one; the presentation, in this case, is as a kind mother. Her tone is one entirely unreserved, wishing to pacify him in the gentlest manner possible, and not at all indicative of the suppressed hostility we would be likely to see if her behavior were merely dictated by decorum.

Hermione is silent for the first two-thirds of the exchange, only stepping in after it becomes apparent that Mamillius will not be content to talk idly with the ladies. "What wisdom stirs amongst you? Come sir, now / I am for you again. Pray you sit by us, / And tells a tale" (2.1.22-24). Her manner is certainly not one of forced acceptance in any way; instead she has accepted that he needs her companionship, and that passing him off to her ladies will be insufficient. The style of the scene is not that she is forced into it, but that she wants to, as a parent. Her dialogue takes the same form a modern parent might use, attempting to flatter and charm the child into a state of calmness. As she puts it, "Let's have that, good sir. / Come on, sit down, come on, and do your best / To fright me with your sprites. You're powerful at it." (2.1.28-30)

Here we see Shakespeare deviating from what may have been the cultural norm in the interest of developing Hermione's character. While a slightly harsher treatment of Mamillius would have been acceptable, it was more important to show how compassionate she could be. In doing so, Shakespeare adds additional weight to the injustice of Leontes' accusations – this is a woman who loves her family and treats her son in a manner far above the call of duty; made, in essence, to

symbolize an almost seraphic mother figure. To an audience of Shakespeare's contemporaries she would have seemed even more seraphic than she does to us, modern readers, given the greater gap between her behavior and what was permissible treatment of children at the time.

In making this strong statement in favor of Hermione's character, Shakespeare seems to have decided that reinforcing this point was more crucial than maintaining realism. And yet he nevertheless expresses the opposite methodology as regards wet nursing. As indicated by Leontes later on in 2.1, Mamillius was indeed sent to wet nurse. "Although resistance to the practice began to manifest itself in the medical discourse of the late sixteenth century, wet nursing was still the rule for those who could afford it" (McDonald 269). Therefore, there are certain conventions Shakespeare chooses not to disregard in crafting *A Winter's Tale*, in this case the act by the rich of sending their children to wet nurse.

One possible reason for this decision can be found by examining the motivation for wet nursing in the first place, namely that "… nursing was supposed to make women less sexually desirable to their husbands" (Amussen 90). Here, therefore, Shakespeare maintains the norm, but in the interest of forwarding another aspect of Hermione's character, that of her desirability as a woman. In fact, much of the plot hinges upon that, for were it not so, Leontes would perhaps have been less likely to suspect her of adultery.

The norms appear to have been used merely as tools by Shakespeare in writing *A Winter's Tale*. He pays no special attention to utilizing them, but seems keen on utilizing the audience's reaction to them in crafting their response to the play. Hence, the instances in which reality coincides with fiction are themselves artificial, intended to produce their own set of responses in the audience – never is there any realism for realism's sake, but always as a means to an end.

It is therefore possible to conclude that *A Winter's Tale* showcases an atypical view of children, but one put forth to channel the audience into certain patterns of thought. For the most part, the characters within the play are far more sympathetic to children than would have been typical; a characteristic which emphasizes the barbarism of Leontes, as he is not merely harsher than the norm, but also harsher than the idyllic outlook of the others in court.

Unfortunately, it is impossible to conclude more than that. While the play clearly frowns upon the brazen abuse of children prevalent at the time, we have no way of knowing what Shakespeare's outlook on the matter might have been, a task made all the more difficult by the inconsistency of his presentation of children across plays. Indeed, his only consistency appears to have been in his willingness to shatter conventional norms in order to achieve the effect he desired upon the audience, making even the issues central to the play take a back seat to the emotions they could be made to represent.

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Natural and Physical Science
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Effects of Intermittent Hypoxication on Haematological Values in Non-athletes: Part I

Introduction:

Humans have a tremendous capacity for adaptation. As a species, we inhabit virtually every part of our planet, and may eventually inhabit other planets as well. One striking example of our ability to adapt to our environment is the process known as acclimatization. Acclimatization is the physiological adaptations that improve one's tolerance to altitude hypoxia.

The concentration of oxygen in ambient or atmospheric air, and its pressure determine our oxygen supply. At sea level, the barometric pressure (760 mm Hg) corresponds to a certain concentration of oxygen (20.93%). This number corresponds to the percentage of pressure or partial pressure exerted by Oxygen gas molecules. Another way of saying this is that 20.93% of the total 760 mm Hg pressure exerted by the entire air mixture comes from the partial pressure exerted by Oxygen gas molecules (P_{O_2}) (McArdle, 2000, p.241). As an individual moves to higher altitude, the barometric pressure and P_{O_2} decrease in direct proportion to each other ($P_{O_2} = 0.209$ x barometric pressure) (McArdle, 2000, p. 449). Once an individual reaches 3048 meters, this decrease in P_{O_2} corresponds to a dramatic decrease in the amount of oxygen your hemoglobin is able to carry (% saturation of hemoglobin). This results in a reduced volume of oxygen in the blood, a condition known as hypoxia (McArdle, 2000, p. 449). Hypoxia, according to the Online Medical Dictionary, is defined as a "reduction of oxygen supply to tissue below physiological levels despite adequate perfusion of the tissue by blood." This altitude hypoxia reduces the amount of oxygen available for the body's aerobic metabolic pathways, and makes even moderate aerobic activity (walking) very difficult.

Your body responds to these hypoxic conditions relatively quickly. With in 15 hours of ascent to altitude, kidneys begin releasing the hormone erythropoietin, which stimulates the production of erythrocytes or red blood cells. Red blood cells are the oxygen carrying cells of the body. This increase in red cell mass is called polycythemia, and is positively related to the blood's oxygen carrying capacity (McArdle, 2000, p.452). This is evinced by the fact that the average oxygen carrying capacity of a Peruvian person living at high-altitude is 28% higher than a corresponding Peruvian living at sea level. One study performed by eight females from the University of Missouri

also demonstrates this adaptation to altitude. The eight university of Missouri students, accustomed to an altitude of 213 meters, lived and worked at the top of Pike's Peak in Colorado (4267m) for ten weeks. With in 24 hours of their ascent, their red blood cell concentration began increasing, and continued to increase for the next month. It then stabilized for the remainder of their stay (Hannon 1968). This adaptive feature of our physiology explains how approximately 13 million people can permanently live at high altitudes, and how mountaineers from two Swiss expeditions have sat on the peak of Mt. Everest (30% of O_2 at sea level) for up to two hours with no supplemental oxygen.

While the ability to adapt to high altitude has obviously been present in humans for at least several thousand years, it has only come under the gaze of the scientific community after the 1968 Olympics at Mexico City. During these Olympics, it became obvious that the Mexican athletes, who trained in Mexico City (altitude 2300 m; 7546 ft), had an advantage over those athletes who trained at sea level. This undoubtedly contributed to the relatively poor performance of many non-Mexican athletes in a great number of endurance events. At this time in world history, America and the U.S.S.R. were engaged in what is called the Cold War. Since this war was devoid of actual fighting, a nation's prowess was often associated with the strength of its athletes, and its technological innovations. With this in mind the U.S.S.R., noticing the advantage bestowed upon the Mexican athletes, invested great resources in what would come to be called altitude training or hypoxic training. This in turn led to the development of much of our current research on the topic, as well as the invention of devices used to simulate the oxygen levels at high altitude. As often happens with in scientific communities, controversy arose.

The debate was centered on the question of what modality of hypoxic training would be most efficacious. Should athletes train at high altitude or in simulated hypoxic conditions? Should their exposure be prolonged or intermittent? Should the oxygen concentration be reduced via a decrease in pressure or increases in air Nitrogen. One mode that has shown excellent results is called Intermittent Hypoxic Training or IHT. IHT consists of exposure to alternating periods of hypoxia (9 – 15% oxygen) and reoxygenation with normal room air (21% oxygen). Specifically, sessions consist of 6, 5-minute periods of hypoxic air alternated with 5 minutes of room air. A full treatment consists of 1 – 2 sessions per day for 15 – 20 days. A test performed on 14 female volleyball player showed very strong results. Each of the 14 women was tested for total volume of work and maximal number of test jumps before and after a 24 day IHT treatment. The treatment consisted of one daily session of 4-5 breathings at 9-11% O_2. Following their treatment, total volume of work almost doubled and the maximal number of test jumps increased by 30% (Latyshkevich et al, 1993). Other studies have been done which indicate the adaptations to IHT include improvements in oxygen uptake, transport, and even improvements in immunity. It has also been linked to improvements in VO2 max, as well as decreased heart rates and pulmonary ventilation. (See References for additional studies).

As I approached this topic, I found a great deal of research had been done on the effects of various modes of hypoxic training. However, as I waded through the available research, I began noticing that the predominance of the studies conducted had been in conjunction with athletes and athletic performance. I thought this detracted, to certain degree, from the value of some of these studies, because many of the improvements purportedly obtained from hypoxic training are the same physiological adaptations that would result from athletic training. For instance, a person engaged in an intelligently designed, progressive running program would see many of the improvements in oxygen transport that a person exposed to hypoxic air would. This being the case, I thought it would be interesting to test the effects of hypoxic training on non-athletes, to see if the same improvements took place.

Hypothesis: Intermittent Hypoxic Training (IHT) will significantly increase hematological values in non-athletic test subjects.

Null Hypothesis: Intermittent Hypoxic Training will not significantly affect hematological values in test subjects.

Independent Variable: Whether or not the subject receives IHT.

Dependent Variable: Change in number Red Blood Cells (M/UL) and volume of Hemoglobin (G /DL).

Controlled Variables: Subjects were not to engage in any level of activity beyond their norm, in order to avoid possible physiological adaptation stemming from an exercise overload.

Subjects:

1) Age: 25		Sex:	Male
2) Age: 42		Sex:	Female
3) Age:	16	Sex:	Male
4) Age:	19	Sex:	Female

Equipment:

Model: Biomedtech GO2 Altitude - 2002 Portable Hypoxicator

Specs:

- designed for IHT
- allows for manipulation of the duration of session, the length of the intervals, and the level of oxygen concentration
- simulates altitudes of 1800 m – 5100 m

Mode of Air Separation:

- "...employs the principle of gas separation by means of semi-permeable membranes for hypoxic air preparation. Gas separation is induced by the application of compressed air to the semi-permeable membrane module. This filters out oxygen and delivers hypoxic (oxygen reduced) air to the person undergoing the high altitude acclimatization" (Biomedtech, 2002).

Procedure:

Each subject filled out a health history questionnaire. Additionally, each subject had their blood pressure and resting HR checked. Subject 3, being under the age of 18, had his mother sign a medical release form, giving him permission to participate in this experiment. Based on my reading, the advice of the medical advisor, and the operator's manual, I came up with the following procedure:

1) Day 1 (January 31st. 2003), Subject 1, Subject 2, Subject 3, and Subject 4 received a CBC or 'Complete Blood Count' by orders of the medical advisor.

2) On Day 1, Subjects 1,2, and 3 began Treatment 1. Subject 4 did not receive a treatment, and acted as a control. Treatment 1 consisted of 16 consecutive days, during which each subject received one hour of IHT per day. Each session followed the same format that is 5 minutes of hypoxic air, followed immediately by 5 minutes of ambient air. During each session, subjects remained seated in a recliner chair. Each subject was assigned an SpO_2, which they were not to go under. The SpO_2 is a number generated by the pulsoximetry unit. It is displayed digitally on the hypoxicator, along with the time remaining for each interval, and the subject's heart rate. The pulsoximetry unit provides constant monitoring of the arterial oxygen saturation (SpO_2). "During hypoxic breathing, SpO_2 decreases exponentially, and reaches a plateau within 2 – 4 minutes of hypoxic respiration. The operator must set the SpO_2 baseline prior to beginning a session." If the subject goes below their SpO_2 baseline, this is an indication that the amount of oxygen in their arterial blood is dangerously low. If this occurs, the hypoxicator emits a loud beeping sound, and the subjects must stop hypoxicating until the SpO_2 rises above the baseline.

3) During days 1-7 each subject was exposed to 15% oxygen during the hypoxic intervals, and 21% oxygen (normal room air) during the non-hypoxic intervals. All three

subjects were assigned a SpO₂ of 83%. This is considered normal for a non-athlete. HR and SpO₂ were recorded from the digital display on the hypoxicator and logged in the experiment's record book. These measurements were taken at 55 minutes, 35 minutes, and 5 minutes of every session.

     5)   During days 8 -16 each subject was exposed to 14% oxygen during the hypoxic intervals, and 21% oxygen (normal room air) during the non-hypoxic intervals. All three subjects were assigned a SpO₂ of 83%. HR and SpO₂ were recorded from the digital display on the hypoxicator and logged in the experiment's record book. These measurements were taken at 55 minutes, 35 minutes, and 5 minutes of every session.

     6)   Day 16 (February 16th, 2003), Subject 1 Subject 2 Subject 3 and Subject 4 received a CBC or 'Complete Blood Count' by orders of the medical advisor.

     7)   Results from the CBC were analyzed to determine if a significant change in RBC, and hemoglobin had taken place. See table 1-A.

Discussion:

The results were not subjected to statistical analysis because there was obviously no significant change in the hematological values of the non-athlete subjects (refer to table 1-A and 1-B). This validates my null hypothesis, which stated that Intermittent Hypoxic Training would not significantly affect hematological values in test subjects. The results of this experiment, while obviously not supporting my hypothesis, have been seminal. Here are some of the possible implications of my results.

The first, and seemingly obvious implication would be that intermittent hypoxication does not affect the hematological values of non-athletes. With some additional consideration, this conclusion seems hasty. To begin with, hemoglobin's percent saturation shows only small decreases until about 3048 m (about 14% oxygen) (McArdle, 2000, p. 449). For instance, at 1981 m, the alveolar or arterial Po₂ decreases from its sea level value of 100 mm Hg to 78 mm Hg. The hemoglobin saturation however, remains at a relatively high 90%. This high percentage of hemoglobin saturation is not likely to stimulate erythropoietin production and hence is not likely to result in an increase in red blood cell mass. For the first seven days, Subjects 1,2, and 3 were subjected to sessions of 15% oxygen. This corresponds to a simulated altitude of approximately 2700 m, and had not reached the aforementioned threshold of 3048 m. It was only during days 8-16 that the subjects were at 14% and had reached the threshold for significant decreases in hemoglobin saturation. The 9 days spent at 14% may not have been enough to stimulate erythropoietin production. As a broad guideline, it takes about 2 weeks to adapt to 2300 m. Afterward; each 610 m of altitude gained requires another week for full adaptation. (McArdle, 2000, p. 450). One might ask why the subjects were not subjected to lower Oxygen levels initially. To begin with, subjects must begin at higher levels of oxygen and follow what is called 'Step-wise acclimatization.' This means that during initial sessions, oxygen concentrations closer to that of ambient air must be used until the subject feels comfortable at the current simulated altitude for the entire session (Biomedtech, 2002). If this step is not followed, the % hemoglobin saturation can become dangerously low. An acute exposure to 9% O₂ (about 6600 m) for instance, results in a 58% saturation of arterial blood - this is dangerously low (McArdle, 2000, p. 450). Additionally, this report represents only the first portion of this experiment. Another experiment is underway, in which lower O₂ concentrations will be used, and additional physiological responses measured. If this additional experiment does not show significant improvements in the hematological values, this would be an important find, considering that "an increase in the blood's oxygen carrying capacity is the most important long-term adaptation to altitude" (McArdle, 2000, 452).

This leads to a second possible interpretation of the results. There are two types of adaptations to altitude hypoxia (see table 16.6), 'immediate' and 'long-term'. The levels of duration, and

intensity of treatment 1 may not have been enough to stimulate hematological changes, but my have been sufficient to stimulate some of the other, more immediate adaptations like an increase in submaximal heart rate and submaximal cardiac output, and changes in the alkalinity of body fluids (McArdle, 2000, p.450). Other responses to IHT include improved immunological status, facilitation of lung growth, and increased total lung capacity. These presence of these immediate responses were not tested and may have passed under our noses. This will be improved upon in part two of the experiment. These adaptations are less important for acclimatization than say an increase in red blood cell mass, however they may be important improvements for those using IHT for things other than pre-acclimatization. For instance, a person interested in boosting his/her immunity may find IHT to be suitable.

Table 1 –A.
 # Of Red Blood Cells Before and After Treatment 1

Subject	Day 1 RBC (M/UL)	Day 16 RBC (M/UL)
1) Subject 1	4.86 (M/UL)	5.01 (M/UL)
2) Subject 2	4.00 (M/UL)	3.97 (M/UL)
3) Subject 3	4.66 (M/UL)	4.70 (M/UL)
4) Subject 4	4.62 (M/UL)	4.25 (M/UL)

Table 1 – B
Volume of Hemoglobin Before and After Treatment 1

Subject	Day 1 Hemoglobin (G/DL)	Day 16 Hemoglobin (G/DL)
1) Subject 1	16.10 (G/DL)	16.50 (G/DL)
2) Subject 2	12.40 (G/DL)	12.60 (G/DL)
3) Subject 3	14.20 (G/DL)	14.20 (G/DL)
4) Subject 4	13.40 (G/DL)	12.30 (G/DL)

Table 2-A

Simulated Altitude with Corresponding O_2%

O_2 %	Simulated Altitude (m)
15	2700 m
14	3300 m
13	3800 m
12	4500 m
11	5200 m
10	5900 m
9	6600 m

Table 3-A

Immediate and Longer-term adjustments to altitude hypoxia

System	Immediate
Pulmonary Acid-Base	Hyperventilation

Body fluids become more alkaline due to reduction in CO_2 with hyperventilation

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Cardio Vascular	Increase in submaximal heart rate
	Increase in submaximal cardiac output

System	Longer-term
Pulmonary Acid-base	Hyperventilation
	Excretion of base (HCO3) via the kidneys and concomitant reductions in reserve
Cardiovascular	Submaximal heart rate remains elevated
	Submaximal cardiac output falls to or below sea-level values
	Stroke volume lowers
Hematological	Decrease in plasma volume
	Increased hematocrit
	Increased hemoglobin concentration
	Increased total number of red blood cells
	Possible increase in capillarization of skeletal muscle
Local	Increased mitochondria

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Psychology
Outstanding Presenter/Author: MaryAnn E. Silverstrim

Mentor: Dr. Peter Phipps
Sullivan County Community College
112 College Road
Loch Sheldrake, New York 12759

Judge: Dr. Susan Trumbetta (Vassar College, Poughkeepsie)
Judge's Comments: All papers in this session were of high quality. Nevertheless, Ms.
Silverstrim's paper on Post Traumatic Stress Disorder and the Limbic System remained
outstanding. She integrated diverse scientific evidence with the subjective experience of
PTSD sufferers in a way that illuminated the disorder's development, course, and
treatment implications. Her presentation was clear, well-organized, and appropriately
illustrated. She achieved a depth and complexity of analysis in a remarkably short time,
and her combination of careful science and compassionate attitude reflects the highest
ideals of her clinical psychology.

Post Traumatic Stress Disorder and the Limbic System

Extreme psychological trauma happens to countless individuals everyday around the world.
One of the most frequent disorders that a person might develop in the aftermath of a traumatic event
is post traumatic stress disorder. Originally the symptoms of this disorder were thought to be purely
psychological and the notion was that a person could overcome the disorder by therapy and
determination. However, in recent years physiological aspects centering around traumatic stress and
the brain has led many researchers to believe that psychological dysfunction isn't the only
consequence a person faces after suffering a traumatic incident. Trauma may have much more
devastating affects on the brain and its functions to the point that such biological damage is hard to
reverse, thus making psychological recovery an extremely difficult and possibly endless process.

In the past the biological components having to do with trauma have been overlooked and the
focus has been more on the psychological and sociological aspects. Originally the focus was to deal
with understanding the traumatized individual's emotional and psychological response to trauma. In
the 1890s Sigmund Freud and Pierre Janet both believed that psychological trauma caused a
condition called hysteria and that the emotional reactions to traumatic events caused an altered state
of consciousness. Both men considered this altered state to be the cause of a person's "hysterical"
symptoms (Herman, 1992). Freud and Janet both concluded that the somatic symptoms that a person
with hysteria experienced were hidden representations of extremely painful or stressful events which
had been repressed or forgotten. Freud developed what would later become known as psycho-
analysis as the main technique to deal with these symptoms. The basic concept was that the patient
would improve by recovering the traumatic memories and working through the feelings that were
brought up from past events (Herman, 1992). Today, this is still considered one of the main ways to
explore a person's psychological response to whatever trauma he or she has suffered. The perceptions
of ones self and others, the emotions brought up by memories of the trauma such as fear, guilt, shame
and anger, and the exploration of these intense emotions and how they affect the life of an individual
are all currently important aspects of understanding the psychological component that underlies
traumatic stress responses.

Later on the study of psychological trauma turned towards looking at the sociological factors
that played a role in the development of symptoms and the response that a person or a certain group

of people had to trauma. During World World II psychiatrists focused on the war condition known as combat neurosis and the social factors surrounding the condition. Two psychiatrists Abram Kardiner and Herbert Spiegal both wrote about the emotional attachments that were formed between soldiers and how maintaining these attachments would protect against psychological breakdown or overwhelming terror, and how experiencing the loss of such an attachment could increase the chances of combat neurosis occurring (Herman, 1992). Similar types of studies continued to take place over the years focusing on specific groups such as victims of natural disaster, war, domestic violence, and incest. Certain sociological factors were found to increase the likelihood of a person developing traumatic stress symptoms. For instance, a person who suffered abuse as a child or experienced multiple traumatic experiences is considered to be at a higher risk for traumatic stress disorders (NIMH, 2001). Also of interest to many professionals was how a person responded to a traumatic event when it involved being attacked by a family member or someone whom the person depended on for some type of security. Research showed that a person in this type of situation is likely to respond with increased dependency and an inability to make decisions. Women and children will have longer term reactions including dissociation, ineffective planning and the inability to take action, and the developing of "emotion - focused coping" which focuses on changing one's emotions rather than working to change the situations that cause the emotion (van der Kolk, 2000). It is this type of coping style that is believed to be one reason that so many traumatized individuals will start using alcohol and drugs. This relationship between drug abuse and assault has been closely studied and is just one of the examples that show how sociological factors are linked to the development of psychological problems. Thus, the situational and social factors surrounding trauma have come to be seen as great importance in understanding the traumatized individual and his or her problems.

The study and increased understanding of the psychological and sociological aspects surrounding trauma play an important role. However, a third aspect, the biological aspect, is often forgotten as being another central piece of traumatic stress and its symptoms. In fact there was a time period in which interest in the relationship between psychological trauma and mental disorders diminished greatly thereby stalling advances in knowledge around all three aspects. The attention given towards psychological trauma reappeared as the effects of the Vietnam War on its soldiers started to be closely followed and as the women's liberation movement publicly began to discuss the horrors of sexual abuse and rape (van der Kolk, 2000). This led to the acknowledgment of post traumatic stress disorder as an official diagnosis when in 1980 it was added to the Diagnostic and Statistical Manual of Mental Disorders (DSM-III). Since then there has been an increase in studies on the physiological effects of psychological trauma on the brain. Perhaps by emphasizing and acknowledging the importance of the biology associated with post traumatic stress disorder professionals will be able to understand how all three components (psychological, sociological, and physiological) are linked to each other and how each plays an equally important role in the way in which a person responds and deals with a traumatic event. But in order to do this there needs to be an increased recognition that biological factors indeed are associated with post traumatic stress disorder and many of its symptoms.

Post traumatic stress disorder (PTSD) is an anxiety disorder that can develop from witnessing or being directly involved in a traumatic event that caused physical injury, threatened death, or brought about intense feelings of fear and helplessness. In the United States about 5.2 million adults ages 18 to 54 have PTSD during any given year (NIMH, 2001). In men, the most common causes of PTSD are combat and being a witness of death or severe injury. The main causes of PTSD in women are sexual molestation and rape. Women have a greater risk of developing PTSD after a trauma than men do. In the event of witnessing death or serious injury 10.7% of men developed PTSD, where as in the event of rape 48.7% of female victims have the disorder. (van der Kolk, 2000). In the case of childhood abuse 10% of women in America suffer from PTSD at some point in their lives compared to 5% of men (Bremner, 2000). Many other psychological traumas including assaults, natural

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disasters, accidents, and major acts of violence by other people such as the Oklahoma City bombing or the World Trade Center attacks can also lead to PTSD.

Individuals with PTSD experience an array of symptoms such as intrusive memories, flashbacks, nightmares, sleep problems, intense feelings of guilt, problems with anger, and social impairments. There are three main diagnostic elements for PTSD (van der Kolk, 2000). The first is that the traumatized person repeatedly relives the memory of the traumatic experience which may include both the visual and sensory memories of the trauma. In reliving the event the individual may go through physiological along with psychological distress as if they were responding to the actual event itself. Intrusive memories can occur at any moment if the traumatized individual is triggered by anything that may remind that person of the initial traumatic experience. Ironically, the second criteria for the diagnosis of PTSD can be the result of an individual trying to escape from coming into contact with any person or object that may result in triggering the reliving of a memory. According to the second criteria individuals with PTSD frequently will try and avoid any reminders of the trauma as well as use emotional numbing and detachment defenses as a way to withdraw themselves from situations that could result in recalling memories of the trauma. The third diagnostic element of PTSD is the constant occurrence of increased arousal. The person becomes hyper vigilant, responds to sudden stimuli with an exaggerated startle response, and may have sleep problems such as insomnia. Perceptions of stimuli are distorted and the person with PTSD will often interpret a neutral experience as one that is associated K with the trauma that he or she went through in the past. Thus the past and present are often hard for an individual with PTSD to distinguish between especially at times when that individual becomes hyper aroused by triggering experiences (van der Kolk, 2000). Finally, individuals suffering from PTSD often have a range of memory problems. Some report having fragmented memories where they can only recall certain aspects of the trauma while others have dissociative episodes where gaps of time are lost and the person has no memory of what went on during that time (Bremner, 2000).

Since its induction in 1980 into the medical and psychiatric arenas, countless studies on PTSD, its causes and its symptoms, and on the individuals who live with the disorder have been conducted. Perhaps in the last decade the area of interest related to the study of PTSD that has received the greatest amount of attention is on the question of whether severe psychological trauma causes physical changes in certain brain structures especially the hippocampus and the amygdala which are both part of the limbic system. Some scientific research has shown that possibly overwhelming and prolonged stress physically alter these two structures and their functions and that the result could explain the reasons for many of PTSDs symptoms, especially those associated with memory, and why even when treated the symptoms continue to affect the traumatized person no matter how many times they are told to, or try to "Pull it together and move on" (Teicher, 2002). However, some researchers disagree with the idea that trauma causes the hippocampus to physically shrink and claim that individuals with PTSD already had a smaller hippocampus before being exposed to trauma. This group of researchers believes that a smaller hippocampus may predispose a person to developing PTSD when faced with an extreme psychological trauma (Gardner, 2002). Needless to say, both sides of the controversy strongly feel that the limbic region of the brain should continue to be studied along with the role the structures may have in individuals suffering from PTSD.

The limbic system is a brain region that regulates emotion and is involved in the storage and retrieval of memory. Research that has been done in recent years has shown that the over activation of stress response systems in the limbic region due to traumatic events or childhood abuse increases the possibility of future problems such as hypertension, psychiatric disorders, antisocial behavior, and more importantly it has been thought to cause the deterioration of brain structures such as the hippocampus (Teicher, 2002). The hippocampus and the amygdala are two parts of the limbic system that are involved in the processing of emotional memories. Brain imaging studies of limbic system abnormalities in traumatized patients show that the limbic system may play an important part in

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PTSD. This is because our sensory signals travel to the limbic system where the emotional importance of the sensory input is determined (van der Kolk, 1994). When structures like the hippocampus are affected by trauma both this sensory information and the traumatized person's memory can be drastically affected.

The hippocampus plays an important role in short term and long term memory, learning, and stress responses (Bremner, 2000). This part of the limbic system determines what incoming information will be stored in long term memory. The hippocampus also forms and retrieves verbal and emotional memories. The times when it is most at work is when a person recalls facts (declarative or explicit memory) such as information that he or she learned, and personal experiences along with what was seen, felt and heard during the experience - like a picture or movie memory of what happened (Adler). It is responsible for bringing together and arranging different parts of a memory and then finding that memory of an event and all its elements when necessary (Bremner, 2000).

Research has shown that patients with PTSD that have been through traumatic experiences have a smaller hippocampus than individuals without PTSD. Several studies link the deterioration of the hippocampus to prolonged or severe stress. High levels of cortisol related to stress have been discovered to decrease hippocampal activity and damage the hippocampus (Bremner, 1997). Robert Sapolsky from Stanford University states that "extreme levels of glucocorticoids, steroid hormones released by the body under stress, are toxic to the hippocampus. They can disrupt cell function, cause structural changes and eventually cell death" (as cited in Adler). In other words, the hippocampus can lose neurons as a result of overexposure to cortisol. This is important because other research also shows that a part of the hippocampus' job is to regenerate nerve cells, and stress stops and slows down the creation of these new neurons (Bremner, 2000). Knowing the effects stress can have on the hippocampus may explain why those with PTSD have smaller hippocampuses than those without PTSD as the following recent studies have indicated.

A study, done by Dr. Douglas Bremner and his colleagues, used magnetic resonance imaging (MRI) to compare hippocampal volume measured in combat veterans with PTSD to the hippocampal volume in healthy individuals. The results of the study showed that the patients with PTSD had an 8% decrease in right hippocampal volume compared with that of the control group (Bremner, 2000). A similar study by the same doctors was done this time comparing the hippocampal volume of a group of 17 individuals with PTSD and a history of childhood sexual and physical abuse to 17 healthy control subjects matched on a case by case basis with each of the PTSD patients. In this study the MRI results showed a 12% decrease in left hippocampal volume in the PTSD patients compared to that of the control group (Bremner, 1997). Why is this so important? It's important, because if the hippocampus is affected by a traumatic experience so are its functions, thus possibly explaining why individuals with PTSD may have problems with memory and learning, along with symptoms of delayed memories and dissociation. A study done in Beirut, a country affected by war, showed that traumatized adolescents who had PTSD were academically far behind non traumatized adolescents who did not suffer from PTSD (Bremner, 2000). As for memory, the adult survivors of abuse that were in the MRI study done by Dr. Bremner and who had smaller hippocampuses, also scored lower on verbal memory tests compared to the control subjects' scores (Teicher, 2002). In 1997, Murray Stein at the University of California San Diego studied 21 women with PTSD or Dissociative Identity Disorder all of whom had been sexually abused as children. He found the degree of reduction in hippocampus volume in women corresponded with the severity of their dissociative symptoms (Teicher, 2002). Because the hippocampus plays a large role in processing, connecting, organizing, and locating the memory of an event, damage to the structure may indicate why survivors of childhood abuse have delayed recall or only remember random details and not the central events surrounding their abuse (Bremner, 2000).

Some researchers however, debate the idea that severe trauma causes the hippocampus to shrink. They have concluded in several studies that patients with PTSD may have already had a

smaller sized hippocampus which may have increased their vulnerability and put them at a greater risk for developing PTSD after experiencing a psychological trauma. In a recent study, the brains of two different groups of identical twins were examined using MRI. One group included 17 pairs of twins, one whom had been in the Vietnam War and developed PTSD and the other who had not experienced combat and who did not have PTSD. There were 23 pairs of twins in the second group which included a twin that had gone to Vietnam but did not have PTSD and a twin that had not gone to war and also did not have the disorder. While the study did find that there was a 10% difference in hippocampal volume between the combat veterans with PTSD compared to the veterans without the disorder they also found that the twins who had brothers with PTSD also had smaller hippocampal volumes themselves. Those volumes in that group of twins were significantly less than the group of twins that didn't have PTSD (Gardner, 2002). Researchers of this study and similar ones therefore argue that the smaller hippocampal size is not a result of PTSD. Although not known for sure, the smaller volume of an individual's hippocampus may contribute to the development of PTSD by serving "as a preexisting vulnerability factor for a stress disorder" says Mark Gilbertson author of the study and a psychologist who teaches at Harvard University School of Medicine (Gardner, 2002).

Whether the hippocampus is damaged by prolonged stress or whether individuals with a smaller hippocampus are at a greater risk for developing PTSD after experiencing a traumatic event this structure does seem to play an important role in the symptoms of PTSD including intrusive memories and flashbacks, fragmentation of memories, delayed memories, dissociation, and learning difficulties. Dysfunction of the hippocampus can also affect the processing of stimuli confusing a non-threatening object as a threat and thus opening the door for the triggers that will cause the person to relive the traumatic experience over and over again (van der Kolk, 2000). Thus, by continuing to study and understand more about the hippocampus and its functions or dysfunction's in regards to PTSD, researchers will hopefully be able to find more ways in which to help those living with the disorder.

The amygdala is another structure in the limbic system which has been studied in patients with PTSD especially since it is closely linked with the hippocampus. The amygdala retains the emotional components of memory and feelings related to fear conditioning and aggressive responses. It evaluates the incoming sensory stimuli and if it is of importance gives it an emotional meaning (Teicher, 2002). It then filters and interprets the incoming sensory information and helps bring about the appropriate responses. Also, after meaning is given to the sensory information, the amygdala than directs emotional behavior to other parts of the brain (van der Kolk, 1994).

It is known that the body's fear response is coordinated by the amygdala. Fear is an emotion that deals with danger and which causes an automatic response in several systems of the body including the amygdala (NIMH, 2001). In two different studies done with PTSD patients, positron emission tomography (PET) was used to look at brain activity when these patients were exposed to reminders of the traumatic event. In one study the result was an increase in cerebral blood flow in certain areas of the brain, one of which was the amygdala, during the exposure to traumatic images versus that of neutral images (Shale, 2001). In the second study done by Dr. Bessel van der Kolk and his colleagues PTSD patients listened to descriptive details of their traumatic experience. Heightened activity was shown to occur in the amygdala (van der Kolk, 2000). Other studies have indicated that different anxiety disorders may be associated with abnormal activation of the amygdala which causes a heightened state of electrical irritability (NIMH, 2001). This irritability can produce symptoms of aggression and anxiety (Teicher, 2002). Also, in studies on animals, this high stimulation of the amygdala resulted in the interference of hippocampal functioning. If this is true in humans, extreme emotional stimulation may have an effect on the normal evaluation and categorization of the emotional experience (van der Kolk, 1994). The sensory aspects of the experience are kept in memory, but because the hippocampus can not integrate all the sensory information the experience is not unified and connected clearly. So even though the experience can be retrieved, it cannot be retrieved as a whole picture. Instead separate images, sensations, smells, and sounds come back that

feels unrelated to other life experiences (van der Kolk, 2000). So the amygdala may very well have an affect on the hippocampus, decreasing its functioning ability and interfering with bringing together the total experience, thus possibly explaining why so many people with PTSD suffer from fragmented memories (van der Kolk, 2000).

As knowledge in how psychological trauma and the biological effects trauma have on the brain is gained, professionals may be able to find new ways to treat post traumatic stress disorder. While therapeutic techniques such as cognitive- behavioral therapy, group therapy, eye movement desensitization and reprocessing, individual psychotherapy and other treatment methods continue to be used to treat the traumatized person for the psychological and social problems of the disorder, treatment for the physiological changes that the individual suffers from could possibly improve symptoms that are exacerbated by alterations in the brain. Although no drug has been found to specifically treat PTSD, several are used to bring relief of common symptoms such as insomnia, depression, and anxiety (NCPTSD). With more research being done an increase in treatment options will hopefully become available and be able to treat the individual from both the medical and psychological standpoints.

In conclusion it is imperative that the study of the relationships between post traumatic stress disorder, its symptoms, and the areas of the brain that are involved with stress responses, emotion, and memory continue. Whether certain individuals are vulnerable to developing the disorder or whether stress physically damages the brain causing certain lasting affects and symptoms, the biological aspect centering on the disorder is just as important as the psychological and sociological aspects. In order to treat the disorder and understand the behaviors of a person with PTSD the perspective needs to be focused on the entire individual. Hopefully with an increase in knowledge, early interventions and treatments for those with the disorder will be able to be developed to decrease the chances of irreversible physical damage of the brain and its functions or to protect those most vulnerable to the disorder and its symptoms. Perhaps too, the public will become more aware of the effects trauma can have on an individual creating a better understanding of the damage that such experiences as childhood abuse and war can have on a person.

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Allied Health and Nursing
Outstanding Presenter/Author: Sandra Taurisano

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Judge: Dr. Mark Condon (New York University School of Medicine, Tuxedo)
Judge's Comments: Ms. Taurisano presented her research in an engaging and dynamic manner. She supported her ideas with both experimental and anecdotal evidence, and had the forethought to address questions as they would arise in the minds of her readers.

Reiki
Healing by Accessing Universal Life Energy

Reiki is an ancient healing practice with roots in Tibetan and Christian methods known as 'the laying-on of hands'. Throughout history, hands have been relied on as a healing force. Dr. Mikao Usui, who uncovered and deciphered 2,500-year-old Sanskrit sutras, reintroduced the thousand-year-old tradition of Reiki. During a Reiki treatment, universal life energy is transferred through the hands of a practitioner into a recipient, thereby allowing a self-healing process to begin. The existence of this universal life energy is at the forefront of some scientific research today. Many pieces of evidence that all things in the universe are connected have been presented, and there may indeed be a "life force flowing through the universe" (McTaggart, xviii), which may account for a credible explanation of "the effectiveness of alternative medicine" (McTaggart, xviii). In fact, many reputable hospitals and healing institutions have begun incorporating alternative healing methods, including Reiki, into their treatment plans. This paper will encourage you to examine through the alternative healing method of Reiki, the connection between health and an intelligent life energy responsible for such healing to occur. I believe that scientific research begins with the open minds and endless curiosity of true scientists. I implore you to keep an open mind regarding this subject matter.

A Brief History of Hand Healing

Healing through the 'laying on of hands' dates back thousands of centuries. There is evidence supporting this method of healing in 15,000-year-old cave drawings located in central and western France where "Paleolithic priest-healer artists left a remarkable collection of paintings of hands" (Harpur, 16). For centuries in China, Qigong practitioners used their hands to reportedly heal a variety of illnesses. This practice continues in China to this day. As told in the Gospels of Mark, Jesus Christ used the 'laying on of hands' to heal many times. This method is also noted in the earliest scriptures from India and Tibet. However, "the context in which [Reiki is] practiced is not religious, but scientific" (Fontaine, 220). Its goal is to restore the recipient to a state of balance, thereby facilitating self-healing properties. A typical Reiki session will take anywhere from 45 minutes to one hour. The Reiki healer places his/her hands a few inches above the recipient in a series of 15 hand positions placed over specific areas of the recipient's body. Each position is held for 5 minutes. During this time, universal life energy flows into the practitioner and out through the palms of her hands into the recipient. Sometimes the communication between the life force, the healer and the recipient dictates that a position be held for a longer period of time until the energy flow is reintroduced.

The Meaning and History of Reiki

"Reiki", by definition, means "universal life energy". The word itself is comprised of two Japanese words, 'rei' and 'ki.' 'Rei' is defined as endless universal energy and 'ki' is the vital life force energy that is continually flowing through all that lives in the universe. 'Ki' is known and referred to "[by the] Chinese as Chi, by Christians as the Holy Ghost, by Hindus as Prana, and by Russian scientists as Bioplasmic Energy" (Baginski, 16). Whatever one chooses to call it, this "life force energy is universally recognized in biofield therapies as the core of life and the driving force in healing"(Fontaine, 223).

Although Reiki healing techniques took place in ancient times, it was in the mid 1800's that this method resurfaced. Dr. Mikao Usui was a 19th century monk in a Christian seminary located in Kyoto, Japan. During lessons, he was questioned by his students about the healing methods used by Christ. They had never been educated in regard to the actual methods used and wondered if Dr. Usui could teach and carry out these types of healings. Thus began Dr. Usui's search for knowledge in regard to such healing practices. He felt that the answers would lie in a Christian country and traveled to the United States where he enrolled in the University of Chicago. During his time in America, Usui became a Doctor of Theology. Unable to find sufficient answers in Christian or Chinese scripts, Dr. Usui went to India and studied the Holy Writings, without success. It was not until he returned to Japan that he discovered the Sanskrit formulas and symbols in Buddhist sutras that contained the information vital to his quest. Through various methods, he translated the ancient texts and began implementing Reiki on himself and his family. Dr. Usui "then began to share his knowledge with the larger public. He opened a clinic in Tokyo in 1922 and his fame for healing spread quickly [throughout] Japan" (Fontaine, 222).

Upon his death, "one of Dr. Usui's closest collaborators, Dr. Hayashi, took his place [and became] the second Reiki Grand Master. [Dr. Hayashi] ran a clinic in Tokyo until his death in 1941" (Baginski, 24). His student, Hawaya Takata, a citizen of the United States, became his successor. Hawaya Takata was introduced to Reiki at a time in her life when she was quite ill. She was scheduled for major surgery and was guided by her own inner voice that the surgery was not necessary and she should to go to Japan to seek an alternative healing method. There, Takata received extensive Reiki treatments daily for several months and, without surgery, was completely healed. She decided to study Reiki under Dr. Hayashi and upon becoming a Reiki Master herself, she returned to her home in Hawaii, where she "lived and healed for many years [and] began to train Reiki masters [...] when she was in her seventies" (Baginski, 26).

At the time of her passing, she had trained 22 Reiki Masters who were scattered throughout the U.S. and Canada. Prior to her death, Takata and a few of the Reiki Masters she had trained formed the American Reiki Association in order to "organize and [pass] on the knowledge of Reiki" (Baginski, 26). Today there are two Reiki organizations in existence: The American International Reiki Association (now called T.R.T.A.I.) and The Reiki Alliance founded by Takata's granddaughter, Phyllis Lee Furumoto.

The Scientific Connection

Science cannot explain everything, nor can it prove beyond all doubt, a right idea: "The best that science can ever hope to achieve is to disprove wrong ideas" (McTaggart, xix). Research, to this date, cannot prove that Reiki works. More importantly, research has not been able to prove that it does not. Recent experimentation by several respected scientists has uncovered the existence of a field of energy that implies "that all matter in the universe [is] interconnected by waves, which are spread out through time and space and can carry on to infinity" (McTaggart, 24), thereby connecting all parts of the universe to each other. This energy field is known to physicists as the Zero Point Field. Believing Zero Point Field to be immaterial to their research because it was always present and, therefore, changed nothing, quantum physicists, since 1926, discounted Zero Point Field by subtracting it out of their equations.

Hal Puthoff, a laser physicist, was drawn to studying the Zero Point Field since he read Timothy Boyer's papers on the subject. Boyer's papers concluded that "you didn't need two types of physics [Newtonian and Quantum] to account for the properties of the universe. Everything that happens in the quantum world [can be defined] with classical physics – so long as you take account of the Zero Point Field" (McTaggart, 20). Puthoff, re-inserting the Zero Point Field equations into his physics calculations, showed "that fluctuations of the field's waves drive the motion of subatomic particles and that all the motion of all the particles of the universe in turn generates the Zero Point Field [in] a sort of self-generating feedback loop across the cosmos" (McTaggart, 25). This field of energy, referred to by scientists as all intelligent, opens the door to the validity of alternative healing methods such as Reiki. It proposes the possibility that the body communicates via wavelengths with this universal energy thereby accessing the information necessary to initiate a self-healing process.

Theoretical biophysicist Fritz-Albert Popp conducted studies that verify this connection. He carried out much research with light and compounds and how they react only at certain wavelengths in a process known as photo-repair. Using a photomultiplier machine developed by the experimental physicist Bernhard Ruth, Popp was able to determine that through biophoton emissions, "cell coordination and communication […] could only occur in a holistic system, with one central orchestrator" (McTaggart, 47).

Popp found through experiments that in a healthy body, "light emissions followed certain set patterns" (McTaggart, 50), or biological rhythms. These rhythms were correlated and flowed with other biological rhythms in nature "as though the body was following the world's biorhythms as well as its own" (McTaggart, 50). When studying unhealthy people, Popp found that, in certain illnesses, such as cancer, there was a lack of these rhythms and their coherence: "The lines of internal communication were scrambled. [The unhealthy people] had lost their connection with the world. In effect, their light was going out" (McTaggart, 51).

In multiple sclerosis and other illnesses, Popp discovered that there was too much light. He believed this blocked flexibility and individuality, creating an imbalance that prevented cells from doing their jobs. When he studied the effects of stress, Popp found that biophoton emissions went up – "a defense mechanism designed to return the patient to equilibrium" (McTaggart, 5). His studies led him to the conclusion that "biophoton emissions [act as] a sort of correction by a living system of Zero Point Field fluctuations" (McTaggart, 51). Popp realized that light in the body was connected to health and illness and that his work might explain how illness develops when there is a blockage of 'ki' or life force energy along the pathways of the body.

Many studies have also been done in an effort to verify or negate the effectiveness of distance healing. Behaviorist William Braud's studies brought to light the power of human intention as a healing force. Popp agreed with this notion, as did Puthoff. In order to allay remaining questions regarding the possibility of distance healing, it became vitally necessary to conduct a carefully designed study that would put these ideas to test in real life.

Ironically, the scientist who chose to conduct the research was Dr. Elisabeth Targ, an orthodox psychiatrist and confirmed skeptic of the idea of this type of healing. To compound matters she used a group of patients who had advanced AIDS. Targ was known to vacillate between "wanting science to embrace and study the miraculous, and wanting alternative medicine to be more scientific" (McTaggart, 182).

Targ's study was double blind. The 20 patients all had advanced AIDS with the same T-cell counts. All healing was done at a distance by healers of different backgrounds and approaches whose only required criterion was that they believed in their work. "During the six months of the trial period, 40% of the control population died. But all 10 of the patients in the healing group were not only still alive, but had become healthier, on the basis of their own reports and medical evaluations" (McTaggart, 190).

The experiment was repeated on a larger scale and with a tighter protocol. At the end of six months, the patients treated with distance healing "were healthier on every parameter – significantly

fewer doctor visits, fewer hospitalizations, fewer days in hospital, fewer new AIDS-defining illnesses and significantly lower severity of disease" (McTaggart, 191). Twelve in the control group had been hospitalized and acquired new AIDS-defining illnesses. When questioned, the healers informed Elisabeth that they "put out their intention and then stepped back, [surrendering] to some other kind of healing force, as though they were opening a door and allowing something greater in" (McTaggart, 193).

Reiki can be transferred from the healer to the recipient over an extended distance. It is known as absentee healing. The law of physics allows radio and television transmissions sent in waves through the air. Absentee Reiki healing works in the same way. "Our thoughts are nothing other than vibratory patterns which are transmitted by our brains, and like radio waves, they [are] picked up by the right kind of receiver" (Baginski, 65).

An intriguing case of a cow severely ill with an undiagnosed illness is an example of absentee Reiki healing. One cow would not eat at all and blood was secreting from its anus. The could neither diagnose nor treat the animal, and it died. Another cow caught the illness and was sent to the slaughterhouse. Subsequently, a young bull named Max developed identical symptoms and began to run a fever. Not knowing where else to turn, the farm owner phoned an acquaintance that was a Reiki healer. Two healers began absentee healing on Max and the rest of the cows on the farm. Five days later the healers were telephoned and told "that Max had just been brought back from the slaughterhouse [...] and none of the other cows caught the disease after this" (Baginski, 69).

There are many documented cases involving animal and even plant healings through Reiki. What makes these healings compelling is that, unlike humans, plants and animals cannot convince themselves that they are being healed. This supports the possibility that the healing method of accessing the universal life energy through Reiki exists and that the Zero Point Field may, in fact, be this energy. "The latest evidence available, based upon careful research, shows beyond a shadow of a doubt that some kind of subtle energy exchange is involved in genuine healing. Something physical does indeed happen in the laying on of hands [...] for its results can now be measured and verified by the latest scientific technology" (Harpur, 35).

Widespread Acceptance in the Medical Field

Hospitals and wellness centers throughout the United States and Europe have begun to embrace alternative healing methods such as Reiki as useful and positive therapies in their treatment protocol. Many of these institutions have implemented a controversial patient-care philosophy known as Planetree into their wellness programs. Planetree is a holistic system of healthcare created more than two decades ago in San Francisco. It "promotes the emotional, social and physical health of patients [by mixing] complementary therapies [including Reiki] with conventional treatments" (Modern Healthcare, 2). Although Planetree has struggled in the past to establish itself, its number of members continues to grow. From its conception to the mid 1990's its roster of dues paying hospitals was merely 15. From the mid 1990's to the present, its membership surged to 61 hospitals, 29 of which joined within the last two years. These include the Windber Medical Center in Pennsylvania, Griffin Hospital in Derby, CT, Beth Israel Medical Center in New York, Albert Einstein Medical Center in Philadelphia, and the University Medical Center in New Jersey. All of these institutions offer Reiki in their treatment plans for patients. Although not all physicians believe in these methods or even understand them, they continue to witness the positive results Reiki and other alternative methods produce. Nick Jacobs, president of the Windber Medical Center says, "I can't tell you scientifically, that if you give people flaxseed-filled eye bags and you rub your feet you pray with them, that they're going to get out of here faster, but it certainly looks to me like it's having that kind of impact" (Modern Healthcare, 4).

Another enterprise of a concept similar to Planetree is currently under construction in Germany. It is a wellness hospital known as Univiacom. "[Its] concept is to build a hospital that is a center of research and practice attending to the whole human being – mind, body and spirit" (Health

Forum, 1). It will incorporate homeopathic medicine and other alternative healing methods, including Reiki, with traditional medicine.

Reiki is known as one of the three major hand-mediated biofield therapies. The other two are Therapeutic Touch (TT) and Healing Touch (HT). The goal of these therapies is to "accelerate the [patient's] own healing process and to facilitate healing at all levels of body, mind, spirit and emotions. [They] are not designed to diagnose physical conditions, nor are they meant to replace conventional surgery" (Fontaine, 220-221). They are meant to work in conjunction with traditional Western techniques, beginning with the compelling benefits of touch.

Touch is crucial to effective patient care. It has been found to be "fundamental to nursing and has been listed as a nursing intervention" (Alternative Therapies, 1). The number of nurses currently practicing hand -mediated therapies is, to date, higher than 30,000. "The use of complementary therapies, with a specific increase in the use of touch or energy therapies, [has] increased from 34% to more than 40% between 1990 and 1997" (Alternative Therapies, 2). It is not unreasonable to believe that these numbers have risen from 1997 to the present as Reiki is considered "an excellent method to purposefully reestablish caring as a critical factor in a medical system overwhelmed with machines and technology" (Nursing Admin., 2). Dr. Mary Kashurba notes the benefits she observed of Reiki treatments given by nurses and others in health care facilities as "promotion of wound healing, decreased fracture healing time and decreased pain in burn patients"(Nursing Admin., 3). Observations by professionals in specific fields of care are as follows: "Obstetrics – decrease in anxiety leading to less discomfort during labor; Pediatrics – reduction of anxiety, pain and fever; Hospice – calms patient and can reduce the need for pain medication" (Nursing Admin.,3). Reiki has repeatedly facilitated deep states of relaxation through the autonomic nervous system, thereby lowering blood pressure and heart rate. Recognition and knowledge of the effectiveness of Reiki has even reached medical campuses: "Recently medical students at both Brown and Tufts Universities have requested that Reiki be taught as part of their programs" (Denver Post – 7/28/02).

The most influential evidence I have found regarding the legitimacy of Reiki as a healing method is my own personal experience with it. Not knowing anything about Reiki, I went to my first healing mostly out of curiosity. I did not have a specific illness, but felt generally out of sorts physically and emotionally. Prior to the commencement of the healing I did not relay any specifics to the Reiki practitioner. During the treatment, I felt incredibly relaxed and at times, weightless. Upon completing the healing, the practitioner asked me if I had a problem at the center of my chest. I told her that ever since I could remember, I would sporadically feel a sharp stabbing pain there. It came and went randomly, never occurring in any specific pattern. No one I knew experienced this phenomenon and doctors labeled it stress related. The practitioner then told me that the Reiki energy healed the area. That healing took place more than a decade ago and to this day, I have never felt that pain again. Subsequent healings alleviated symptoms of fybromyalgia for months and helped lessen my bouts of insomnia.

Recently, I have become a Reiki healer myself. The most significant experience I have had as a healer was with a woman who suffered with excruciating back pain for five months. Her prescribed medication was not working. As I have little experience as a Reiki healer, I did not think that I would be able to significantly help alleviate her pain. I worked only on the section of her back in which the pain was based. My hands were placed over the area for 15 minutes, at which time I felt we were done. Throughout the healing she spoke to me of various sensations in the area, including alternating sensations of hot and cold and what she could only describe as fingers quickly yet gently tapping and moving around inside her back. Of course, my hands never actually touched her, as they were traditionally placed a few inches above the area.

That night, she was in more pain than ever before. However, the next morning, upon waking, she was completely pain free and remained so for many weeks. Although her pain is now beginning to recur, it is significantly less severe and her medication is helping her. At her request, we have scheduled more healings.

There are many false cures and fads out there. The majority of Western medical publications do not recognize non-traditional healing methods and try to portray healing methods such as Reiki as being 'faith healing' types of hoaxes. These publications rely heavily on advertising placed by huge pharmaceutical companies. It is the major source of their income and it is not surprising that they rarely present non-pharmacological methods of treatment. This is also the reason for the lack of funding available for research into unconventional therapies. Yet the natural curiosity and desire to search for the truth ingrained in true scientists has sparked them on to discover the energy field responsible for these non-invasive healing techniques to work. Whether it is referred to as the Zero Point Field, Ki, Prana or bioplasmic energy, it is the universal life force energy present in all things. It is channeled through the hands of a practitioner into a recipient in the healing process known as Reiki.

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Business and Economics
Outstanding Presenter/Author: Brian Gil

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Judge: Mr. Richard J. Merck, CPA (Merck CPAs & Consultants, Kingston)
Judge's Comments: All presenters were very impressive with well thought out papers. Brian demonstrated a deep understanding and mastery of his topic in both his paper and his presentation. His responses to questions further demonstrated his expertise of the subject matter.

How Corporate Insiders Rigged the Markets and Robbed the Public Blind

> "The most valuable commodity is information. Wouldn't you agree?
> The public is out there throwing darts at a board sport. I don't throw
> darts at a board. I bet on sure things. Read 'The Art of War'; every
> battle is won before it's ever fought. Think about it. Do you ever
> wonder why the fund managers can't beat the S&P 500? Because
> they're sheep, and sheep get slaughtered." Gordon Gekko, with regards
> to his insider-trading scheme, to his newly recruited stockbroker, Bud
> Fox, in the film *Wall Street*.

Gekko, appears to have been created as a fictional Ivon Boesky, and spoke at Teldar Paper's annual shareholder meeting, a company in which he controls a large stake, encouraging greed. He said, "Greed, for lack of a better word, is good." Comparably as a U C Berkeley commencement speaker, Boesky promoted greed to its business school students by preaching the statement, "Greed is all right" (Boesky, 1986, as cited in J. Stewart, 1991).

It is attitudes like this that have caused the American public to call upon top Securities and Exchange Commission ("SEC") executives to step up and put their foot down, and to strongly pursue serious penalties against corporate misconduct in the wake of the post-Enron era. The American people need to witness a striking investigative breakthrough, ultimately resulting in criminal indictments by the Justice Department, for their confidence to be restored in the capital marketplace. Shattered investor confidence has plagued the capital markets because of corporate malfeasance. This malfeasance is heavily surrounded by how insider-trading scandals were executed, how unethical accounting and legal practices were put into play, how corporate executives received millions of dollars in loans that they were not held liable in any way to pay back, and how numerous conflicts of interest between corporations, external auditors, and brokerage firms clouded everyone's judgment, and their duty to the public to maintain accurate and transparent financial disclosures.

Insider-trading ultimately creates what is known as a privileged investor by giving an individual a handicap or a heads up. Investment decisions should be solely based on publicly known research, not specific facts that the public is unaware of, and there clearly should not be anyone deemed as a privileged investor. In recent years corporate officers have been known to unethically and illegally pump up the price of their company's stock, usually done by means of cooking the books, and then all of a sudden dump their invested interests with precise timing. This comes under suspicion because their trading disclosures and the company's stock chart, when carefully analyzed,

would unavoidably prove that they were selling their shares when the stock price, coincidently, peaked at the top of its market level, a level hyped far beyond reasonable expectation for the stock. These officers own the rights to an ample sum of shares that they accumulated through the purchasing of inexpensive stock options. When insiders flood the market with massive amounts of stock, just before a pending investigation surrounding the company is disclosed to the public or because they know that the reported earnings were counterfeited and want to cash out ahead, the stock price is inevitably going to drop. The laws of economics best explain this drop; the supply is going to be greater than the demand, which will result in a series of small price drops. These price drops will look attractive to small investors because the company falsely shows strong earnings, earnings sometimes counterfeited by the use of false books. Understand that for these privileged individuals to sell their shares somebody has to be purchasing them, which in most cases turns out to be uninformed small investors. Little do they know that they are about to face a substantial loss from their invested capital when the news breaks about the corruption. Because of this reason alone, insider-trading laws were put into place advocating the protection of investors.

The Great Depression was a direct result of a free market laissez-faire economy. It was an unregulated corporate and securities bubble that burst in the aftermath of the October 24, 1929 stock market crash-also known as Black Thursday or the Great Crash. Douglas Frantz (1987), who wrote a credible book on Wall Street crimes, believed that the great crash was the result of the speculative orgy fueled by Wall Street. This led to Congressional investigations into Wall Street's practices (Securities and Exchange Commission [SEC], 2002). The Senate hearings led by special counsel, Ferdinand Pecora, emphasized that it was looking into the profiteering through investment trusts, secret pooling of interests, manipulations of stock prices, and insider-trading (J. Stewart, 1991). Franklin D. Roosevelt's top economic advisers believed that the public's faith in the capital marketplace was, indeed, a crucial element needed to stimulate the weak economy (SEC, 2002). From 1933 through 1940, in an attempt to inspire investor confidence, a series of six federal securities acts were signed by Congress, which designed laws creating governmental oversight to regulate corporate America, and their publicly traded securities exchanged in the capital markets (SEC, 2002).

After reaching a critical understanding that a highly coordinated entity would become an imperative in order to monitor the securities industry, Congress signed the Securities Exchange Act of 1934, which established the SEC to enforce the newly passed laws (SEC, 2002). The security oversight commission's vital importance is to maintain market integrity, promote its stability, provide it with a form of structure, and protect innocent investors in the capital markets, both large institutions and small private investors. The SEC holds the right to file lawsuits, seeking financial criminal settlements, and the authority to disbar individuals from the securities industry; upon an incriminating investigation, and through litigation, its attorneys can expose wrongdoing by exploiting the use of its powerful enforcement tool, which is its unlimited subpoena power. Although the SEC can seek civil actions only, it works closely with Congress, various criminal law enforcement agencies, self-regulatory organizations-stock exchanges (SRO's), and state securities regulators to develop criminal cases when the misconduct warrants more severe action (SEC, 2002).

Insider-trading is an act of securities fraud, which is a form of white-collar crime. Douglas McNabb (2002), a white-collar criminal defense attorney, refers white-collar crime to corporate wrongdoing. McNabb (2002) said, "It is the type of crime that is committed by professionals using deception, as opposed to violent crimes that involve force" (para.1). The SEC said, "The securities laws broadly prohibit fraudulent activities of any kind in connection with the offer, purchase, or sale of securities. These provisions are the basis for many types of disciplinary actions, including actions against fraudulent insider-trading" (p.16).

The *Knowledge Exchange Business Encyclopedia* (1997) recognizes inside information as "Proprietary details about the goings-on at a company that are made known to a few people, but is [sic] not made known to the general public" (p.329). This is also called material information because

it is material to investors, and is the type of news that would affect a reasonable investor's decision on whether or not to invest in a company (Duke Energy, 2002; Reh, 2002). Proprietary details can be in the form of contracts to be awarded to key suppliers, negotiations on consolidations, mergers, or acquisitions, internal financial forecasts, sharp changes in earnings patterns, plans to issue initial public offerings-issuing of new stock (IPO's), changes in dividend rates, changes in key management personnel, or important regulatory actions affecting a company (BellSouth, 1998; *Knowledge Exchange Business Encyclopedia*, 1997). Ren Manning (1998), a corporate and securities law attorney for BellSouth, informed BellSouth employees through a series of ethics news reports, "It is important to remember that transactions that are immaterial to BellSouth can be highly material to their business partners" (p.1).

An insider is someone who has temporary or constructive access to the material nonpublic information about a company that could affect its stock price or might influence an investor's decision (Reh, 2002). Anyone who has material information is prohibited from trading based on that knowledge until the information is available to the general public. People in possession of material nonpublic information, even if they have no involvement inside of a company, whether or not they stole the information, are an insider, which was ruled by the U.S. Supreme Court (Reh, 2002). If an individual with no direct link inside of a company is tipped material nonpublic information, overheard a private conversation, or stumbled across confidential documents, that individual is considered a temporary insider, and that information cannot be used or passed along to others until it is released by the company to the public (BellSouth, 1998). John Reh (2002), a financial columnists, said, "If the president of a company tells you that the company's best hope for a breakthrough product isn't going to get regulatory approval, you are now every bit as much an insider as he is, with respect to that information. It is illegal for him to trade based on that knowledge before it becomes public knowledge. It is equally illegal for you to do so because you are now a temporary insider" (p.2). Reh (2002) said, "A public company if it is smart, limits the number of people who have access to material information, and therefore, are considered insiders" (p.2). Reh (2002) justifies his argument by saying, "This is done for a couple of reasons. First, they want to limit the likelihood that anyone will leak the information. Second, being an insider means being subject to severe limits on when you can trade in the company stock, usually only the middle month of each quarter" (p.2). Insiders are also required by law to submit records of their transactions with the SEC; such records are made available to the general public for investment research purposes. People are considered insiders if they are major shareholders, board members, corporate officers, executives, executive assistants, or accountants. Members of investor relations, public relations, and research development teams can also be labeled insiders if they are involved in press releases, confidential projects, or research developments (*Knowledge Exchange Business Encyclopedia*, 1997; Reh, 2002). Although stockbrokers, investment bankers, loan officers, financial analysts, and attorneys are employed by an independent firm, firms of such professionals are hired by a company to handle particular parts of its business matters, and they themselves can be considered insiders if material nonpublic information is shared with them (Reh, 2002).

The *Knowledge Exchange Business Encyclopedia* (1997) defines insider-trading as "Making stock market transactions based on private information that is unavailable to the public" (p.329) It may be unlawful depending on the relationship between the individual who has the inside information and the companies involved (*Knowledge Exchange Business Encyclopedia*, 1997). It is illegal when a person trades a security while in possession of material nonpublic information in violation of a duty to withhold the information, and refrain from trading securities in relation to that information (SEC, 2002). Trading a security in breach of a relationship of trust and confidence based on material information that is not available to the general public while in possession of material nonpublic information about the security is prohibited by the SEC (SEC, 2002). Manning (1998) strongly stated to BellSouth employees, "When material information is not publicly known, employees cannot under any circumstances use it or pass it along to buy or sell common stock in

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BellSouth or in those partners to which it pertains. It 's not only against our policy, it's also illegal" (p.1). Corporations encourage their employees to invest in employee stock purchasing plans, which give them the ability to purchase stock at a discount. Duke Energy gives its full encouragement to its employees to invest in Duke Energy's common stock although they forbid their employees from trading not only in their stock, but also in those of its suppliers, customers, or other companies with whom Duke Energy has a business relationship, while in possession of material nonpublic information learned in the course of their employment (Duke Energy, 2002). The SEC reserves the right to seek from four times the realized profit up to one million dollars in fines from the individuals involved in this prohibited unethical practice (*Knowledge Exchange Business Encyclopedia*, 1997). The SEC can also seek up to two million five hundred thousand dollars from corporations, and triple the damages from securities companies-banks, brokerage firms, mutual funds-that are involved (*Knowledge Exchange Business Encyclopedia*, 1997). According to the insider-trading sanctions, individuals involved can also face a jail sentence of up to ten years if found guilty (*Knowledge Exchange Business Encyclopedia*, 1997). If intent to trade a security is suspected by the SEC to be based on nonpublic information, it can subpoena e-mails, memos, files, telephone records, and any other pieces of data that can be used as incriminating evidence against defendants (BellSouth, 1998). Investigations surrounding a company can destroy its credible reputation, and could also have devastating effects on its stock price (BellSouth, 1998). Insiders have a responsibility to their shareholders, which is to keep material nonpublic information confidential by handling this information in an ethical manner. Insiders must understand the circumstances that violate the line drawn between right and wrong, and the consequences that can follow. This is essential to avoid putting themselves in risk of committing illegal insider-trading

Although insider-trading is illegal to protect investors' equal right to make well informed rational investment decisions because of the volatility in the markets, corporate insiders trade on knowledge unknown to the public, and a ratio of insider trades is used as a highly effective technical indicator to tell the direction of the market (Braham, 2002). Most of these trades are said to be legitimate because the material information used is not believed to have a noticeable effect on the stock price. Market Profile Theorem's ("MPT") stock research analyst, Michael Painchaud, published a bullish market forecast in the MPT Weekly Insider Alert, which is a faxed newsletter (Braham, 2002). Painchaud, a reputable analyst on Wall Street, predicted this call based on a ratio he created, called the Brooks Ratio, which divides the total amount of insider sales by the total amount of insider trades (Braham, 2002). If the total trading inside of a company consists of at most forty percent in selling company shares, which would leave at least sixty percent in company buybacks, the ratio represents a bull market-a sharp, prolonged rise in the price of stocks (Braham, 2002). The opposite would represent a bear market-a sharp, prolonged decline in the price of stocks (Braham, 2002).

In an effort by the Congressional House Energy and Commerce Committee, SEC, and the Justice Department to restore confidence in the marketplace, the former CEO of Imclone Systems Inc., Sam Waksal, was coerced to plea guilty to the charges of bank fraud, securities fraud, conspiracy, obstruction of justice, and perjury (Hays, 2002). Imclone is a biological technology ("biotech") company that performs intensive studies in cancer research. Its partner, Bristol-Meyers Squibb, which is also a biotech company, funds the majority of Imclone's research. Sophisticated scientific research conducted at Imclone had developed Erbitux, a colon cancer drug. Clinical trials proved Erbitux's effectivness. Erbitux, along with a chemotherapy drug that failed previous clinical trials, destroyed cancer cells (Feuerstein, 2002). The Food and Drug Administration refused to file Erbitux's fast approval application, and halted the wonder drug from reaching the markets on December 28, 2001 (Feuerstein, 2002). The FDA accused Imclone of submitting faulty clinical trials (Feuerstein, 2002). Since Imclone did not show the effectiveness of Erbitux at an independent level, the FDA could not decipher whether Erbitux itself was the contributing factor (Feuerstein, 2002). The FDA's refusal will set Erbitux back at least one to two years from hitting the shelves in pharmacies nationwide, depending on the bureaucratic measures the FDA takes to resolve the misunderstanding

(Feuerstein, 2002). Meanwhile, cancer patients will suffer dramatically because of the process Imclone's senior corporate officials utilized in filing the original fast approval application. When the FDA approves Erbitux, it is still expected to account for a large percentage of Imclone's revenues, but after a year or two passes, it will have to compete with generic brands due to increasing technology and medical advances. In late December of 2001, a refusal to file letter was sent by the FDA to Imclone directors regarding Erbitux's FDA status, and the news was left to the directors to announce publicly (Feuerstein, 2002). When the then CEO of Imclone, Sam Waksal, learned that once this material information hit the public, would force analysts to down-grade the stock, which would cause the stock price to plummet, he informed friends and family member shareholders of Imclone's predicament, and advised them to dump their shares. It is known that over seven hundred seventy thousand shares were sold on December 28, 2001, which at that time was equivalent to approximately forty-six million two hundred thousand dollars (Hayes, 2002; Marshall, 2002). If this is the case, and this information was tipped-off to conflicted people with special interests in regards to Imclone before this information reached the public, then this is a prime example of insider-trading.

The reason this particular case is so appealing to the public eye is because it involves Martha Stewart, CEO of Martha Stewart Living Omni-Media Conglomerate. She has been tried and convicted by the media, and the politically motivated SEC would like to make an example out of the former stockbroker (M. Stewart, 1982). It is known that Sam Waksal and Martha Stewart have had a long history together as friends, and that the same brokerage firm, Merrill Lynch, employs both of their stockbrokers. It is believed that she was one of the individuals tipped-off, but tipped by whom, and tipped what information is unknown. Martha Stewart is currently under criminal investigation for violating insider-trading laws, and allegedly obstructing justice. Just as the news was breaking about Imclone's situation, she sold four thousand shares, which were worth two hundred forty thousand dollars (Hayes, 2002; Marshall, 2002). Martha Stewart's legal team publicly claimed that she had established a stop-loss order that gave authorization to her stockbroker, Peter Bacanovic, to stop the loss by selling the stock if it dropped below sixty dollars a share. There was no such record kept of this order, but since Martha Stewart did not personally admit to the stop-loss order, she cannot be charged with obstruction of justice. Bacanovic's assistant, Douglas Faneuil, testified against Stewart and Bacanovic in the conspiracy, insisting that there was no stop-loss order in play, and that he received large payoffs to cover up the illegal activity (Hayes, 2002). Apparently, it is not illegal if she received information from her stockbroker that Sam Waksal was selling substantial amounts of Imclone stock in large blocks, and acted on that information. This is uncharted territory for insider-trading laws, and prosecutors did not see this. Prosecutors have been trying to stretch the insider-trading laws because they need to prove intent of the illegal action, and they also need to prove that she received the inside information directly from a director of Imclone or indirectly through the conspiracy between the two stockbrokers in order to build a strong case against her. The only evidence they have in their possession is a witness who has committed perjury. Faneuil will have impeachable credibility on the stand because he changed his story after signing sworn affidavits. Prosecutors need to get Bacanovic to testify, and (or) retrieve phone records between Sam Waksal and Martha Stewart to guarantee a conviction.

Another person of special interest to me that has not been in the limelight of the media is the mysterious thirty million dollar man. On December 27 and 28 of 2001, an anonymous individual sold five hundred thousand shares of Imclone stock, which were worth thirty million dollars (Hayes, 2002; Marshall, 2002). It is suspected to be an institutional investor, possibly a mutual or hedge fund portfolio manager.

Why does prosecution against Martha Stewart look so attractive to lawmakers and regulators? Why has this thirty million dollar man not been so heavily publicized through the media, as opposed to Martha Stewart? She had sold four thousand shares, a small number compared to an ample five hundred thousand shares. When I think of Martha Stewart, I picture everything her public relations team had created. If she is indicted, tried, and jailed, it will send a clear-cut message that no one

receives a get out of jail free card. Because the company that she founded carries her name, whatever she does will follow her company. Although her exposure to Imclone did not result in a direct loss, it is estimated that her personal wealth was decreased by three hundred million dollars as the stock price of her own company plummeted in the wake of the investigations. Questionable illegal activity surrounding a company can lead to long-term effects on shareholders as well; Martha Stewart Living Omni-Media produces strong balance sheets, but the stock continues to plummet at uncalled for rates. Although prosecutors cannot charge her until they obtain more substantial evidence, they did manage to let investors know that they are watching the marketplace.

The impact of the insider-trading scandal at Imclone is, without a doubt, measured at a much more minor level in comparison to what was exposed and rooted out by the SEC and the US Attorney's Office in the late 1980s. This had such an enormous psychological effect on investor confidence that it caused the stock market to crash twice, ignoring good economic outlook. On October 19, 1987, "Black Monday," the Dow plunged five hundred points, the worst one-day loss it had ever taken since its birth; on October 13, 1989 the Dow had lost grounding of approximately two hundred points, its second largest, at the time, one-day loss only to Black Monday (J. Stewart, 1991). Also in October of 1989, the junk bond market crashed (J. Stewart, 1991). Both of these unique scandals had come at a time when small investors could not bear to just stand and watch as they recognized huge capital losses from the stock market decreasing the size of their portfolios. Their only recourse was to go running to elected and appointed public officials to take harsh steps in confronting corporate wrongdoing, demanding justice. Although the complex insider-trading ring paved the way for the corporate takeover boom in the early 1980's, which had, in fact, fueled the decade's bull market, it had an after effect that decimated the market economy, raised congressional free market reform into question, and put an end to the Regan-deregulation era.

Even though key Wall Street players like the idolized arbitrageur Ivan Boesky, superstar investment bankers Martin Siegel and Dennis Levine along with dozens of other elite businessmen affiliated throughout the financial world were connected to the ring, junk bond market maker Michael Milken was, by far, the "Don" of the operation. Milken, in the words of the then U.S. attorney, Rudolph Giuliani, was perceived as, "The most powerful financier in America" (Giuliani,1988, as cited in J. Stewart, 1991). James Stewart (1991), author of *Den of Thieves*, estimated, "In 1986, Milken earned five hundred fifty million dollars in salary and bonus alone from an enterprise that had been tainted with illegal activity for years" (p.16). Frantz (1987) was convinced that Dennis Levine, who was indicted for using confidential information on takeover bids to buy and sell stocks, "Triggered the greatest scandal since the Great Crash of 1929" (p.349). Harvey Pitt, who had just recently resigned as chairman of the SEC, was at the time Boesky's attorney, and had told the chief of enforcement at the SEC, Gary Lynch, "If we do a deal the government would gain an insight into Wall Streets practice's that were comparable to the Pecora hearings that led to the passage of the securities laws" (Pitt, 1987, as cited in J. Stewart, 1991). Frantz (1987) said, "The way the institution-Wall Street-had represented itself refused to recognize the real issues, and like past periods of financial excesses, it needed to be followed by a cycle of reform" (p.350). Frantz (1987) also said, "Protection from the rampant greed of a Dennis Levine is only partly the province of laws and regulators; the bulk of the burden rests with the financial community, and so does the bulk of the blame for the demise of integrity" (p.351). Frantz (1987) further went on to say, "One victim was the long-held notion that Wall Street could regulate itself-that a professional's word was his bond" (p.350).

James Stewart (1991) when he touched on the subject of Milken, Boesky, and their conspiracy said, "What was breathtaking about the scheme, however, was not just the variety of crimes, or their frequency. It was how the crimes meshed to achieve ends more ambitious than anything even contemplated by the drafters of the securities laws" (p.219). In a time of countless cases of corporate corruption heavily involving securities, insider-trading laws are confusing, and need to be presented in a more understandable language. This is critical in order for everyday novices

as well as professionals to comprehend and recognize their responsibilities in certain circumstances. Creating more severe punishments for violating insider responsibilities is an imperative need in order to solidify insider-trading laws. Michael Milken, who was originally accused of far more than breaking insider-trading and stock manipulation laws, received an indictment on ninety-eight counts of racketeering and securities fraud (J. Stewart, 1991). He pleaded guilty, without cooperation, to six felonies including; conspiracy, aiding and abetting the filing of false statements, aiding and abetting the evasion of net capital rules, securities fraud, mail fraud, and assisting the filing of a false tax return, and he managed to negotiate a six hundred million dollar criminal settlement obtaining immunity for his younger brother, Lowell, who was, indeed, just as guilty of those crimes as he was (J. Stewart, 1991). He was then sentenced to a federal minimum-security penitentiary for a maximum of ten years, a minimum of thirty-six to forty months, and was eligible for parole after twenty-eight months (J. Stewart, 1991). He served approximately five years of his total sentence (J. Stewart, 1991). After controlling a racketeering enterprise, and a broad conspiracy that affected the control of corporations, after forfeiting one point three billion dollars in civil and criminal settlements, he managed to remain in control of a Milken family fortune, set up to be untouchable by the government, of one point twenty-five billion dollars (J. Stewart, 1991). This was the value of his immediate family's assets at the time of his guilty plea, and did not measure any appreciation since then. Since his brother, Lowell, is indebted to him for his immunity, his assets were included in the ten-digit figure. I believe that minimum sentences against white-collar crimes such as illegal insider-trading should lean towards lengthier imprisonments or, depending on the scope of the crimes, the fulfillment of the jail sentence, abolishing the possibility of parole. I also believe that the civil penalties followed by a conviction should be increased from the maximum of one million dollars to always greater than one hundred percent of the realized profit takings. There should be no difference between an indicted individual who pleads guilty, and that of a defendant whom does a jury find guilty. There should be little room left for deals unless if the individual can name a senior authority.

I am in favor of necessary governmental intervention in business, but corporate America working together with all levels of government is the key to rid the markets of unethical practices. The majority of white-collar criminals that I have studied have come from Ivy League or prominent schools. After becoming well informed on this interesting topic, I firmly believe that even the best business schools across America needs to stress the importance of corporate ethics, the consequences of violating the standards, and the global economic repercussions that can follow.

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Social Justice
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Small-Scale Tolerance is the Anti-Hate

In today's society in America, what some consider basic rights lie only in the distant dreams of others. Lesbians and gay men do not have equal rights in America. The lack of basic civil rights in most states significantly reduces the quality of life for American lesbians and gay men and results in considerable violence against them. Manifestations of violence in the gay community appear in two forms: violence which gays and lesbians commit against themselves, the result of low self-esteem and alienation, and violence committed against gays and lesbians by others that is driven by prejudice and hate. The cause of the large scale, horrific, glaring acts of hate, such as the murder of Matthew Shepherd, begin with acts as ordinary and trivial as name-calling. Such small scale, seemingly innocuous slurs or teasing collectively create factors as serious as societal rejection, violence, and even murder because they shape widely held opinions on same-sex oriented people. Also contributing to violence are factors such as peer pressure and anti-gay religious propaganda from people like the Reverend Jerry Falwell and groups like the Christian Coalition. Cultural evolution, albeit slow, is beginning to lift the antiquated taboo and change the irrationally closed mentality surrounding sexual orientation. The United States is very far from having fairness and equality in its legal system and practice, but there are indications of progress.

Gay teens face many more challenges growing up than do heterosexual teens. This accounts for the higher instance of suicide among young gay people in America. Gay teens are statistically more likely to consider suicide than straight teens. Approximately thirty percent of adolescents who commit suicide identify as lesbian or gay (Orlando 53). There are several reasons for this disturbing phenomenon. Gay boys and girls face adversity and prejudice in practically all spheres of daily life, greatly endangering the maintenance of a support system. Gay teens also often feel less safe discussing their problems with adult mentors, guardians, or counselors. This results in young men and women's lives taking turns for the worse. Sexual orientation is a powerful, multi-faceted aspect of a child's psychological development. This is because sexual orientation is deeply woven into one's self-concept. The sensitive psychological factors and unreliable sources of support from society account for their lives being naturally more prone to failure in all respects, suicidal thoughts and suicidal thoughts that lead to suicide. The suicide statistics of gay and lesbian youth are a clear signal that society's attitudes are lethal. In addition towards a greater inclination to commit violence towards themselves and to be more likely to lead a self-destructive lifestyle, gays and lesbians face a varied and malicious array of disempowering external influences which range in severity. These influences combine to create hatred that people feel towards lesbians and gays as well as the hatred that lesbians and gays feel towards themselves.

Children learn about bigotry, one such influence, through social interaction when they are young. According to Gershen Kaufman and Lev Raphael the connotation of the word "faggot"

reverberates and has the ability to shape people's beliefs on gays.

> Gay men and lesbians experience countless scenes of derision, ridicule, and often vicious contempt. These shame scenes occur prior to, during and after adolescence. Peers generally have been relentless in persecuting anyone for being gay or lesbian, and scenes of disparagement are universal for homosexuals. Youngsters learn at a very early age to avoid doing anything that will earn them the slur "faggot." (Kaufman and Raphael 81)

Gershen Kaufman and Lev Raphael also believe that it is a sense of shame that suffocates lesbians and gays, as well as other minorities in America. This sense of shame turns into self-destructive behavior, composed of three distinct "scripts." A script is an unnatural line of thinking a person is forced into through being unaccepted in society. The first script is self-blame, when a person blames himself or herself for being perceived as different and inferior. The second is a comparison-making script when a person compares himself or herself to another because they feel inadequate. The third is self-contempt which is what causes one to harm oneself.

For the percentage of the population of gay youth that do not fall victim to suicide, achieving self-esteem can be a life-long battle. In a documented story by Kevin Jennings, a gay teacher at Concord Academy in the fall of 1998, a fifteen-year old student seeking advice came to him saying that he had been having sexual encounters with strangers at a bus stop. When Mr. Jennings asked the young man if he was using a condom, the young man said, "Why should I use a condom? My life isn't worth saving anyway" (Marcus 312). Jennings was taken aback at the boy's self-hatred but could relate to it from personal experiences of his own. Jennings was not out at the time and felt that it was imperative to be a good example and come out of the closet at a school meeting that they called a "chapel." He wanted to show that he was proud of himself and at the very least to deter the young man who came to visit him from putting himself at risk of contracting a deadly disease.

In discussing the matter with the school principal, Jennings encountered the complexities of the fight for gay civil rights in today's society. He faced opposition from the principal who sent, among others, older closeted homosexual teachers to convince him not to go through with coming out of the closet at the chapel. Jennings found opposition from gay and straight people alike as well as support from members in the school community, both gay and straight. Jennings went through with the speech and received an overwhelmingly positive response from the student body, including many messages of support (312).

This situation reveals many important aspects of the struggle of lesbians and gays in America. Firstly, for those lesbian and gay young people who do not commit suicide, life is burdened with many problems; the internal struggles are just as hazardous to a gay person as the external threats. If Jennings had not intervened in the young gay boy's life, the boy could have continued on to other self-destructive habits. Jennings also had to contend with his superiors who were not willing to support him, possibly creating conflict in his work environment and possibly losing his job. He could not even rely on other gay men as recourse. Most importantly, the cloud that hangs over the reputation of the gay community is one that is solely fueled by ignorance and not by popular belief. Regardless of what radical anti-gay groups would purport, gay men and women have a lot of support in today's society. Jennings proved this when he came out at the chapel. Jennings is a minority not only because he is gay, but because he is a person of integrity. Jennings is a hero for doing what will in time propel the gay and lesbian civil rights movement to having its objectives be realized all the more quickly. Small victories such as this one help in expediting the evolution of today's society.

More extreme examples of hatred, such as hate crimes, are less frequent, but much more serious phenomena of society's nascent and tumultuous acknowledgement, acceptance, and, from a legal standpoint, integration of the lesbian and gay community. A hate crime is "an act committed out of prejudice against a particular group of people" (Altman 8). Approximately one eighth of hate crimes in America are motivated by sexual orientation. Gays and lesbians are the second largest

victimized demographic. Hate crimes range in severity from verbal abuse to "mass terrorism." They are often hard to identify. When a crime is committed against any minority, it is difficult to discern whether or not the crime was motivated by prejudicial hate. It is believed that there is a much higher occurrence of hate crimes than the number which is officially documented due to instances which go unreported for various reasons. Gay rights activist David M Wertheimer states:

> In most parts of the country, where the civil rights of lesbians, gay men, bisexuals and transgendered individuals are not protected by law, disclosure of anti-gay/lesbian assault can lead to the loss of employment, eviction from housing, denial of access to public accommodations, and loss of child custody, all of which can be entirely legal. (D'Emilio, Turner, and Vaid 264)

When Wertheimer says "most states," he is referring to the 36 states that have no laws banning the discrimination against sexual orientation and gender identity.

When acts of violence occur in any US state, the victims involved are not the only ones who suffer. Many times these acts affect entire communities, as well as the nation and the world as a whole.

Even more damaging to America's social development are instances of hate that are committed by fascist organizations. An example of such an extreme and fanatical attack on gay rights is *Westboro Baptist Church Inc. v. St. David's Episcopal Church*, which ultimately was not heard by the Supreme Court (Murdoch and Price 60). In 1996, the Westboro Baptist Church was leading anti-gay demonstrations across the country featuring a slogan, "God hates fags." As if that was not disturbing enough, their picketing signs read "Hate is a Bible value." When St. David's Episcopal church, also situated in Topeka, Kansas, condemned their hateful crusade, it itself became a target of their angry attack. When its members were legally prohibited from picketing in front of St. David's, Westboro Baptist sued and counter-sued. In the end, its members were not allowed to picket in the immediate vicinity of their rival religious organization despite its contention that its picketing was a "worship experience" (60).

In 1998, Members of the Westboro Church showed up to protest at the memorial service of Matthew Shepherd. Matthew Shepherd was a gay twenty-one-year old that was brutally beaten and left to die tied to a fence in near-freezing temperatures. He was lured out of a bar by Aaron McKinney and Arthur Henderson, also in their early twenties, where they beat and pistol-whipped him (Gage, Richards, and Wilmot 92). Both McKinney and Henderson were sentenced to life in prison. Despite the national uproar over this incident and support from celebrities like the lesbian comedienne and actress Ellen DeGeneres and then President Bill Clinton, the state of Wyoming and the US Congress have not passed any new hate crimes legislations. As it stands, the state of Wyoming does not have any laws banning discrimination against sexual orientation (GLBT 1).

People like the members of the Westboro Baptist Church and the murderers of Matthew Shepherd are comprised of people who are socially inhibited by a misguided need of a feeling of belonging. Groups like Westboro also place a strong emphasis on recruiting new members to disseminate their bigoted beliefs (Altman 21). Despite the efforts of such divisive organizations, the leading factor of violence towards lesbians and gay men is found in everyday situations. In a definition of what the reality of hate is, Linda Jacobs Altman cites physical and verbal abuse, unfair wages or salaries or even exclusion from jobs or communities, vandalization of homes or community centers, and name-calling.

Hateful, discriminatory attitudes in America can be changed by the social awareness movements taking place in public schools, colleges, community centers and other urban organizations which are slowly beginning to change people's attitudes towards gays and lesbians in America. The opinion of a group or even an individual whose logic and convictions are based on a vision of an evolved and civilized society is very powerful. It is much stronger than the inhumane

acts of malice of congregations of needy and psychologically frail people who exercise hate to fill voids in their character.

The Reverend Jerry Falwell makes much more than a living by exploiting such people with his anti-gay agenda. Mel White, the gay ghostwriter for Falwell's autobiography, reveals that not only did Falwell have a close gay friend that was involved in a monogamous relationship with another gay man, but he had acknowledged the financial benefit he stood to gain by condemning homosexuals in his propaganda and by being protested against by gay rights activists. Falwell told White, "Those poor, dumb fairy demonstrators gave me the best media coverage I've ever had. If they weren't out there, I'd have to invent them" (Bull 273). Falwell stands to lose money by advocating civil rights for lesbians and gays. In a declaration of his "Christian" propaganda, he said:

> [Vice President Gore] recently praised the lesbian actress who play
> 'Ellen' on ABC Television...I believe he may even put children, young
> people, and adults in danger by his public endorsement of deviant
> homosexual behavior...Our elected leaders are attempting to glorify and
> legitimize perversion. (Gage, Richards, and Wilmot 123)

Falwell's greed serves to endanger the lives of many lesbian and gay youth, as well as to perpetuate lies. His greed is costing society its development on the civil rights front and empowering young people without direction to harbor negative feelings towards lesbians and gays. It is highly destructive.

The most powerful causes of violence are force of habit and word of mouth, a very powerful combination. What a person believes is expected of them is a leading element in their personal decision-making process. People are capable of making decisions that don't reflect any genuine belief they actually foster. An extreme example of this would be joining a hate group, but Don Sabo discusses a more common divisive phenomenon. Our society is plagued by an irrational divide between what is expected of a man and what is expected of a woman. This has inhibited the development of civilization in America.

In an essay entitled, "The Myth of the Sexual Athlete" Sabo discusses the senseless, inhumane, and contradictory characteristics of antiquated, sexist mentalities in sports and their fruitless, damaging consequences. These characteristics are reflective of the baser qualities of heterosexual male culture in general. Sabo tells a story of having broken up with his girlfriend because "the gang in the weight room" told him that she was the dominant partner. To disprove his friends' statement, which must have felt like an accusation at the time, he ended the relationship. He regrets this decision and attributes this senseless act to the pervasive insecurity felt among young men that causes them to prove themselves irrationally (Messner and Sabo 36). Sabo also acknowledges positive changes in Universities and other institutions that are beginning to shape healthier attitudes on diversity for all Americans.

The American government has been slow in making legislative amendments relevant to sexual orientation, like many other causes. One instance of this is the latent attempt to recognize the Armenian genocide. Only recently has Congress tried to recognize the Armenian genocide as ever having taken place officially, even though undeniable evidence proves that it occurred. The attempt at official recognition includes a resolution that states that only a minimal amount of financial aid will be provided to Turkey until the Turkish government takes certain measures to acknowledge the Armenian genocide, but it has yet to be passed (House 1). In this case, without acknowledgment of the truth historical accuracy can be manipulated. In some cases of gay men and lesbians, delay in acknowledging their existence precludes them from being safe. The failure to implement gay rights legislation enables people to join hate groups and allows greedy hate-mongers and liars like Jerry Falwell to exploit people at society's expense and at the loss of human life resulting from hate crimes. Based on history, it takes time for the government to begin social change despite the legitimacy of the cause.

One indication that changes are occurring slowly can be reflected in the most recent

conduction of the census. In the year 1990, the national census was composed in such a way that if someone were to register that they had a spouse and that spouse was of the same sex the information would be invalidated. The disregard of the existence of same-sex partnership in the Census was intended to comply with 1996 Federal Defense of Marriage Act passed by the 104th Congress:

> In determining the meaning of any Act of Congress, or of any ruling, regulation or interpretation of the various administrative bureaus and agencies of the United States, the word 'marriage' means only a legal union between one man and one woman as husband and wife, and the word 'spouse' refers only to a person of the opposite sex who is a husband or wife. (Technical 1)

The extreme nature of law regarding homosexuality is heteronormative and homophobic in nature at this present date and time. The exclusivity of the statute has subsided somewhat being that the year 2000 saw changes in format of the census. The census was modified so that same-sex partnerships would not be invalidated and the census bureau could gather "better estimates." Such action shows that, on however a small scale, lesbian and gay people are being recognized.

`The change in the census occurred just before George W. Bush's presidency despite his lack on support and interest in the gay community. George W. Bush has made anti-gay comments, and in some cases tries to cover up his offensive blunders with statements so ambiguous they seem insincere if not totally ridiculous. The president responded to a question regarding whether or not adopted children should be removed from their foster homes by saying "I have no idea whether the children ought to be removed or not removed ... The question is whether I'm for gay adoption. And the answer is, I'm not" (Estrich 1). Sometime later the President made the contradictory statement on the NBC show "Meet the Press":

> I understand that sometimes a gay person, for example, will adopt a child, an individual. And I fully recognize that government, in a private way, and I fully recognize that government should not be a policeman knocking on doors, you know, demanding some kind of, you know, credential as to their sexual orientation.

The recent appointment of Michael Guest, an openly gay man, as U.S. Ambassador to Romania in September 2001 is a positive step, but it is hardly enough of a commitment to the cause (Bush 1). Despite the 43rd President's lack of overall lack of support, social progress is occurring, however slowly. The modification of the national census demonstrates that social movements can progress in spite of an unsupportive President.

Ironically, at his best George W. Bush is ambivalent, yet his father, former President George H.W. Bush, took a more gay-friendly stance during his presidency. For the paltry positive gestures George W. Bush has made towards the lesbian and gay community, he has taken greater action against it. For example, he abolished the White House liaison post to the gay and lesbian community which was first created during the Clinton Administration (Hoagland 1). While his father was in office and strove for a "kindler and gentler nation" (George 1), he approved the "flagship of the homosexual, lesbian legislative agenda." This law would be the first of its kind to make the public aware of the rights of gays and lesbians in a supportive way. In 1990, he also approved the 'Americans with Disabilities Act' that served to protect people with HIV, among other groups, from discrimination. Despite their Republican beliefs and familial relationship, George W. Bush and George H.W. Bush harbor very different attitudes towards the gay and lesbian community.

Due to different objectives in different administrations, the immediacy of the priority of gay and lesbian rights varies. It seems that republicans are not definitively anti-gay. Whereas President George W. Bush has shown virtually no interest in gay and lesbian issues, President Clinton made promises he could not keep. A major part of his campaign was based on lifting the ban on homosexuals in the military. However, when he took office opposition was so strong that he was forced to compromise to wait on lifting the ban for a period of six months. When the six months

were ending the only outcome of the efforts of the Administration was the infamous "Don't Ask, Don't Tell" policy which would mandate gay men and lesbians entering the armed forces not to reveal their sexual orientations. The program was a failure as demonstrated by the fact that "the number of gay people discharged from the army every year from the military actually rose, from 597 to in 1994 to 1,231 in 2000" (Marcus 360). Social progress will occur regardless of what the current commander in chief believes or is capable of accomplishing, as evidenced by the changes in the year 2000 census. Gays and lesbian activists rely heavily on the power of individuals like Kevin Jennings who are willing to stand up for their rights and dispel the myths around homosexuality.

Yet government institutions have not been the only ones to choose to ignore gay issues. Oddly enough, The New York Times, a newspaper known today for its liberal views, was at a point in 1980 where it would not even publish the word gay in any of its articles. It also tried to ignore the AIDS crisis. Today, such censorship and cultural disregard has vanished. In fact, The New York Times publishes the word gay more than the gay magazine publication, "The Advocate" (Messner and Sabo 36). Positive cultural changes such as these and small acknowledgments from the government will combine to enable the social revolution that is long past due for gays and lesbians in America.

Another very important vehicle on the path to social change is the voices of entertainers who take personal stances on issues of lesbian and gay rights. Margaret Cho is a Korean-American comedienne who has been a leading figure in the gay rights movement. She has used her witty, edgy, totally candid comedic talent to communicate her convictions to a mainstream audience. She openly ridicules her family and other aspects of her personal life including her sex life. She considers herself bi-questioning, or a person who is open to a bi-sexual lifestyle, and she has humorously recounted her own lesbian encounters in her acts. The popular appeal of her comedy is a voice for gay men and women in a society that at times would rather ignore their existence. In her stand-up comedy act The Notorious C.H.O. she proclaims:

> I have self-esteem, which I think is pretty amazing 'cause I'm probably somebody who wouldn't necessarily have a lot of self-esteem as I am considered a minority, and if you are a woman, if you're a person of color, if your are gay, lesbian, bisexual, transgendered, if you're a person of size, if you're a person of intelligence, if you're a person of integrity, then you are considered a minority in this world. And it's going to be really hard to find messages of self-love and support anywhere.

Cho's comedy expresses the many contradictions, anxieties, and cruel realities of gay culture within American culture. Through her insightful hilarity, she describes the very American dilemma of the difficulty of dealing with all the anxieties of daily life along with the anxieties of being a minority. Cho herself falls under the category of being more than one minority. She is a woman, bi-sexual, Korean, and a high-school drop out. She herself has suffered from an eating disorder that she attributes to having low self-esteem. The fact that her comedy act is available at local video stores across the country goes to show that however slowly, American popular culture is changing.

Many positive changes are being made in other spheres of the field of entertainment. Mainstream television shows, such as the NBC sitcom Will & Grace are projecting positive images of gays and lesbians, or at least giving them visibility. In addition, the is creating "crossover appeal" which will creates opportunities for a new generation of lesbian and gay programming that would not have been possible before (Gage, Richards, and Wilmot 145). Most importantly, the show is reflecting the attitudes and beliefs of a large part of the public opinion.

Madonna, the unmistakably groundbreaking pop icon, has made numerous contributions to the gay community that have historically altered the common perception same-sex oriented people throughout the world. Madonna has shared her bisexual experiences in her book SEX and has always been supportive of the gay and lesbian cause. She is very supportive of two gay people very close to her, her brother Christopher and her former dance teacher C. Flynn, who is HIV positive. She has

fought for AIDS and advocates safe sex, her *Like A Prayer* album contained a leaflet and a message that people with AIDS needed to be treated with respect "while there was hardly an AIDS benefit danceathon that didn't feature Madonna center-stage" (Gage, Richards, and Wilmot 22). Her *American Pie* video, a lesbian and gay promotion in and of itself, features two men kissing as well as other images of gays and lesbians.

Madonna's influence has been undeniable, with her younger distaff descendants following her lead. Christina Aguilera, the young pop sensation who debuted on the music scene in 1999 with her self-titled album, features two men kissing in her music video "Beautiful." But the fight for civil rights is not limited to women or to pop music as in the Garth Brooks song "We Shall Be Free." In the song Garth Brooks preaches tolerance of same-sex love motivated in no small part by the fact that his sister is a lesbian. At a stage when every moment of positive exposure can greatly help a neglected community in dire need of attention, the messages sent by celebrities play a major role in the fight for rights. The work of these musicians serves to make younger people feel better about themselves. In turn, these message also serves to make America less prone to the violence that results in teen suicide, hate crimes, any forms of violence motivated by sexual orientation, and the main cause of intolerance in the first place which is what is taught to children at a young age.

Civil rights would be taught to children no better than in a standardized teaching initiative, but even in a place as liberal and open-minded as New York City, such a program has yet to be implemented. In 1990, PACE (People About Changing Education) responded to the class of race, gay, class issues in New York City. PACE was composed of people and organizations that represented different ethnic backgrounds and sexual orientations, united to improve the quality of the New York City public school system. At the time, the New York City School system was comprised of 80% minority children the overwhelming majority of which were from working-class families. Despite this statistic, there had never been a formal training program and initiative to educate the teachers about working in a multi-racial environment. As for gay and lesbian rights, they had never been addressed in the school system ever before. When gays and lesbians in New York City were being accused of holding back the advancement of people of color, PACE united in an effort to implement a teacher's guide for teachers of public schools in New York City. The guide was called COR (Children of the Rainbow). COR was created to respond to the disproportionately number of white teachers to minority students as well as to be the first step in an organized approach to accepting cultural diversity into the system. It also included a small section on gay and lesbian parents.

There were many protests against COR and it eventually was never implemented, but gay activists still remain positive. An array of anti-COR propaganda and financial support were supplied by the Christian Coalition to poor, working-class and middle class families who began protesting at the Central Board and local community school board hearings (D'Emilio, Turner, and Vaid 254). They were rivaled by mostly white and middle-class gay and lesbian activists from ACT UP and the lesbian Avengers. In the end, the COR initiative lost funding and organization and due to the vehement opposition it was not passed. PACE responded to this failure and to the rift that had been created between the representatives of the gay lesbian community and its opposition, the proponents of racial awareness in schools. It responded by making the formal declaration of the necessity to treat gay and race issues as one, on the same platform. Despite major setbacks, the gay and lesbian activist community is resilient and continues the fight for rights by reinventing itself based on the needs of its members and the larger community.

Should the US government be so in touch with its citizens, it would greatly facilitate social justice. People who regard money as more important than equality, like Jerry Falwell, along with organizations like Westboro Baptist Church and the Christian Coalition who espouse discrimination stand to gain from hatred. Both the federal and state governments have yet to solidify civil rights for lesbians and gay men. The murder of Matthew Shepherd by psychologically frail individuals, of

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whom there are still many in the US, who need to feel a sense of belonging, are great setbacks to making a America a safe environment for same-sex oriented people.

But the influence of the lesbian and gay community and its supporters is growing, and the efforts of individuals to make life civilized for gays and lesbians in this country are changing national attitudes. Such influences include the efforts of ordinary people like Kevin Jennings, who set a positive example for in Concorde Academy as well as celebrities like, Garth Brooks, Margaret Cho and Madonna. With the future implementations of programs like the COR program along with current gay and lesbian education in schools and universities, lesbians and gay men will increase the number of places where they are protected. The word "faggot" will become obsolete and the mindless and brutal results of peer pressure will subside. Such initiatives will increase self-esteem in young lesbians and gay men and lower the currently high rate of suicide. America is slowly increasing its ability to maintain a society that transcends prejudice and that can prevent violence and will continue to do so. Based on the positive messages in popular culture and moments of recognition by politicians and legislators, it is inevitable that the United States will expand its justice system to include and to protect gay and lesbian people.

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Social Science, Anthropology, Political Science, and Sociology
Outstanding Presenter/Author: Nancy L. Sacckette

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Judge: Cheryl Qamar, CSW (Ulster County Mental Health, Kingston)
Judge's Comments: Paper exhibited diverse perspectives, strong research, and creative presentation. She grappled with complex issues (perhaps too many for length of paper-however-) Respectful approach to effect of colonialism and racism and how media tells half the story.

Nothing "Really" Exists Until the White Man Discovers It:
A Look at the Kikuyu Tribe from the Movie Out of Africa

Even many years after seeing the movie Out of Africa for the first time, I found myself so interested in the Kikuyu people of Kenya that I was motivated to research their culture. Out of Africa, based on the life and the writings of Karen Blixen, is an Oscar-winning masterpiece of cinematography that depicts the panoramic colors of that country. It is also a sincere and moving account of Blixen's trials and courage trying to blend in with an African culture which she probably knew little about. Although the movie embraced several different cultures like the Masai and the Somali, the Kikuyu tribe held my interest because of their interaction with the main character, Karen Blixen. Along with many European settlers who were coming to Africa at that time, she arrived in 1914 to marry Baron Blixen and harvest her future on a farm. As her writings reveal and as the movie illuminates, the Kikuyu people were a large part of Baroness Blixen's life. But, just how true was Hollywood's interpretation of their culture?

Karen Blixen's writings, published under the name of Isak Dinesen, reveal her love of Africa and her passion for its people. She was the author of several books about her African experiences, but she was also an artist who studied painting in France, a doctor to the Kikuyu people, a hunter who enjoyed safaris, a council to the Kikuyu elders, a student of the Kikuyu language and a struggling coffee farmer. "Dinesen is chiefly regarded as a master storyteller. Ernest Hemingway once remarked that the Nobel Prize for literature he received in 1954 should have been awarded to her" ("Isak Dinesen 1885-1962").

In the Africa of Blixen's time numerous diseases were rampant, including the plague, small pox, meningitis, typhoid fever, malaria, and black water fever. She contracted syphilis from her husband, and her life-threatening bout with the disease was difficult, given that her treatment was Salvarsan—a form of arsenic. Sadly enough, the symptoms remained with her most of her life. Unable to conceive children as a result of the disease, she also suffered from abdominal pains, ulcers, nausea and a loss of sensation in her legs. But, she continued to write and proved herself to be a strong-willed woman over the years.

The Kikuyu lived on a small portion of the six thousand acres Karen Blixen had purchased. Even though she acquired those thousands of acres, only six hundred were ever farmed. She could have raised cattle and grown maize commercially, but that would have meant taking away the squatters' land and that, she refused to do. Instead, she operated the farm at a loss most of the time, and by herself, since her husband was a hunter and wanted very little to do with farming. Over a million dollars of her family's capital was lost on the farm through years of drought, disease, high winds and locust hordes. It is possible she failed as a coffee manager because of her stubborn

devotion to the Africans and her belief that the natives were wiser than the industrial man.

In the book, <u>Out of Africa</u>, Dinesen wrote in small journal-like chapters. Except for the opening line, "I had a farm in Africa, along the Ngong Hills," the movie did not follow the book. The book was not chronologically written, but written in excerpts of events and memories of the characters there. The movie was based on a mix of Blixen's personal history, along with her multiple writings and a compilation of letters to her brother. Most of her written descriptions of the land, the people, and her farm were portrayed fairly accurately in the film. Her farm was located twelve miles away from the vibrant city of Nairobi, where the open marketplace was her first visual taste of African lifestyle in the movie. A marketplace bustles with native people buying supplies, exchanging food, catching up with the latest news, and socializing. Her arrival into Nairobi in the movie was an ideal example of the marketplace's importance and all its vivacious qualities. She encountered a unique way of life and immediately drew a wisdom which indelibly marked her writings. Dinesen's personal interpretation of the Kikuyu people held that: "The natives were Africa in flesh and blood - small figures in an immense scenery. All were different expressions of one idea, variations upon the same theme" (Dinesen <u>Out of Africa</u>, 23). In this notable quote about their culture, she identified their unity from an outsider's or etic view. She was looking in at a culture she saw was special and from which she would draw her inspiration to write. The seed was planted that would later sprout hours of writing about their culture and their land.

Baroness Blixen's home was at the foot of the Ngong Hills. "From the two sides of her house, was an unsurpassed view of the Ngong Hills…Their five distinct peaks resemble knuckles on a tightly clenched fist; The Masai have given each hump a name - Kasmis, Oljoro, Onyore, Olorien and Lamwia" (Trzebinski 199). Kenya is basically divided in half by the Great Rift Valley. The so-called "white highlands" were nicknamed because all the European settlers were buying land for next to nothing from the British government. Even though Kenya was considered British East Africa, the entire colonial carve-up of Africa was done by many countries. The other countries guilty of capitalizing on the opportunity for commerce were France, Germany, Portugal, Belgium, Italy and Spain. "By 1915, four million acres of African farming land was sold to one thousand settlers" (<u>Africa</u>). Calculations from these figures show that each settler got approximately four thousand acres each! This resulted in overcrowded African reserves for the indigenous people and the land suffered much damage from overuse and inappropriate use. "Under such conditions, the reserves were unable to provide more than a subsistence level of production for the Africans" ("Kenya: Recent History"). These substandard living conditions were never portrayed in the film. So was the omission of revealing this type of living condition a polite form of Hollywood hiding the consequences of colonization?

"The immigrants may be divided into two basic categories: there are those who come to a country to give and others who come with the explicit intention of taking away as much as possible and in the shortest period of time. [Baroness Blixen] belonged to the former group and she immersed herself completely in becoming a coffee farmer" (Trzebinski 100). Not knowing the intentions of the British government, the Africans welcomed the settlers at first, but that soon changed. The British forced Africans to work on their farms and kept the upper hand by making it illegal for the Kenyans to grow their own food. As if the seizure of their native land was not enough, cash cropping was instilled, instead of allowing the Africans to grow food for themselves. The deliberate treatment of the natives as inferior beings under the British rule is evident in many history books, but is never addressed in the film. When the Africans did protest, the pacification or "hammering" of the natives resulted in the killing of thousands of Africans, burning down their houses and seizing their livestock (Africa). This treatment was another point that was not addressed in the movie.

The British empire was not interested in the humanity or the religious traditions of Africa, but ironically, Christianity was taught on flipside of what was a hypocritical coin. "Christianity began with the establishment of missions throughout Kenya. Conversion was slow for the first years because of the mission's insistence that the Kikuyu give up a large part of their own culture to

become Christians" ("Kikuyu"). In contrast, when Baroness Blixen hired a missionary on her farm to teach the children she said "he promised me to do the alphabet first and save God for later" (Out of Africa). Many of the intruding countries thought Africans were "helpless children and lazy savages" (Africa). European Christians believed they were doing the natives a favor by taking them away from their "underdeveloped" lives and making it better for them. As a result, many Kikuyu traditions were lost.

According to Kikuyu tradition, the founder of the tribe was a man named Gikuyu. Ngai, the divine spirit, took Gikuyu to the top of Mount Kenya and commanded him to establish his home there. Mumbi, Gikuyu's wife, was provided for him by their God, and Gikuyu and Mumbi had nine daughters, from which the different principal clans originated. Mount Kenya, an extinct volcano, is called Kirinyaga in Kikuyu, which stands for "mountain of brightness." They believe Mount Kenya is the home of their God, the Lord of Nature. The Kikuyu "perform their magic and traditional ceremonies in undisturbed serenity facing Mount Kenya" (Kenyatta xxi). The film showed many British social events such as parties, town meetings, polo matches and parades, but nothing was shown in relation to traditional Kikuyu ceremonies or functions.

In Dinesen's writings, the greatest social functions of the farm were the Ngomas- the big native dances. "For these events the young unmarried girls on the farm freshly shaved their heads and put on greased leather tutus and as many beaded wire necklaces as could fit between their collarbones and their chins...The old people sat around on the grass, smoking, spitting, and gossiping (Thurman 180). "The dances were held sometimes in the day and sometimes at night. The Kikuyu [young men], when going to Ngoma are naked and rub themselves all over with a particular kind of pale red chalk. The dances of the night were held in autumn only after the maize harvesting and below the full moon. They had singers at the dances along with flutes and drums. Their singing was more a rhythmical recitation than a song. They were improvisers and made up their ballads off hand, with the quick, attentive chorus of the dancers joining in" (Dinesen Out of Africa 164). None of these Kikuyu social functions were depicted in the movie.

The Kikuyu are the largest tribal group in Kenya, making up 21 percent of the population, and are now considered agriculturists. Originally, the Kikuyu were hunter-gatherers, but they gradually adopted horticultural practices. The first crops grown were cocoyams, sweet potatoes, bananas and millet. Kenya is home to over 40 ethnic groups belonging to three linguistic families- Bantu, Cushitic and the Nilotic. The Kikuyu are of the Bantu-speaking Kenyans. Language traditionally has been the primary characteristic of ethnic identity and it is considered in all cultures to be the most distinctive form of communication. Nearly all ethnic groups have their own language, but English and Swahili are Kenya's official languages. Many Kenyans therefore speak three languages- the language of their particular ethnic group, English and Swahili ("Kenya"). "Swahili, which comes from the Arabic word meaning 'coast,' is a mix of Arabic and the African language Bantu. It was first developed in the tenth century with the arrival of Arab traders; it was a lingua franca that allowed different tribes to communicate with each other and with the Arabs" ("Kenya: Linguistic Affiliation").

The Kikuyu occupied one thousand acres of Baroness Blixen's land, in what they called their shambas or homes. In return for living on her land, the Kikuyu had to work for her 180 days a year, for which each worker was paid a total of twelve shillings a year. They also had to pay hut-tax to the British government. Dinesen wrote that the Kikuyu complained that they were made to pay money for things which they would rather have done without—roads, street lighting, police, hospitals and the railroads which the Kikuyu referred to as "the iron snake." This tax could become burdensome to a Kikuyu husband who had to give each of his wives her own hut. In order for a Kikuyu man to supply separate huts for his wives, he needed land. "Land tenure is the most important factor in the social, political, religious and economic life of the tribe. It supplies them with material needs in life, through which spiritual and mental contentment is achieved" (Kenyatta 22). The importance of land to the Kikuyu was acknowledged by Baroness Blixen at the end of her time in Africa when she greatly concerned herself with finding space for the Kikuyu to stay together as a unit after she lost her farm.

But, Hollywood concealed the many adjustments the Kikuyu had to make to their native lifestyle.

The Kikuyu people wore leather apron-like garments and beads, and the men always carried a spear as protective gear. Also, "the majority of Kikuyu carry a charm or gethiite in one way or another, according to the particular danger against which a person wishes to be protected" (Kenyatta 27). Brass rings in a man's ear means he has reached the last and most honorable stage of his life history. This happens when all his children are circumcised and his wives are done with child-bearing. The movie accurately portrayed the dress of the Kikuyu people and it was not uncommon to see the men dressed with suit jackets over top of their native garb.

Described as aristocrats among the Africans, the Somalis were superior in culture and intelligence according to the British. It was said to have a house without a Somali is like having a home without a lantern. Farah Aden, a Somali servant who attended to all necessities for Baroness Blixen at her home, her stables and safaris, was an intuitive man. Although he was quiet, Farah was a very strong character in the movie, sharing his philosophies and exhibiting his undivided devotion to her for 17 years while she was in Africa. He was a confident and intelligent man. "He had great insight in what was going on in the native circles. Yet he kept no company with the Kikuyu" (Dinesen, Out of Africa 149). Baroness Blixen wrote that her well-being was not Farah's concern, but her good name and prestige is what he held himself responsible for.

In the movie Farah always referred to her as Msabu, which is an Indian word that the natives used when they addressed white women, but pronounced it a little bit differently than the Indians. Farah gained "enormous clout among local suppliers, and in time he set up his own dukka (grocery shop) at Ngong and did a flourishing business on the side" (Thurman 115). Even though the business side of Farah was never shown in the film, his unique attire was, and that made him stand out from the rest of the natives. A description of Somali clothes in Blixen's book reads: "They had on long robes of raw silk, with sleeveless black waistcoats elaborately embroidered in gold. They always wore turbans of orthodox Mohammedans in exquisite many-colored cashmeres" (Dinesen, Shadows on the Grass 11). Farah's wardrobe was very stylish in comparison to the Kikuyu and was portrayed accurately in the film.

In one scene in the movie, Farah, Baroness Blixen and the other natives did travel together to bring supplies to a camp that patrolled the border of Lake Natron, which is to the south of Kenya, in Tanzania. They traveled during the day, which is not common there because the sun and heat of the midday could kill. Night is the best time for traveling and enterprise. "The stars have been named there, they have been the guides to human beings for many centuries, drawing them in long lines across the desert sands and the sea" (Dinesen, Out of Africa 85-86). Navigation in such a vast area without maps or signs is a natural wonder. The native people have mastered this simply by using nature as their guide, an amazing accomplishment for any culture. During the trip to bring supplies to the border, Baroness Blixen and company had a frightening experience when the Masai came traveling across the plain.

The Masai are known for their warlike relationships with the neighboring Kikuyu. They were known for "conducting cattle raids where they take women as well as cattle for their prizes" (Blauer 73). A sleek and fit group of warriors, the Masai morani were a picturesque portrayal of yet another African culture in the movie. Masai warriors are noted for taking care of their hair. They braid it elaborately and mat it with ochre and goat fat. Their hair is another reference to blood and animal life, for they live in complete harmony with livestock. In a certain way, their hairstyles resemble a mane and, when lying down they rest their heads on wooden neck stools. "Before white men and mirrors arrived, the Moran adorned each other with make-up and ornate attire, a practice which helped strengthen bonds among peers" (Kenya 28). Although never explained in the movie, the great chief of the Kikuyu, Kinanjui, had wives in both cultures–Masai and Kikuyu. The entire mystique of the Masai culture was not brought up in the movie, but only portrayed them as a different culture than the Kikuyu and them having separate beliefs.

Chief Kinanjui lived a few miles away from Blixen's farm and ruled over more than one

hundred thousand Kikuyu. In her writing, Dinesen described him as an impressive man with a fine manner. He was tall and broad, wore a large cloak of blue-monkey skins and on his head, wore a skull cap made out of sheep's stomach. Yet in the film, he was portrayed as a small, frail man who ruled with a temper when she came to speak to him at his village during harvest time. At times he wore what looked like a woven blanket for clothing and of all things he carried an umbrella.

According to Peter Beard's translation of Kamante's Tales in chapter 10 "Chief Kinanjui was so rich that he had thirteen wives in Masailand and in his home of Kawangware he had thirty wives...[He had so many] children he couldn't know them. You could see about a hundred children calling one person daddy" (Beard). According to Kamante, Chief Kinanjui visited Baroness Blixen's home and they became good friends. He always wished her honor and intelligence when departing a get-together. Hollywood never gave details on the death of Chief Kinanjui. He died during her stay in Africa and was an important man to both her and the Kikuyu culture.

Polygamy is very common in the Kikuyu culture. "If a man dies without a male child, his family group comes to an end. This is one thing that the Kikuyu people fear dreadfully, and it can be said to be one of the factors behind the polygamous system of marriage" (Kenyatta 15). "The Kikuyu family is considered to be circular, rather than linear as in the western culture. Each new generation replaces their grandparents, who are free to become ancestors" ("Kikuyu").

In the movie the great paramount Chief Kinanjui was asked if children might go to the missionary school to learn. He objected to anyone taller than a few feet learning the English ways of schooling. Farah, in the movie, explained to Baroness Blixen why the size of the children was an issue to Chief Kinanjui. Farah said the chief did not want anyone taller than a few feet to be smarter than him because they are younger than him and traditionally elders are considered the wisest. Chief Kinanjui was only concerned that when the educated children were grown, that he would be dead. But Dinesen stated in her book that there were a few very old Kikuyu who did attend school, therefore, the film did not show that some of the natives did learn to read.

The Kikuyu, like many tribes, do not write down stories. These are passed on verbally from generation to generation. Their schooling is different from that in traditional Western culture. The Kikuyu homestead is the school. Children learn how to survive and what is necessary in order to keep traditions alive for many generations. Boys and girls learn manners and deportment proper to their station within the community. The important thing in Kikuyu culture is that children learn their role in society, not how to recite the ABCs. "They are not ignorant" as Denys Finch-Hatton, the well respected hunter and Karen Blixen's confidential lover argued in the movie; he did not think they should be turned into "little Englishman" (Out of Africa). As time passed, a traditional educational system was established in the 1980s.

In an oral society, a person was respected for his wit and his ability to capture an audience for many hours at a time. Perhaps one of the mystiques behind Baroness Blixen
and her popularity with the Kikuyu was that she was an instinctive teller of tales. In the movie, Karen Blixen was told that they pay their storytellers there. A simple gift of a pen, given to her by Denys Finch-Hatton for her storytelling, was one token of appreciation and he encouraged her to write down her stories.

Grandmothers were excellent storytellers and devoted a great deal of time to storytelling. Many native stories had animals as the main characters. Among the Kikuyu and other ethnic groups across Africa, the hero of many of their stories was the hare, the clever animal that would outwit the stronger and more ferocious hyenas and lions. Some of these stories from Africa reached the United States through the slaves and evolved into the popular Bre'r Rabbit stories. "Folktales and riddles combined with myths to provide for young people a strong sense of values recognized by the community as making up [Kikuyu] culture...Proverbs are numerous...One proverb teaches that a 'good mortar does not correspond to a good pestle,' to show that successfully matching a husband and a wife may be difficult. Common sense is taught by most proverbs such as 'when one goes on a journey, he does not leave his bananas cooking on the fire" ("Gikuyu").

Oral narratives continue to play an important role, but it was not until Kenya's independence in 1963 that Kenyans began to develop a national body of written literature.

Baroness Blixen was enthusiastic when it came to literature. She often told stories that she made up and tried to match wits with the Kikuyu culture and their stories. Kamante, the young Kikuyu boy who had a very diseased leg, never forgot Baroness Blixen, since she took special care of him and he eventually ended up working for her. Later in life, Kamante wrote a book in Swahili as an inspiring response to Baroness Blixen's longing to translate human and animal fables into stories that the natives could learn in addition to their own. At the end of this illustrated book, Kamante dedicates a charming section to Aesop's Fables blended with African folk tales that contain the same cultural universal truths.

Baroness Blixen visited the Kikuyu's land in the movie. At the Kikuyu's shambas, there were many goats and children around the village. "She carried sugar and pennies in her pockets for the children and snuff for the old women, which, needless to say made her extremely popular...The old [Kikuyu] women gave her the name *Jerie*, a feminine honorific which means, among other things, the one who pays attention" (Thurman 127).

The round huts with thatched roofs was another thing that was accurately portrayed in the film. The actual building of a hut takes only one day simply because the man building it asks his friends to help him. Building is completed in one day is "for it is feared that should a hut or a kraal be left unfinished and unoccupied, evil spirits might dwell therein, and therefore, cause constant misfortune to the future occupants" (Kenyatta 76). Women and men share roles in hut-building. Although this was not shown in the movie, the men and women each are responsible for certain jobs. The men cut timber and put up the framework and the women's job is cutting and carrying the grass for roof thatching and plastering the walls with clay or cow-dung.

"The wealth and beauty of African architecture have for too long been sadly neglected and misunderstood...much of the continent has a greater architectural complexity than any other continent" ("Vernacular Architecture"). To completely understand their housing, it is important not just to look at the way houses were built and what they were built of, but to consider how they relate to the landscape around them and to the needs and beliefs of the people who built them. One can say without exaggeration that housing was accorded a high political priority. In many instances native society stressed conformity rather than innovation. Their houses were built in appreciation of the environment, built of materials not simply plundered from the land, but used in quantities and at times that would cause minimum harm to their surroundings. A well-built hut lasted about ten years, with occasional re-thatching of the roof because of the heavy rains.

The inconceivable rains of Africa are divided into two wet seasons simply known as the "long" and "short" rains. Trzebinski best explains the seasons as follows: "There are no seasons in Africa which can compare to those in Europe and consequently there is little respite. No gently falling rains, instead deluges, waterfalls even rivers for a while and then comes the unrepentant sun. It bakes the land for months on end and extracts every vestige of moisture... Above all, Africa demands tenacity and by that ability everything stands or falls" (Trzebinski 135). Consequently, the Africans accepted the extremes of climate as a part of their life and nothing was more powerful and out of their hands than nature itself. The movie was very accurate in depicting the effects of the rains. There are scenes of flooding walkways and overflowing ponds. In the movie, Farah tries explaining the rainy season to Baroness Blixen. When her husband states he will return home from safari when the rains come, Farah says, "It can be many days before the rains come." At one point she felt that a man's role in Africa is being tested for courage and a woman's role is often being tested for patience.

A women's role in Kikuyu society is often very demanding. All heavy load-carrying is done by women since they are trained at early childhood to carry a little load, which becomes bigger and bigger as they grow older. Kikuyu women support the weight by a strap over the forehead and the load itself is carried on the back. "The weight which a Kikuyu woman will carry by this method is almost beyond belief...loads of just over two hundred pounds which Kikuyu women had carried for a

distance of over seven miles" (Leakey 18). In the movie, there was a scene in the Nairobi marketplace where woman were carrying water on their heads and it seemed almost effortless.

Along with everyday chores to keep them busy, women also go through another custom that many Africans still partake in, the ceremony of female circumcision. Circumcision makes a tremendous difference in the Kikuyu society. This rite of passage gives a new status to girls as adults ready for marriage. Before circumcision is performed, girls are put on a special diet of beans and grain to prevent the loss of blood and possible blood poisoning. It also helps insure quick healing. In the middle of the night, the girls were taken to the nearest river and had to stand there for several hours in the cold water to numb their nerves. They assembled at a chosen place and were lined up in a rough semi-circle. Each girl would sit on an ox-hide with legs outstretched and with two sponsors to hold her in position and give moral support. Despite the absence of antiseptics and sterilization, both infections and serious after-effects were rare. "Not to flinch or cry out during the operation was an absolute imperative. Any girl who did so would be disgraced, and would never live down her shame" (Huxley 191-192). For boys, circumcision teaches them how a man must bear pain, meet with misfortune and bear himself like a warrior. Circumcision brings respect and full membership to a tribe. He is also able to inherit property. If no circumcision is performed on a boy, he has no right of possession. He is not allowed to have long hair, nor can he boast or brag, and he can not have a circumcised man as a close friend. There was nothing mentioned in the movie about circumcision as a Kikuyu tradition or how the natives felt about the Christian religion demanding that circumcision be done away with. The Kikuyu family, the clan and the tribe are strengthened and enriched by the succession of new members and the long time tradition of dancing and feasting follows a circumcision ceremony, along with singing, laughter and rejoicing.

It is a characteristic of the Kikuyu people to sing inspiring songs while performing work or tasks. It is said: "To work in a happy mood is to make the task easier, and to relieve the heart from fatigue" (Kenyatta 78). They do not count the hours or work by the movement of the clock, but choose to work with good spirit and enthusiasm to finish the task at hand. Friends meet in the garden or fields in the early morning and work enthusiastically singing cultivation songs. Sometimes they even challenge workers in the next field and compete with them in work and song. As heard in the movie, song was woven into the fabric of everyday life, as they picked coffee beans in the fields or traveled with Baroness Blixen on her trip to her new home. Baroness Blixen left Africa in 1931 and never returned. In September of 1962, she died at home in Rungstedlund, Denmark. To this day, her memory lives on in Kenya, in a suburb named "Karen" in the area where she lived for 17 years, a great tribute to what she gave back to the Kikuyu culture.

The Kikuyu had to adapt to the invasion of the British and the demanded changes to their culture and customs. In the movie, nothing was mentioned about how the Kikuyu adjusted to the intrusion of the British government or how they felt about the loss of their ancestral lands. The British wanted Kenya for one reason: to gain access to the very fertile land around Lake Victoria on the Kenya-Uganda border. In 1895, the British started to build the Kenya-Uganda railway which measured seven hundred miles long. The enormous cost of eight million dollars to construct the railways in Kenya was one of the reasons the British government encouraged white settlement in the highlands, along with the economic benefits of exploiting its natural resources. Kenyans watched as the British overran their traditional homelands. In fact, the Kikuyu felt invaded and resented the British attempts to take over their land, which they viewed as a sacred commodity. The avoidance of this issue in the movie gave Hollywood the opportunity to make a film that was pleasing to the eye, heartfelt in the writer's sense, but shockingly insufficient of what "really" existed before the white man discovered it.

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Technology and Technical Studies
Outstanding Presenter/Author: Stephanie Evans

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Judge: Dr. Neil Fitzgerald (Marist College, Poughkeepsie)
Judge's Comments: Her engaging and innovating presentation was a delight.
Very thorough understanding of the background material.

Misfiring the Silver Bullet? Forensic DNA Fingerprinting

The hallway was immense in every dimension. It stretched as far as the human gaze in both directions. It was at least 4 stories tall, and the light from the evenly spaced chandeliers that hung from the ceiling had diminished to a rough glow by the time it reached the shelves at the bottom. The shelves were spectacular in themselves. They reached up to the ceiling, and as far as the corridor itself did. Upon these shelves were billions and billions of books, all uniform in size, shape, height, color, thickness, content, with nothing on the covers or spines. Every row of every shelf for miles and miles in each direction theses books stood, unvarying volume upon volume, unchanging and reiterating into eternity in either direction.

Every person on the planet has a library as spectacular as the one described above. Every person also has the uniformed books contained in it. When opened, these books will tell the reader everything about the library they came from, being as they are unique to the shelves from which they are pulled. They will tell what the library looked like, any flaws in it, how old it is, even who built it.

This library is the human body, and the books are Deoxyribonucleic Acid, commonly known as DNA. Within every person's body are billions and billions of copies of this DNA, just as within the library there are billions and billions of copies of the one book. And just as the book of the library will tell the complete story of its library, DNA will tell the complete story its person. So conceivably, if someone finds and reads a lost book, it could lead the person who found it back to the library it came from (Campbell 291, Frankel 11-12).

Such is the foundational reasoning upon which forensic DNA fingerprinting is built. Joe Nickell, author of Crime Science: Methods of Forensic Detection, describes fingerprinting as the process of "individualizing" a sample of DNA, or determining how it is different from all others (2). Biological evidence recovered from crime scenes will contain DNA that can be extracted, tested, and in theory, used to prove involvement and sometimes even guilt of the person who left it there. The testing is controversial, and unlike any other technology that involves DNA, information yielded from the DNA testing in forensics can potentially decide between the life or death of its carrier.

It seems safe enough to stake such high rewards or punishments upon examination of this substance since DNA is unique to each individual. But aside from the legal and ethical quandaries that surround the issue, is the technology as an entity truly reliable?

DNA fingerprinting in forensics has become viewed as the 'silver bullet'. Max Houck comments in Mute Evidence: Trace Evidence Analysis that "today, many people think that…DNA can solve all crimes and is thus the perfect method" (88). Elizabeth Devine, former Supervising Criminalist in the Scientific Services Bureau of the Los Angeles County Sheriff's Department, describes DNA evidence being "like magic" (Martin par 3). Norman Gahn, Assistant District Attorney of Milwaukee County, Wisconsin, calls DNA testing "the ultimate truth finder" (Hansen par 11). In modern times, 'silver bullet' has come to mean a technique that cannot fail in its purpose. In

the case of DNA testing, it is one way to filter out and eliminate evil. But if one examines the origins of the term[1], the silver bullet was indeed the only way to eliminate evil, but only if it was aimed correctly. If not, it had just as much potential to kill the innocent as it did the wicked. DNA testing, in truth, has the same capacity. Is it accurate to refer to it as the 'silver bullet'?

DNA was first discovered in 1911, and since then understanding of its chemical structure and biological function has exploded (Nickell 201). It is being utilized in every field of science. However, it was not until 1985 when an English biologist named Alec Jeffereys discovered a way to take a sample of DNA and individualize it down to one person in billions that this substance gained meaning in forensics (Concar par 29; Roberts par 22). Jeffereys deemed the process 'DNA fingerprinting', because it could theoretically yield a print from the evidence DNA that is as unique to a person as a dermal fingerprint (Nickell 200). Indeed, the technique was hailed as the most significant event in criminalistics since dermal fingerprint identification (Connors xix). The process is quite complex and not at all what the general public would expect it to be. But in order for the process to be understood, DNA itself must be understood.

DNA, in simple terms, is the "spark of life, the master molecule that designs all other molecules", states Edward Frankel in his book DNA: The Ladder of Life (12). In sexual reproduction, each parent contributes one set of genes to the child, one trait for every available characteristic. Since each parent has contributed one trait for each characteristic, the child will, in a sense, 'pick' one from the two now available to choose from. It is not limited to pick only the father's or only the mother's traits. Picking some traits from each parent ensures that the child will be genetically different from both its parents while still being genetically similar to both of them.

All this information, all the swapped parents' traits that become the child, is the information that is carried in the DNA. Eye color, skin color, shape of the fingernails, texture of the hair, height, metabolism, inheritable diseases and hundreds of other traits are all contained in the DNA from the moment of the organism's conception (Gribbin 31). The DNA then commands the organism's development and functioning until death. It follows that if each person on the Earth is different outwardly in physical appearance, each has to be different inwardly in genetic make up, since the latter dictates the former. Each of these differences will not only alter the physical characteristics of the organism, but also the physical characteristics of the DNA molecule itself – the famous double helix.

Necia Cooper, along with many others, describe the double helix as a "twisted ladder" (Cooper par 60). The two, long, rod-like pieces on either side of the ladder are composed of phosphorus (P) and sugar (S) (Portugal 264). To these attach one of four base units called bases that make up the rungs. The four bases are guanine (G), cytosine (C), adenine (A), and thymine (T) (Campbell 296; Frankel 43; Friedman par 9). These four base units are grouped, two and two, into base pairs: G with C, and A with T. Only together as a pair can they complete a rung on the ladder. These differences in combinations of bases along the double helix molecule are the manifestations of different traits inherited from the parents, and they are what cause differences in the physical makeup of the child.

It is these differences, the differences in sequences of bases along the length of DNA molecule that are important to DNA fingerprinting. The process of fingerprinting is called Restriction Fragment Length Polymorphism (RFLP) (Zollinger 83). The first step is to collect a sample of DNA. DNA can be found in any cell in the body that has a nucleus, and therefore can be collected from hair follicles, blood, semen, skin cells and even tooth pulp, all of which could possibly be found at a crime scene or collected from suspects or victims (Martin par 4; Moody 5).

The DNA is then fragmented using restriction enzymes. Different enzymes, when introduced to the DNA, will recognize different sequences in the base pairs, referred to as restriction sites, and

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[1] Western continental European Mythology, circa 1500 - 1700. Myth of the werewolf, a man who changed into a wolf by the light of the full moon. A silver bullet through its heart was the sole way to destroy it (Werewolf Legends from Germany).

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break or "snip" the DNA in those places (Yeatts 114). The number of times that specific sequence appears on the molecule, if at all, varies from person to person (Campbell 383). The number of times that specific sequence appears on the molecule will also affect the number of fragments the molecule is broken into. The number of fragments at the end of the process is also very important to fingerprinting.

Once fragmented, the DNA is dyed, then run through the next step in the process called electrophoresis. In electrophoresis, the dyed DNA is placed in small wells at one end of a block of gel substance called agarose. Once the DNA is in the wells, an electric current is passed through the gel. Since DNA carries a negative charge, it begins to migrate through the gel toward the positive charge (Campbell 384; Frank-Kamenetskii 60). The current is run for a standard length of time, then switched off. When the current is discontinued, the DNA stops moving and comes to rest at a definite spot along the length of the agarose gel.

Keep in mind the DNA was fragmented, and the number of fragments will vary from person to person due to the number of restriction sites present on their DNA. Different fragments will also be different lengths. Longer lengths will take longer to move through the gel, while shorter fragments will move more swiftly. This results in the DNA fragments being at different distances from their starting point when the electric current is turned off. At its stopping point, the DNA appears as a dark band. The number of bands corresponds with the number of fragments, and the position of the band corresponds to the fragment's size (Bown par 6).

This final series of bands in the gel is what forensics refers to as the 'DNA print'. This print will supposedly be different in all people. Now, return to the library. Each library has a complete book that is unique to itself, just as each person has DNA, and thus a DNA print, that is unique to that person. If the book is read, it will lead you back to the library it came from. In the same manner, if the print is read, it will lead you back to the organism it came from.

But imagine pulling a book off the shelf and finding it written entirely in Chinese. Assuming you do not speak Chinese, you could not read the book for what it is. You could merely look at it as a series of pictures. The DNA print follows the same principle. The final print does not read the DNA for what it is. It does not say "blue eyes, blond hair, Caucasian, female, twenty years old..." It is merely the dark bands in the agarose gel, not a composite sketch or recreation of an organism's physical appearance. A person looking at it is not reading the DNA for what it is. That person is looking at it exactly as an English speaker would look at a Chinese book, as pictures.

Therefore, the print itself is useless. It does not actually tell a forensic scientist anything. It is only when another sample is available for comparison that it has worth in forensics. Only when another 'book', one from a known library, is available to set next to the evidence book for comparison can anything be learned. The standard operating procedure is to collect biological evidence at the scene of the crime, then infer suspects from standard investigation and take samples from them as well. Once both samples are available, the tests are run on each (Friedman par 11; Nickell 204). The final RFLP prints can then be compared, just as two Chinese books could be compared, and determined to be the same or different by looking at them as pictures. If the prints are the same, it follows that the DNA found at the crime scene and that taken from the suspect have the same origin (Bown par 4).

The benefits of this process are many. The most weighty is that RFLP can individualize a specimen down to one person in billions (loLardo 1; Nickell 203). It is extremely accurate. It is much more precise than the blood tests of old, such as the ABO or gaiacum tests. Such tests identified the group, blood type A, blood type B, etc, that the blood belonged to. This was only useful to prove conclusively that blood did not originate from a person, but not conclusively that it did, because many people share the same blood type (Nickell 197). In his article "The Great Detective", Mark Hansen points out that "as many as 118 million people in this country could be linked to a crime by their blood type" (par 5). Conversely, very few people, outside identical twins,

have extremely similar DNA, so DNA can prove blood's place of origin whereas blood tests alone cannot.

RFLP also requires a very small amount of DNA to perform the test, as few as 50 cells, which is roughly the amount left behind on glass when a human brushes the back of their hand against it (Concar par 15; Friedman par 12; Prentky 189; Smialek par 2). Single hairs, drops of blood or semen, or very few skin cells can now be used to reveal things they never could have in the past. Since DNA testing was introduced to forensics, some other types of physical evidence examinations have been ruled unreliable. In a study conducted by the U.S. Department of Justice, Edward Connors tells of a recent habeas corpus hearing in a murder case in which a U.S. District Court held that expert testimony on microscopic hair comparison was inadmissible under the Daubert standard, which requires "an independent judicial assessment of reliability"; the judge must be convinced that the scientific tool in question is reliable (O'Connor par 1). The court cited studies documenting "a high error rate and found that there are no accepted probability standards for human hair identification" (25). The court ruled that in this case the expert's hair testimony was "imprecise and speculative, and it's probative value was outweighed by its prejudicial effect" (Connors 25). In short, non-DNA physical evidence examinations, such as hair examination under a microscope, could not be fully trusted (Hansen par 37; Nickell 60-4). Now, from the DNA in hair follicles, much more conclusive proof can be gathered.

Yet, as miraculous as this testing sounds, it is not as foolproof as some would like to believe. The most frightening aspect of the testing is that it can, in fact, be wrong.

First, there is the possibility that poor handling during the testing process can yield a bad print. In their book Protein Methods, Daniel Bollag and Stuart Edelstein describe the many variables in the testing process that have to be meticulously controlled in order for a good print to be obtained (143-160). The amount of time the print is exposed to the electric current, the consistency of the agarose gel, the length of the agarose gel, the restriction enzymes used, the number of restriction enzymes used: all these things must be carefully monitored and controlled for the final print to be reliable (Moody par 10, McElfresh par 12).

There is also the possibility that the DNA itself was degraded when collected from the crime scene. Exposure to heat, sunlight, moisture, bacteria or mold will damage DNA, thus making a reliable, comparable print unlikely. Even if the testing process is perfectly executed in every way, damaged DNA can make the final print unreliable (Friedman 17; Neufeld par 40; Smailek par 4).

Along the same lines of degradation is contamination. Contamination occurs when the evidence comes in contact with another individual's cells through actions such as sneezing, coughing, or touching (Smialek par 5). Contaminated DNA can yield a print that is just as unreliable as degraded DNA. Locard's Principle of Exchange states "a cross-transfer of evidence takes place whenever a criminal comes in contact with a victim, an object, or a crime scene" (Nickell 10). The same principle applies in any contact situation. Judith Martin, in an article in Law and Order magazine, quotes one interviewee as saying "You almost can't do anything without leaving some DNA around" (3). If the DNA is contaminated, the final print will be unreliable.

And lastly, and most frightening, a print can be wrong by being right. Even if the process is done perfectly, even if the DNA is in ideal condition when collected, even if the print is accurate, there is still the potential that the DNA can match with a person different from its person of origin.

Again return to the library. You have an unknown book (evidence DNA) and a book that you know came from the library you're standing in (DNA from a suspect). You've opened both books and laid them side by side for comparison (run electrophoresis tests and obtained DNA prints) and have found them both written in Chinese. The books have 3 billion pages (3 billion base pairs) each (Cooper 64; Ridley 6). Looking through and comparing each separate one would take a considerable amount of time.

Now let's also say that it has been proven that all Chinese books (human DNA sequences) have largely the same plot; therefore the majority of the pages are going to be identical. And it has

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also been proven that the few differences that do exist are most likely to exist on 300 specific pages. Yet, 300 is still a lot of pages to compare. So the number is reduced further: down to twelve or even ten.

The genetic makeup of all humans is largely the same; in fact it is 99.7 to 99.9 percent the same (Moody par 17; Yeatts 114). In the book Population Genetics, W. J. Ewens defines population genetics as "the mathematical investigation of the changes in the genetic structure of populations" (xi). This field of science has proven that there are certain parts of the genome that are highly variated throughout the entire population. These parts are called "hypervariable regions", and out of the human genome's 3 billion base pairs, about 300 have been identified as hypervariable. (Ballantyne 143). The logic is that since the majority of the genome is the same, focus should be directed solely on these hypervariable regions, the sites or 'pages' where differences are most likely to occur.

In order to do this, a process called Southern Hybridization, or Southern Blotting, is employed. The process could be looked at as another step in the RFLP process. Neil Campbell, editor of Biology, describes the process in great detail. Once the DNA fragments have been run through the gel, the gel is sandwiched between a sponge and a piece of nitrocellulose paper. The paper absorbs the DNA, transferring the band pattern from the gel onto the paper. The paper is then placed into a solution containing radioactively labeled probes. These probes attach themselves only to the DNA sequences of interest, which are those of specific hypervariable regions. Once the probes have attached to the DNA on the nitrocellulose paper, the paper is rinsed and exposed to a sheet of photographic film. Another band pattern is produced on the photographic film sheet, but it contains fewer bands. This is because not every band of DNA produced in the electrophoresis process was marked with a radioactive probe during the Southern Blotting process. Only those marked with probes will show in the band pattern on the photographic film sheet (385).

Southern Blotting further reduces the amount of bands (or pages) that are compared at the end of the process. This extra step makes for an easier comparison, but it also reduces the actual amount of DNA compared. The potentially 300 hypervariable regions have now been reduced to as few as six, which was the number used by English laboratories until the case of Raymond Easton, who will be discussed shortly, when the number was raised to ten. (Concar 21). The three billion page novels are now reduced to brief magazine articles.

Furthering the argument, those sites that are the most likely to be variated are not guaranteed to be variated. There is still the very real possibility that two people will have the 'same' DNA when only ten hypervariable sites are examined. This would result in two different people yielding the same DNA fingerprint. Such a scenario, when a test that is thought to be conclusive is not, causing the results to be questionable, is referred to as a false positive.

The consequences of a false positive in DNA testing are increased when one brings in the factor of the much-debated DNA databanks because the uniqueness of each DNA fingerprint results in part from the small number of samples it is compared to. A DNA databank is an information storage system that keeps the DNA profiles derived from DNA fingerprints, along with information about the person they were taken from, in a searchable database. While such a database could be used by law enforcement to find matches to evidence DNA when no suspect is available to take a sample from, investigators would also inherently compare the evidence sample to a larger pool, thus making a match among unrelated people, a false positive, more likely (Hartl 131).

The United States has had such a database in Los Angeles, California since 1986. It is called the Combined DNA Index System (CODIS). At present, it houses 1.2 million samples taken from criminals convicted of violent crimes (Friedman par 12: Kluger par 30; Prentky 185). These numbers will increase dramatically in the coming years due to state legislatures expanding the list of crimes for which felons are subject to DNA sampling ("DNA Backlog Soars..." par 3). England has a database, established in Birmingham in 1995, which houses not only felon DNA, but that of anyone who comes in contact with police, including people cleared of crimes they were accused of: the

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innocent public (Concar 10). England's database will house 3.5 million samples (the equivalent of 1 in every 15 British citizens) by 2004, and up to 3,000 new samples arrive daily. Canada has had the National DNA Databank of Canada since 1989, which currently houses 22,850 samples and has the potential to bring in 30,000 new samples in the coming year (Montague par 23).

With the knowledge that these Databanks are becoming so full, shouldn't the government be concerned that they are increasing the chances of false positives? The truth of the matter is that a false positive has already occurred.

The first false positive was taken from England's DNA database. In 1995, a man named Raymond Easton gave a DNA sample after a minor domestic incident. Three years later his DNA was found to match that of a drop of blood left at the scene of a burglary. The DNA fingerprint derived from this blood was run through the database for any possible matches, and Easton's came up. But by the time the police followed up on the match, they found Easton was suffering from Parkinson's Disease, and couldn't even dress himself let alone commit the crime (Concar par 12).

The unthinkable had happened. The DNA tests had been run perfectly, but the genetic dice had rolled on top of each other during one generation in England, and the testing had made a mistake. Could it ever be trusted again? What does a government do in the face of such a massive error?

The government of England handled the situation very well. Until that time, it was standard to use six restriction sites in testing, so six were used in this specific incident. There was a 1 in 17 million chance of a false positive matching at those six sites. Unfortunately, Easton was that person. Needless to say, this incident was rattling. In response, the English government raised the number of restriction sites tested to ten. This decreased the chances of a false positive to 1 in a billion and cleared Easton (Concar par 13). England adopted the ten restriction site standard for all its tests thereafter.

But, as Robert Forrest, a forensic toxicologist at the University of Sheffield says, "The possibility of a rogue hasn't vanished altogether" (Concar par 13). What steps have the governments of the world taken to prevent such mistakes from happening again?

In America's case, it has gone right to the source of false positives: the genetic material of its population. CODIS is actually divided into three sections. The first has 1.2 million samples of criminals convicted of violent crimes. The second is DNA samples from unsolved cases in which no suspect could be identified. The third is population file. This is where DNA profiles from anonymous donors are kept to derive statistics on allele frequency in the United States population. Because of this third category, the government knows how often different alleles occur in the population and can compensate. There has not been a false positive in America since CODIS was established (Prentky 60).

And what of the other problems in testing, contamination or degradation? The answer to this is that testing techniques are becoming more and more sensitive as the understanding of the human genome is expanded (Concar 17). Degradation will soon become obsolete as more advanced techniques for testing become available. Contamination is already at present highly guarded against. As Elizabeth Devine puts it, "If [a] piece of DNA is the key evidence, the [opposition] is not going to try to discredit the DNA, because that's not possible. They're going to try to discredit the officers, the crime scene investigators, everybody who was in there. It behooves all agencies to get onboard with good crime scene processing" (Montague par 18). No one benefits from contaminated DNA except the possible contaminator's opponents. This in itself will help to safeguard against contamination.

Indeed, some would even argue that it is not the testing that cannot be trusted; it's the American criminal justice system. In Convicted by Juries, Exonerated by Science the U.S Department of Justice describes 28 cases where conventional means of forensic deduction failed, and the convicts were later exonerated after their cases were retried with the aid of DNA fingerprinting. Since 1989, there have been 117 exonerations based on DNA testing; 82 of them have happened since January of 2001 (Hansen par 29). In these cases, traditional means of forensics failed. It was the DNA testing that finally brought justice to the wrongly accused.

Justice is also being brought to another group, those who initially escaped traditional investigation. CODIS has become invaluable in the "cold case", a term used to refer to a case in which investigation had been halted due to insufficient evidence or lack of leads. Law & Order magazine tells the story of Diane Gregory, a woman who was murdered in 1980. Her case had gone cold. At the request of the victim's sister, police applied DNA typing techniques to evidence that had been stored for two decades. The resulting DNA profile was matched to Walter Gill, an inmate serving time in a New York prison for robbery. Gill confessed to the murder when confronted with the overwhelming certainty of the evidence against him (Montague par 1). He was arrested 20 years after the fact because his sample was linked to the murder of Diane Gregory in CODIS. This is not the only cold case CODIS has aided in. Since 1998 alone, CODIS has aided in 578 cold cases (Prentky 58). The use of such a database and technology has infinite value to law enforcement and the family of victims such as Diane Gregory.

Further, DNA testing has not gone unwatched. The old standard of submitting physical evidence in court, referred to as the Frye Standard, states that a forensic technique must have "gained acceptance to the particular field to which it belongs" (Connors 16). Granted this standard has since been replaced, but it still stands that when DNA testing was coming into its own, it was judged under these criteria. It has been scrutinized and published by many fields of science, most important being biologists and population geneticists.

Beyond that, the government does not monopolize this testing. When it does, situations such as that of Joyce Gilchrist, a forensic chemist in the state of Oklahoma, can occur. Joyce Gilchrist gave expert testimony in more than 3,000 cases, 23 of which ended in a death sentence. It has been theorized that Gilchrist's government bias, her wanting to "catch the bad guy", contributed to shoddy work that that "went beyond the acceptable limits of forensic science" ("News…Oklahoma Scandal" par 5). Jim Bednar, a former state and federal prosecutor and state judge who now heads the Oklahoma Indigent Defense System describes Gilchrist as "an advocate and not a scientist" ("News…Oklahoma Scandal" par 23). Her bias may have sent innocent people to lethal injection. In DNA testing's case, there is a significant private sector that operates independently of the government. Lifecodes Corporation in Valhalla, New York and Cellmark Diagnostics of Germantown, Maryland are the two leading commercial forensic laboratories in the United States (Neufeld par 6, 25). When a private competitive sector exists, the government has a sort of watchdog. These testing facilities provide an alternative place to test biological evidence. This is a facet that is arguably less biased than the government. The government does not have the last and final say.

Also, beyond just alternative testing facilities, there are 'moral' watchdogs as well. Many of the exonerations are attributed to the Innocence Project, a private charity which provides legal assistance to prisoners for whom the technology of DNA testing may now provide proof that they did not commit the crimes they've been found guilty of (Maynard par 1). If there was fear that the government might try to cover up its mistakes rather than be discredited, there are organizations such as the Innocence Project who are helping to set those mistakes right.

The question raised at the onset of this paper was whether or not DNA forensic fingerprinting was a reliable technology, outside the many legal and ethical arguments surrounding it. The nature of the testing holds that it cannot be separated from philosophy and legality, but these were not the goal of this discussion. The goal was to show that, in short, DNA testing is in fact a trustworthy 'silver bullet'. If the human factor is introduced, yes, it could be misfired. Such could be the argument for any technology.

So place yourself in the library with a loaded gun, a gun loaded with this silver bullet. It is pointing down the corridor at someone's heart. Can trust your weapon? Yes. The weightier question is can you trust your own aim.

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"DNA test could beat suspects by a hair." Chemistry and Industry. 19 November 2001: p716(1). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Tells of advancements in DNA reading – determining physical characteristics from DNA as opposed to simple analyzing restriction fragment lengths.

"Fighting crime with DNA." Macleans's. 17 July 2000: p23. Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Announces the initiation of a national DNA databank that would hold samples from people convicted of violent crimes.

"Misprint." The New Republic. 3 April 1989: p14(2). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Brings

the accuracy of the three major private DNA testing facilities into question, and along with them the accuracy of the testing itself. Includes statistics of tests done and experiments run, which along with the interpretation provided by the author(s) are very helpful in understanding the arguments presented.

"Protecting genetic privacy." Trial. 1 Aug 1994: p43(3). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Expresses the feelings of George J. Annas of Boston University School of Public Health's Health Law Department, which are that genetics raise important privacy issues. He explores the possible implications of the technology. The Human Genome project and DNA use in law enforcement is also discussed.

Ainsworth, Claire. "Follow that Cow." New Scientist. 7 July 2001: p19. Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Describes control chemical reactions in DNA strands developed by a team of chemists at the U.S. Department of Energy's Argonne National Laboratory. Also describes new Gene therapy procedures.

Amar, Akhil Reed. "A safe Intrusion (DNA fingerprinting and criminal evidence)." New Jersey Law Journal. 2 July 2001: p20. Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Explores what lawyers must do as scientists are unlocking the intricacies of genetic code. Current legal doctrines were not crafted to deal with the technology becoming available to us at present. Helpful for generating a view of DNA from a legal standpoint.

Ashliman, D. L. "Werewolf Legends from Germany." June 6, 2002. http://www.pitt.edu/~dash/werewolf.html . Compiled werewolf legends from Germany. Completely unrelated to the topic of DNA but the author of this paper benefited from reading it to strengthen the 'silver bullet' analogy.

Badger, Joseph E. "Eyewitness Testimony vs. Physical Evidence." Law & Order. March 2001: p16-18. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . Speaks of the reliability of physical evidence versus human evidence, such as eyewitness testimony. Points out that eyewitness testimony was the main evidence used to convict many of those exonerated in the past 10 years, and that DNA testing was the main evidence to free them.

Baker, Thomas E. "Hunting serial killers." Law & Order. May 2001: p43-48. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . Speaks of serial killings that are documented throughout history. Describes the different means of abducting serial killers, including crime analysis, mapping software, and DNA evidence.

Brownlee, Shannon. "Science takes a stand. (DNA fingerprinting evidence in O.J. Simpson murder case.)" U.S. News & World Report. 11 July 1994: Page 29(3). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . DNA fingerprinting was debated extensively in the Simpson case. Article describes the debate therein

while simultaneously describing the process of fingerprinting, as well as a nice history of DNA fingerprinting.

Burke, Tod. W. and Jason M. Rexrode. "DNA warrants." Law & Order. July 2000: p121-124. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . The author explores in detail the John Doe warrant; a warrant issued for an unknown person based on DNA evidence. The controversy born from the fourth amendment is discussed, and DNA as a technology is explained. A good article for a reader interested in the growing controversy surrounding DNA testing.

Cahill, Stephanie Francis. "Attorney for the damned." ABA Journal. March 2002: p54-58. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . Tells of Attorney Kathleed T. Zellner. Not much applicable in the article to DNA testing itself, but there is mention of her winning reversals on seven DNA based murder convictions.

Castro, Janice. "Catching serial killers in the spotlight." Time. 14 Oct 1991: p17(1). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Discussion of CODIS (Combined DNA Index System) currently being debated in America. Explores T's usefulness to forensics and the pros and cons thereof.

Castro, Janice. "Catching serial killers in the spotlight." Time. 14 Oct 1991: p17(1). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Discussion of CODIS (Combined DNA Index System) currently being debated in America. Explores its usefulness to forensics and the pros and cons thereof.

Chivers, C. J. "In first case from DNA bank, Police link inmate to rape." New York Times. 13 Jan 2000: p2. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . Explores Use of DNA Databases in Forensic science. Follows case of Johathan Williams, who's case was the first 'cold case' to be reopened because of DNA testing.

Church, Dr. George M. "Understanding the Genome." New York: Warner Books Inc., 2002. An excellent book on the human genome project and the knowledge gained from it. The book is obviously written with the layman in mind. It presents the information in a very clear and accessible way. An excellent foundational reading for those interested in looking at the genome project.

Clayton, Susan and Elizabeth Klug. "San Antonio worships address critical issues." Corrections Today. October 2000: p34-36. Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Notes on the 2000 American Correctional Association convention. Briefly gives some history and summarizes the information on CODIS.

Cooper, Mary H. "Human Genome Research: Does it Open the Door to Genetic Discrimination?." The CQ Researcher. May 12, 2000: Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Written before the genome was fully deciphered. Describes the genome and the anticipated ability of doctors

to diagnose and even treat disease through the genome. Closes with touching on the ethical and legal concerns surrounding the impending deciphering.

Evett, Ian W. and Bruce S. Weir. Interpreting DNA Evidence: statistical Genetics for Forensic Scientists. Sundersland: Sinauer Associates, Inc., 1998. An excellent work. Perfect for the topic discussed in the preceding paper. Lays out all relevant topics that pertain to the interpretation of DNA evidence. Includes basic probability theory, the argument of transferred evidence, basic statistics, population genetics, statistical genetics, calculating match probabilities and closes with a discussion of presenting the evidence. Well written, though not for the layman.

Fox, Barry. "With the DNA, I thee wed." New Scientist. 5 Oct 2002: p16(1). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Speaks of placing bride and groom's DNA within their respective wedding bands. Shows the extreme uses of DNA. A nice contrast to the monotony of other articles.

Gillespi, John H. Population Genetics: a concise guide. Baltimore: The Johns Hopkins University Press, 1998. The author discusses many of the core topics of population genetics, including Hardy-Weinberg Law, genetic drift, natural selection and quantitative genetics. A helpful appendix of "mathematical necessities" is also included. A good work for a quick overview of the subject if a fair knowledge basis is already held.

Harry, Jennifer L. "California plays DNA catch-up." Corrections Today. April 2002: Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . Tells of California's backlog of DNA samples and rape kits that have not been tested. California has the largest prison system, yet is still behind states such as Virginia in their DNA testing. Adds one more bit of factoid to the readers pool of knowledge on the subject.

Harry, Jennifer L. "DNA Evidence Changes Identification Methods." Corrections Today. October 2001: p12. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . Speaks of New Jersey's proposed new methods of eye witness suspect identification. Goes on to mention that the number of incorrect identifications were proven to be so by DNA testing. Also speaks of Project Truth, a program which inmates can enroll in to have their cases tried with DNA testing at the state's expense.

Huff, Ronald C. "Wrongful Convictions and Public Policy: The American Society of Criminology 2001 Presidential Address. Criminology. February 2002: p1. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . Speaks of the growing public knowledge of wrongful convictions. The author points out that this is due largely to the fact that post-conviction DNA exonerations of individuals who were wrongly convicted and served long prison sentences are highly publicized.

Isenberg, Alice R. "Forensic mitochondrial DNA analysis: A different crime-solving tool." FBI Law Enforcement Bulletin. August 2002: p16-22. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . An overview of Mitochondrial DNA testing and how it differs from nuclear DNA testing. Explains the process and the application to forensics, especially in solving old or cold cases.

Jost, Kenneth. "DNA Databases: Does Expanding Them Threaten Civil Liberties?" The CQ

Researcher. May 28, 1999: <u>Info Trac Web: Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Discusses the controversies surrounding the DNA databanks.

King, William D. "A Dictionary of Genetics." Oxford University Press: New York, 1997. Self explanatory – an excellent quick reference for forgotten terms and lapses in memory. a fast to the point explanation of terms when needed.

Kluger, Jeffrey. "How Science Solves Crimes; from ballistics to DNA, forensic scientists are revolutionizing police work – on TV and in reality. And just in time." <u>Time</u>. 21 Oct 2002: p36+. <u>Info Trac Web: Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Speaks of forensic science in general – both in actuality and on TV. Compares the hype to the reality. Good for perspective.

Krawczak, M. and J. Schmidtke. DNA Fingerprinting. Oxford: BIOS Scientific Publishers Limited, 1994. Covers all aspects of DNA fingerprinting. Touches on the history, the process, and the implications of the technique.

Lampton, Christopher. DNA Fingerprinting. New York: Franklin Watts, 1991. An excellent book for the layman. Written in an almost juvenile style, the author presents the process of DNA fingerprinting, its history, as well as explores the implications of the technology. An excellent introduction to the topic.

Lederberg, Joshua. "Science and technology: biology and biotechnology. (Technology and the Rest of Culture)." <u>Social Research</u>. Fall 1997: p1157(5). <u>Info Trac Web: Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Discusses the interaction of biology and technology. Tells how the discovery of DNA prompted the creation of technological uses for the new knowledge, which includes its use in forensics, but in medicine as well.

Lee, Henry C. and Howard A. Harris. " Physical Evidence in Forensic Science." Tucson: Lawyers & Judges Publishing Co., Inc., 2000. An excellent, in-depth, complete overview of the actual mechanics of forensic science. The book examines, in great detail, the analysis of evidence left behind at a crime scene. It includes biological evidence, chemical evidence, pattern and impression analysis, as well as other miscellaneous types of analysis. Wonderfully written and can be appreciated by the novice or the expert.

Leslie, Roger. "DNA fingerprinting." <u>Booklist</u>. July 2001: p1994. <u>Info Trac Web: Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Gives history of Fingerprinting, specifically mentioning Alec Jeffery and Nobel Prize winner Kary Mullins. Excellent for history on the topic and over view of technical aspects.

Lewontin, Richard. "That Ain't Necessarily So: The dream of the human genome and other illusions." New York: NYREV Inc., 2001. A book of essays exploring all the myths of surrounding the decoding of the human genome, one of which is entitled "The dream of the Human Genome." This essay explores what the world was expecting and hoping for when the genome was decoded, and also states DNA testing has the potential to become reality.

Loftus, Patricia. "DNA typing corrections." <u>Corrections Today</u>. July 1999: p68(4). <u>Info Trac Web:</u> <u>Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . A positive "advocate" article concerning CODIS, combined DNA index system. Lists it's uses and its potential use in forensic science to catch criminals.

Lundrigan, Nicole. "DNA evidence." <u>Law & Order</u>. May 2001: p36. <u>Proquest.</u> Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 <u>Proquest</u> . Review of a learning program available from the National Institute of Justice. The program consists of a basic overview of DNA and DNA evidence collection, then gives the user an opportunity to 'solve' simulated crimes.

Mahoney, Diana Phillips. "Desktop DNA." <u>Computer Graphics World</u>. Feb 1991: p22(2). <u>Info</u> <u>Trac Web: Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Describes a "Gene Construction Kit", which is a software package for designing and analyzing DNA models on the Apple Macintosh computer. Makes no mention of what exactly it would be used for, but is a good illustration of how much of a reality DNA has become in our world.

Minahan, Tim. "FBI puts DNA system on line to catch violent Criminals (Combined DNA Index System)." <u>Government Computer News</u>. 6 Feb 1995: p56(1). <u>Info Trac Web: Expanded Academic</u> <u>ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . An in depth look at CODIS, combined DNA index system, from it's initial birth as an idea in 1991 to its implementation in 1994.

Ostergard, Maren. "Fingerprinting: The Ultimate Identity." <u>School Library Journal</u>. Sept 2001: p242. <u>Info Trac Web: Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Explains the history of the process and technology that makes it possible. Discusses how it's being used in forensics, as well as other fields.

Parks, Bernard C. and David T Peterson. "Managing the accelerated growth of biological evidence storage." <u>Journal of California Law Enforcement</u>. 2002: p8-11. <u>Proquest.</u> Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . The authors discuss the need for storage of biological evidence and how it is handled in Los Angeles, California. The advent of DNA testing has caused significant changes in police and crime lab work, and the facilities needed to store the extra material are explored.

Portugal, Franklin H. and Jack S. Cohen. "A century of DNA." MIT Press: Cambridge, 1977. An excellent history of DNA, the discoveries linked to it and the mechanics up to the book's year of publication.

Povine, Willam B. The Origins of Theoretical Population Genetics. Chicago: The University of Chicago Press, 1971. Gives the history behind theoretical population genetics (sometimes called "classical genetics"). Discusses the conflict between Mendilian genetics and biometry, as well as the controversy of Darwinian selection. The author concludes with a description of how modern population genetics is a synthesis of all three of these.

Pringle, David. "Who's the DNA finger pointing at?" <u>New Scientist</u>. 29 January 1994: p51(2). <u>Info</u> <u>Trac Web: Expanded Academic ASAP</u>. Montgomery College, 6 Nov, 2002.

http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Focuses on the probability statistics involved in DNA testing. Points out that DNA testing is not 100 percent foolproof – that it can be wrong – and that this should be recognized.

Roberts, Leslie. "Science in court: a culture clash." Science. 7 August 1992: p732(5). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Arguments over the validity of DNA evidence in court are discussed. Outlines the issues discussed by prosecutor Rockne Harmon and population geneticists Laurence Mueller. Informative and gives both sides of the issue.

Robertson, J. et al, Eds. DNA in Forensic Science: Theory, Techniques and Applications. New York: Elis Horwood, 1990. Discusses mainly the mechanics of DNA fingerprinting and the process required to make a print. It also touches on the limitations of the technique. Ideal for broadening one's perspective on the topic. An excellent peace from a cautionary standpoint.

Roux, Claude, et al. "A further study to investigate the effect of fingerprinting enhancement techniques on the DNA analysis of bloodstains." Journal of Forensic Identification. July / August 1999: p357-376. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . An investigation of bloodstains of varying ages. Compares various fingerprint enhancement techniques. A good article for mechanics.

Sachs, Jessica Snyder. Time of Death: the True Story of the Search for Death's Stopwatch. London: William Heinemann, 2001. Presents a history of forensic autopsy in establishing a homicide victim's time of death. An excellent work in and of itself, but not much related to the topic of DNA fingerprinting. There is brief mention of it's use in fingerprinting certain insects to establish their specie, then establishing time of death based on their lifespan and gestation periods.

Schaeff, Cathy. "DNA fingerprinting." Quarterly Review of Biology. p74. Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . A well-thought-out review of the methodologies and applications of DNA fingerprinting. The analytical tools currently being used to individualize the DNA is explained. History of techniques existing prior to current technology is given.

Taborda, Jose G. V. and Julia Arboleda-Florez. "Forensic Medicine in the next century: Some ethical challenges." International Journal of Offender Therapy and Comparative Criminology. June 1999: p188-201. Proquest. Accessed January 15, 2003. Examines the implications of new technologies in medical forensics. Briefly touches on DNA fingerprinting. Speaks mainly to the issues of the DNA databank and storing DNA samples therein. Explores all the negative and positive implications of the banks.

The New Detectives: Case Studies in Forensic Science. Dir. Tom Naughton. Discovery. New York. 14 November, 2002. A series comprised of forensic cases studies. This particular episode featured the story of Kirk Bloodsworthy, who was convicted for rape and murder before DNA testing was available, then later acquitted when DNA testing proved he was innocent. The series presents the DNA test in a simple way, giving the concept without all the details. Very useful for sparking interest in someone just entering research.

Thomas, Ronald R. Detective Fiction and the Rise of Forensic Science. Cambridge, England:

Cambridge University Press, 1999. An excellent read as an introduction to forensic science. The author examines different aspects for forensic science as displayed in several fictitious writings (including those of Edgar Allen Poe and Arthur Conan Doyle). The application of the fiction allow the reader to easily grasp the concepts presented.

Thomspon, William C. "DNA evidence in criminal law: new developments. (includes related article on association of trial lawyers of America Criminal Law Section) (Science and law)." Trial. August 1994: p34(9). Info Trac Web: Expanded Academic ASAP. Montgomery College, 6 Nov, 2002. http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Speaks of the reliability of DNA typing becoming controversial since it's introduction into forensics. Article lists concerns and possible ways the typing process could be marred, thus making the end product unreliable.

Tyre, Peg. "Reversing the Verdict." Newsweek. December 16, 2002: p58(2). Info Trac Web: Expanded Academic ASAP. Montgomery College, 15 Jan 2003 http://houdini.mc.cc.md.us:2074/itw/infomark/0/1/1/purl=rc6_EAIM?sw_aep=rock77357 . Speaks of a study by Williams College psychology professor Saul Kassin on false confessions. Makes mention of exonerations based on DNA testing, including the case of the Central Park jogger.

U.S. Department of Justice. Forensic DNA Analysis: Issues. Washington. Belair, Robert R. June 1991. Speaks to the issues surrounding DNA analysis, including the social, legal, ethical, logical and moral. An easy to read, well written non-partisan book touching on the non-technical aspects of the technology.

Wilson, Robin S. et al. "Untangling the helix: Law enforcement and DNA." Corrections Today. June 1999: p20-22. Proquest. Montgomery College, 15 Jan, 2003. http://houdini.mc.cc.md.us:2072/pqdweb?RQT=306&TS=1045951636 Proquest . The author breaks down the process of DNA fingerprinting in law enforcement. The bulk of the article speaks of the use of the Combined DNA Index System (CODIS), the FBI's DNA database. The sample's storage, classification, accessibility, and use are discussed. An excellent article for understanding CODIS better.