

PROCEEDINGS

26th Annual **BEACON** CONFERENCE

MONTGOMERY COLLEGE • JUNE 1, 2018



Beacon 2018 Proceedings

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Beacon 2018 Schedule

Bioscience Education Center (BE)

8:00 to 8:45 a.m.	Registration and Breakfast Buffet	BE 151-152
8:45 to 9:00 a.m.	Welcome Professor Efstathia Siegel, 2018 Conference Director	BE 151-152
9:00 to 10:30 a.m.	Session I Concurrent Panels	
	Allied Health and Nursing	BE 158
	Biology	BE 160
	Environmental Studies	BE 162
	Interdisciplinary Studies: Arts and Humanities	BE 107
	Multicultural Studies	BE 110
	Psychology	BE 114
10:30 to 10:45 a.m.	Break	
10:30 to 2:00 p.m.	Transfer Fair	BE 151-152
10:45 to 12:15 p.m.	Session II Concurrent Panels	
	American Literature	BE 160
	Business and Economics	BE 158
	History	BE 162
	Political Science	BE 107
	Women's and Gender Studies/LGBT	BE 110
	World Literature	BE 114
12:20 to 1:30 p.m.	Lunch Carolyn Terry, Associate Senior Vice President of Academic Affairs	BE 151-152
1:30 to 3:00 p.m.	Session III Concurrent Panels	
	Computer Science	BE 158
	Education	BE 160
	Interdisciplinary Studies: STEM	BE 162
	Philosophy and Religion	BE 107
	Social Justice	BE 110
	Sociology	BE 114
3:00 to 4:00 p.m.	Poster Session and Dessert Buffet	BE 151-152
4:00 to 5:30 p.m.	Awards Ceremony Dr. Sanjay Rai, Senior Vice President of Academic Affairs, Montgomery College Efstathia Siegel, 2018 Conference Director Lucy Laufe, 2018 Conference Co-Director	BE 151-152



Conference Steering Committee

Efstathia Siegel, Conference Director, Professor, English
Lucy Laufe, PhD, Conference Co-Director, College-Wide Honors Director and Chair

Cinder Cooper Barnes, Associate Professor, English
Jennifer Baugh, Creative Project Manager, Office of the Senior Vice President for Academic Affairs
Andrée Betancourt, PhD., Assistant Professor, Communications Studies
Christina Devlin, PhD, Professor, English and Reading
Sara Ducey, Collegewide Chair, Integrative Studies and Director of the Paul Peck Humanities Institute
Zhou Dong, Assistant Professor, Business/Science/Math/Technology
Rebecca Eggenschwiler, Associate Professor, English

The Campus Commons team: our invaluable partner,
Mary Ruthann Shrewsbury, Executive Associate in the Campus Commons
and Ms. Om Rusten with help from student aid Kayla Calvin.





Montgomery College is pleased to be hosting the Beacon Conference for the third time in its 26 year history. We welcome you to our Germantown Campus, following Rockville in 2005 and Takoma Park/Silver Spring in 2009. Planning a Beacon Conference is a collaborative, concentrated effort that includes administrators, faculty, staff and students. We appreciate support of our college President, Dr. DeRionne Pollard, our Vice President of Academic Affairs, Dr. Sanjay Rai, and our Beacon champion, Associate Senior Vice President for Academic Affairs, Carolyn Terry. They approved the necessary funding and release time for our internal Steering Committee to make this conference a reality. And, finally, our thanks to our tireless Internal Steering Committee.

Thank You to:

At Rockville

The faculty who served as tie break readers, Dr. Denise Dewhurst, Dr. Swift Dickison, Dr. Alessandra Sagasti and Dr. Margaret (Bess) Vincent, allowing us to finalize the panels. Professor Bette Petrides staffed the Judge's Room. We appreciate the efforts of our colleagues who volunteered to serve as panel moderators at the conference.

At Rockville, we are also grateful for the help from Provost Kimberly Kelley and Linda Hankey. The amazing John Lauer printed MC student posters and conference programs. Professor Alvin Trask arranged and directed the jazz concert on May 31 to start the conference. Thank you to MCTV for helping us record the conference events on June 1 and to Marcus Rosano and Pete Vidal for capturing the Conference in photos.

At Germantown

Provost Margaret Latimer and her staff, Ms. Tonya Baker and Ms. Nicole Given, welcomed the Conference to the campus. The English Department, Dr. Mary Robinson, Chair, and Elisa Meredino, Administrative Aide, also offered their time and support. Chris Cusic managed technological issues. Anna Perez and Dr. Scot Magnotta assisted with room reservations. The Germantown Facilities Staff and Public Safety and Security made sure the rooms were set up and parking was easy for our guests.

Student Volunteers

Jake Askarinam, Andres Diaz, Ian Sidley, Colin Sidley and Bernardo de Leon entertained us with their music. Maria Silva, Christian Huaman, John Justice Evans, Qunyh Pham, Franck Steeve Mbuntcha Bagni, Mushin Younis, Andrea Barrios, Sara Ouattara, Yury Marcela Osorio Herrera, Awai Achade, Ugomsinachi Okeoma, Julia Francis, Carine Mbajoun, Majeste De Tchone and Epse Tchakouri worked as volunteers during the conference.

Those Who Provided Additional funding

Our transfer fair participants - Columbia University School of General Studies, Goucher College, McDaniel College, Saint Mary's College of Maryland and Smith College. The following faculty, who served as readers, and who donated their honoraria to the conference. Thank you Farhad Ameen (Westchester Community College); Jaqueline Gannon, Holly Morris and Jonathan Sponsler (Lehigh Carbon Community College); Jodi Greene and Gloria Oikelome (Reading Area Community College); Russ Newman (Penn Highlands Community College); Gail Upchurch (Dutchess Community College); and Stephanie Wish (Orange County Community College). The National Collegiate Honors Council sponsored a panel with the 2017 Ron Brandolini Award for Excellence at a Two-Year College awarded to Lucy Laufé.

Finally, a special thank you

To our panel judges for their thoughtful deliberation and participation in the conference.



A Conference for Student Scholars at Two-Year Colleges and Listing of Steering Committee Members

The Beacon Conference is an annual conference that celebrates the achievement of two-year college students. The conference is funded by the coalition of member colleges listed below in collaboration with the sponsors who support this event. The mission of the conference is to showcase the work of students attending two-year colleges in a range of academic disciplines and to promote an exchange of ideas among them. Additional information is available at www.beaconconference.org

2018 Members of the Beacon Coalition of Community Colleges

Bergen Community College
Borough of Manhattan Community College
Dutchess County Community College
Erie Community College
Lehigh Carbon Community College
Mercer Community College
Monroe Community College
Montgomery College
Northampton Community College
Orange County Community College
Passaic Community College
Pennsylvania Highlands Community College
Prince George's Community College
Raritan Valley Community College
Reading Area Community College
Rockland Community College
Ulster County Community College
Westchester Community College

Allied Health/Nursing BE 158

Nancy Elsohagy

Exploring Eating Disorders: Binge Eating

Mentor – Mirosława Sakrajda
Westchester Community College

Jonathan Juca

Lymphedema: How it Affects Breast Cancer Patients

Mentor – Joseph Pirone
Rockland Community College

Petra Zika

The Not So Mysterious Placebo Effect

Mentor – Carole Wolin
Montgomery College

Judge

Professor Rebecca Diaz
Assistant Professor of Nursing
Stevenson University

Moderator

Professor Timothy Fuss
Montgomery College

Readers

Marian Doyle
Northampton Community College

Jacqueline Gannon
Lehigh Carbon Community College

Paria Parto
Prince George's Community College

Biology BE 160

Maryamawit Abate

*Resisting Resistance:
A Global Look at the Issues of Antibiotic Resistance*

Mentor – Dr. Nathan Zook
Montgomery College

Elder-Jerycho Herrera (*did not present*)

*The Inhibitory Effect of Catechin and
Chlorogenic Acid on E. coli*

Mentor – Dr. Kathy Yorkshire
Prince George's Community College

Carlos Vasquez

*The Evolution of the Gut Microbiota and
Microbiome, and Its Role in Human Diseases*

Mentor – Professor Charles Rinehimer
Northampton Community College

Judge

Dr. Christopher Tudge
Associate Professor of Biology
Honors Program Faculty Director
American University

Moderator

Professor Jennifer Capparella
Montgomery College

Readers

Professor Robert Blum
Lehigh Carbon Community College

Professor Mark Condon
Dutchess Community College

Dr. Gloria Oikelome
Reading Area Community College

Session I

9:00-10:30 a.m.

Environmental Studies BE 162

Jason Gregory

The Fate of Wolves–

Why Are We Choosing Economy Over Ecology?

Mentor – Professor Eugenia Amditis
Westchester Community College

Solange Hybel

Animal Agriculture

Mentor – Dr. Katherine Lynch
Rockland Community College

Jenna Santacroce

Environmental Protection: The Meat of the Problem

Mentor – Professor Seamus Gibbons
Bergen Community College

Judge

Dr. Steven MacAvoy
Department Chair, Environmental Science
American University

Moderator

Dr. James Snizek
Instructional Dean
Montgomery College

Readers

Professor John Loughman
Lehigh Carbon Community College

Professor Holly Morris
Lehigh Carbon Community College

Professor Bernadette Nuss
Reading Area Community College

Interdisciplinary Studies: Arts and Humanities BE 107

Kenneth Sandoval

The Forgotten Fifth Sense:

Food and Worldbuilding in Fantasy Literature

Mentor – Professor Miroslawa Sakrajda
Westchester Community College

Daniel Schmidt

*An Examination and Comparison of the
Ideal Society in Thomas More's Utopia with Colonies
of the European Honey Bee (Apis Mellifera)*

Mentor – Professor Jennifer Kaufman
Ulster County Community College

Judge

Barry Bergey
Former Director Folk Traditional Arts
National Endowment for the Arts

Moderator

Professor Joan Naake
Montgomery College

Readers

Professor Diane Bliss
Orange County Community College

Professor Randy Boone
Northampton Community College

Professor Jonathan Sponsler
Lehigh Carbon Community College

Multicultural Studies BE 110

Hana Fischer

Global Mental Health:

*How Culture Shapes the Prevalence and Expression of
Anxiety and Obsessive-Compulsive Disorder*

Mentor – Professor Shweta Sen
Montgomery College

Ashley Beck de Munoz (*did not present*)

Depression in Immigrant Populations

Mentor – Professor John Daniel Glass
Reading Community College

Cassandra Yatron

Anorexia Nervosa in South Korean Women

Mentor – Dr. David Brant
Reading Area Community College

Judge

Dr. Christopher Partridge
Associate University Registrar
Georgetown University

Moderator

Dr. Maria Sprehn
Montgomery College

Readers

Dr. Russell Newman
Penn Highlands Community College

Dr. Precie A. Schroyer
Northampton Community College

Professor Stephanie Wish
Orange County Community College

Psychology BE 114

Camila Abarca

Depression in Low Socioeconomic Families

Mentor – Dr. Anne Maganzini
Bergen Community College

Silvia Maresca

*Attachment Parenting Practices and
Infant Psychological Health*

Mentor – Dr. Anne Maganzini
Bergen Community College

Veronica Oquendo

*Treatment of Multiple Psychological
Disorders with Psychedelics*

Mentor – Professor Lonna Murphy
Passaic County Community College

Judge

Dr. Yulia Chentosova
Associate Professor of Psychology,
Co-Editor-in-Chief, Emotion Review; Specialty Chief Editor,
Frontiers in Psychology: Cultural Psychology
American University

Moderator

Dr. Heather Ganginis Del Pino
Montgomery College

Readers

Professor Ann M. Fresoli
Lehigh Carbon Community College

Professor Stephanie Miller
Lehigh Carbon Community College

Professor Kim Rybacki
Dutchess Community College

Session II

10:45-12:15 p.m.

Business and Economics BE 158

Paula Abila

The Benefits and Detriments of Yellow Corn

Mentor – Professor Mirosława Sakrajda
Westchester Community College

Jeno Jaramillo

Revisiting the Paris Agreement

Post Conference of the Parties 23

Mentor – Professor Christine Farias
Borough of Manhattan Community College

Hannah Shraim

Bitcoin: Booming Business in Unexpected Spaces

Mentor – Dr. Nathan Zook
Montgomery College

Judge

Dr. Christy Weer
Dean, -Franklin P. Perdue School of Business
Salisbury University

Moderator

Professor Susan Blumen
Montgomery College

Readers

Professor Cornelia Denvir
Ulster Community College

Professor Bruce Kemmerer
Lehigh Carbon Community College

Professor Braden Picardi
Lehigh Carbon Community College

American Literature BE 160

Merquiadez Arce

Mary Rowlandson, Harriet Jacobs, and Piety

Mentor – Professor Jonathan Sponsler
Lehigh Carbon Community College

Clorissa Gioscia

The Awakening of Black Women

Mentor – Professsor Richard Rodriguez
Westchester Community College

Precious Lawal

To What Extent Does Kurt Vonnegut

Satirize the Overuse of Technology and

Human Dependency on Technology in Player Piano?

Mentor – Dr. Kathy Yorkshire
Prince George's Community College

Judge

Shelley Puhak
Poet, Author
Former Eichner Professor of Creative Writing

Moderator

Dr. Michael LeBlanc
Montgomery College

Readers

Dr. Maria Makowiecka
Bergen Community College

Professor Celeste Sherry
Rockland Community College

Professor Lou Zmroczek
Reading Community College

History BE 162

Kayleigh Rutkowski

1920s Flappers: The Fresh Faces of Feminism

Mentor – Professor Jodi Greene
Reading Area Community College

Zoey Senzel

*Expulsion of the Jews in Spain: Laying the
Groundwork for Modern Day Anti-Semitism*

Mentor – Dr. Nathan Zook
Montgomery College

Tiffany Smith

The Evolution of Women's Roles and Fashion

Mentor – Dr. Russell Newman
Pennsylvania Highlands Community College

Judge

Dr. Bryn Upton
Professor of History, Director of the Honors Program
McDaniel College

Moderator

Dr. Michelle Moran
Montgomery College

Readers

Professor Sharon Hallager
Dutchess Community College

Professor Samantha Montagna
Orange County Community College

Professor Rebecca Dean
Northampton Community College

Political Science BE 107

Mateus de Medeiros

*South Korean Economic Development and
Shifts in USA Foreign Policy From the
End of the WWII to the End of Hee's Regime*

Mentor – Professor Karl Smith
Montgomery College

Nirav Mehta

*The Revolution of One:
The Architecture of Political Monotheism as
Revealed by Islam, Revolutionary Iran
and Hindu Nationalism in India*

Mentor – Dr. John Riedl
Montgomery College

Kateryna Yakusheva

*The Transition from State Responsibility to
Individual Accountability for War Crimes*

Mentor – Professor Jennifer Haydel
Montgomery College

Judge

Dr. Matthew Mongiello
Assistant Professor Political Science and
International Relations
McDaniel College

Moderator

Dr. Joseph Stumpf
Montgomery College

Readers

Professor Richard Bergeman
Lehigh Carbon Community College

Professor Bruce Frassinelli
Lehigh Carbon Community College

Professor George Keteku
Westchester Community College

Session II

10:45-12:15 p.m.

Women's and Gender Studies/LGBT BE 110

Wendy Mejia Aguilar

A Cultural Problem: Domestic Violence in El Salvador

Mentor – Dr. Esther Schwartz-McKinzie
Montgomery College

Francesca Oliveri

Gender in "Ruby Sparks" and Mythology

Mentor – Professor Jessica Datema
Bergen Community College

Aashna Pradhan

Women in Cinema: Representation or Regression

Mentor – Professor Shweta Sen
Montgomery College

Judge

Dr. Cindy Gissendanner
Director of LGBT Minor Program
Towson University

Moderator

Professor Genevieve Carminati
Montgomery College

Readers

Professor Jodi Greene
Reading Area Community College

Professor Kate O'Callaghan
Orange County Community College

Professor Andrea Laurencell Sheridan
Orange County Community College

World Literature BE 114

Jeremy Mack

To Be and Not To Be:

Hamlet's Panic and the Reason For It

Mentor – Professor Scott Rudd
Monroe Community College

Emma Paradies

Not Just for Children: The Vitality of Fairy Tales

Mentor – Professor Elaine Torda and Professor Diane Bliss
Orange County Community College

Julia Tallon

*Remembered in Sequence: Constructing Personal
Histories of War and Political Turmoil in Graphic Texts*

Mentor – Professor Shweta Sen
Montgomery College

Judge

Dr. Jeana DelRosso
Professor of English, Director of Morrissy Honors Program
Notre Dame of Maryland University

Moderator

Professor Michelle Prendergast
Montgomery College

Readers

Professor Shinelle Espaillat
Dutchess Community College

Professor Amy Oneal-Self
Wor-Wic Community College

Professor Gail Upchurch
Dutchess Community College

Computer Science BE 158

Miesha Brooks

*Mapping Disasters: Predictive Technologies
That Are Reshaping Emergency Management
and Disaster Preparedness*

Mentor – Professor Bette Petrides
Montgomery College

Maximino DiGiacomo-Castillo

Blockchain: A Use Case Analysis

Mentor – Professor Marc Yeung
Passaic County Community College

Charles Varga

Virtual Reality: A New Form of Productivity

Mentor – Professor Shweta Sen
Montgomery College

Judge

Dr. Scott Mathews
United States Naval Research Laboratory

Moderator

Dr. Nawal Benmouna
Montgomery College

Readers

Professor Grigory Grinberg
Montgomery College

Professor Xin Ye
Rockland Community College

Professor Jim Rommens
Lehigh Carbon Community College

Education BE 160

Iris Nolasco

*Por Favor Let Me Shine:
The Importance of Early Childhood
Education for the Hispanic Community*

Mentor – Professor Carol Carielli
Kingsborough Community College

Avery Kendall Toosie-Mahon

Millennials: Less is More

Mentor – Professor Gerald Gleason
Westchester Community College

Alejandra Villagran

An Uncertain Future in Education

Mentor – Professor Efsthia (Effie) Siegel
Montgomery College

Judge

Dr. Angela McCrae
Assistant Professor of Education
Catholic University

Moderator

Professor Barbara (Dede) Marshall
Montgomery College

Readers

Professor Belinda Bartholomew
Northampton Community College

Professor Rachel Golland
Rockland Community College

Professor Steven Matthews
Reading Community College

Session III

1:30-3:00 p.m.

Interdisciplinary Studies/STEM BE 162

Maria Aono

*Application of Traditional Japanese
Diet to Improve American Health*

Mentor – Dr. Liya Li

Rockland Community College

Joanna Meyers

*A Traumatic Technological “Awakening”
for Skyscraper and Firefighter Technology*

Mentor – Professor Saeed Safaie

Rockland Community College

Jason Pappalardo (did not present)

*Neurodiversity: Understanding Hidden
Ingenuity and Its Misinterpretation*

Mentor – Dr. Meghan Nolan

Rockland Community College

Judge

Dr. Craig Laufer

Professor of Biology, Co-Director Honors Program
Hood College

Moderator

Dr. Craig Benson

Montgomery College

Readers

Professor Jennifer Capparella
Montgomery College

Professor Abel Navarro
Borough of Manhattan Community College

Professor Michele Iannuzzi-Sucich
Orange County Community College

Philosophy and Religion BE 107

Diyana Kahawita (did not present)

Prohairesis: An Analysis

Mentor – Dr. Michael Harding

Montgomery College

John Kelley

*A View of Horror Movies
Based on Aristotelian Thought*

Mentors – Professor Miroslawa Sakrajda and

Professor Dwight Goodyear

Westchester Community College

Hilaria E. Valdez Reyes

Virtues of Beauty

Mentor – Professor Deanna Smith

Lehigh Carbon Community College

Judge

Dr. Karen Hoffman

Associate Professor of Philosophy,
Co-Director Honors Program
Hood College

Moderator

Dr. Christina Devlin

Montgomery College

Readers

Dr. C.L. Costello

Reading Area Community College

Professor Charles Taylor
Bergen Community College

Dr. Abigail Wernicki
Reading Area Community College

Sociology BE 110

Janet Angela Escano

*Masquerading for the Truth:
The Ethics of Covert Anthropological Research*

Mentor – Dr. Nathan Zook
Montgomery College

Christina Maggs

Breastfeeding Versus Formula Feeding

Mentor – Professor Dorothy Hoerr
Reading Area Community College

Skylar Wolter

Polyamory

Mentor – Professor Andrew McIntosh
Northampton Community College

Judge

Dr. Marie-Claude Jipquep-Akhtar
Associate Professor of Sociology
Director of the Graduate Program
Howard University

Moderator

Professor J. Sean Fay, Esq.
Montgomery College

Readers

Professor Marc Bonanni
Lehigh Carbon Community College

Professor Lesley Corey
Lehigh Carbon Community College

Professor Jo Stokes
Westchester Community College

Social Justice BE 114

Benjamin Doddy

*Importance of the Navajo Code Talkers of WWII
The Ethics of Covert Anthropological Research*

Mentor – Professor Brian Alnutt
Northampton Community College

Kimberly Stamets

Systemic Racism: How Countries Address Their Past

Mentor – Dr. Nathan Zook
Montgomery College

Emma Trebel

*Scars on the City: Long-Term Consequences
of Divisive Urban Planning*

Mentor – Professor Shweta Sen
Montgomery College

Judge

Rev. Joseph Eldridge
University Chaplain
Senior Adjunct Professorial Lecturer
School of International Service
American University

Moderator

Professor Jennifer Haydel
Montgomery College

Readers

Professor Farhad Ameen
Westchester Community College

Professor Michael Hall
Dutchess Community College

Professor Edward Avery Natale
Mercer County Community College

Poster Session

3:00-4:00 p.m. – BE 151-152

Allied Health / Nursing

Gloria Ponce-Arias

*Advances in Treatment for
Systemic Lupus Erythematosus*

Mentor – Dr. Carole Wolin
Montgomery College

Biology

Natan-El Mensah Sowah

*In Utero Stem Cell Transplantation:
A Novel Approach in the Treatment of
Duchenne's Muscular Dystrophy*

Mentor – Dr. Carole Wolin
Montgomery College

Business and Economics

Doreta Biba

Kratom: Analyzing the Legal and Business Issues

Mentor – Professor Lisa Mayer
Bergen Community College

Computer Science

Helen Pewther

The iPhone X: Too Much Information?

Mentor – Dr. Kahty Yorkshire
Prince George's Community College

Education

Stacey Davies

Put More Efforts into Integrating Schools

Mentor – Professor Kathy Yorkshire
Prince George's Community College

Environmental Studies

Dana Wilson

*Fairly Globalizing the Environmental Movement:
How Environmentalism Can Be Implemented
More Ethically Worldwide*

Mentor – Professor Shweta Sen
Montgomery College

History

Blaze Reifsnyder

*The Influence of the Media and Propaganda
on the American Revolution's Military Operations*

Mentor – Professor Jodi Greene
Reading Area Community College

Interdisciplinary Studies / STEM

Amber DeStefano (did not present)

*The Ethical Issues of CBD and THC Therapy
for Veterans with Post-Traumatic Stress Disorder*

Mentor – Professor Cara McClintock-Walsh
Northampton Community College

Multicultural Studies

Kirsten Pomerantz

Killing the Messenger

Mentor – Professor Seamus Gibbons
Bergen Community College

Poster Session

3:00-4:00 p.m. – BE 151-152

Philosophy and Religion

Alexis LaBar

Socrates' Survival Guide to a Virtuous Soul

Mentor – Professor Mary Mathis
Northampton Community College

Philosophy and Religion

Miko DiGiacomo-Castillo

Foiled Philosophy

Mentor – Professor Marc Yeung
Passaic County Community College

Philosophy and Religion

Julia Guyon

Do Not Eat of This Tree! But

Come, Instead, and Dine With Me

Mentor – Professor Mirosława Sakrajda
Westchester Community College

Political Science

Lauryn Fanguen

*Social Media Movements: The Future of
Political Revolutions, or a Waste of Time?*

Mentor – Dr. Nathan Zook
Montgomery College

Psychology

Angelo Dias Molina

*Intelligence and Happiness:
A Blooming Contemplation*

Mentor – Dr. Nathan Zook
Montgomery College

Social Justice

Sabrina Readinger

Porajmos-Devouring the Roma and

Sinti Stereotype by Stereotype

Mentor – Professor Jodi Greene
Reading Area Community College

Sociology

Camille Hurtado

Looking at the Parallels of America's

Prison System and a System of

Slavery We Thought We Left Behind

Mentor – Professor Maria Flynn
Bergen Community College

Women's and Gender Studies / LGBT

Mia De Jesus-Martin

The Bra: A Socio-Cultural

Artifact Defining a Society

Mentor – Professor Melissa Gouge
Montgomery College

World Literature

Danielle Tadeo

Marginality in J.M. Coetzee's Disgraced

Mentor – Professor Seamus Gibbons
Bergen Community College



Disclaimer:

The paper for the outstanding presenter for each panel is reproduced in the proceedings as it was submitted to the 2018 Beacon Conference.

The Not So Mysterious Placebo Effect

Petra Zika

Montgomery College

The Not So Mysterious Placebo Effect

Abstract

This paper tries to define and contextualize the placebo effect, a relatively recently acknowledged phenomenon, through the lens of the research and controversies surrounding it. It introduces the placebo effect in the background of the placebo-controlled, randomized-clinical trial setting and explores the research that brought its serious study into the scientific field. Then, it describes its various known properties, cues, and mechanisms – particularly expectation-confirmation, classical conditioning, context effect and somatic-attentional feedback – to support a unifying theory, Integrative Framework Theory, proposed by leading placebo researchers. Next, placebo success is established in alleviating the experience of pain via a discussion that distinguishes illness and disease. It is followed by a presentation of the biochemical pathways discovered behind placebo effects and mentions the promising future of genetic research in this field. Finally, this paper closes with a discussion on the ethical implications for placebos in the future of clinical trials and clinical practice.

The placebo effect elicits mystery, incredulity, distrust, and deception even within established scientific circles. Its recent exposure in modern medicine and elusive nature make it an unfamiliar topic to most. Nevertheless, contrary to common knowledge the placebo effect has been prominent in most of history: it has even been suggested as the effect behind the entire history of prescientific medicine (Colagiuri et al., 2015, p. 2). This paper will begin by introducing placebo in randomized-clinical trials (RCT) and outlines the resulting effect by supplying background, evolving research, changing attitudes, as well as mechanisms and theory. It will end with a discussion on the implications of placebo research in clinical trial and practice.

The term “placebo” is most familiar as the inert (usually sugar or lactose) pill used as a control in placebo-controlled, randomized-clinical trials (Colloca et al., 2009, p. 8). This is where it gained its mainstay in the arsenal of modern medicine. In the randomized-clinical trial format, a therapy (known as the independent variable) is tried in contrast with a placebo – which mimics its appearance – in order to test its medical effectiveness. The randomization comes from the fact that trial participants are assigned “at random” to either the active or inactive treatment without their knowledge (but hopefully with their consent). If the trial is double-blind, then the researchers are also clueless to which participants are in the trial or placebo group.

A placebo, regardless of appearance or ingredient, is specifically designed with the intention of having no active physiological or pharmacological effect (Olshansky, 2007, p. 415). It is there to provide the essential illusion of taking treatment to trial participants. For researchers, the aim of a placebo control is twofold: 1) it blinds

participants to which therapy they are taking, thereby working actively against internal bias in individual responses; and 2) serves as a baseline, to filter out “noise” or outlying variables by allowing for comparison of the placebo control group with the trial group.

However, the allocation of placebo to ‘variable status’ while assuring its role in the scientific process, ignores a serious flaw: that contrary to design, placebos elicit an unintended effect. In a sense, the original RCT model makes too simple a work of “eliminating” problem variables by confining them all to one neat compartment for disposal without further examination. Thus, a failure to understand the mechanism that the research model was meant to account for gave widespread implications for research and medical practice, via what became known as the placebo effect.

The confounding factor manifested as participants taking the (fake) pills began to achieve symptomatic relief with inactive ingredients. This seemed to indicate that despite logic, the placebo pills had properties of their own – from which the only acceptable conclusion was that they must have had a medically effective ingredient! Nevertheless, researchers were faced with a dilemma when the same sugar pills had similar levels of success in different drug trials. At first, researchers devised multiple schemes to cancel out the placebo effect through various avenues – from changing the ingredients in pills to trying to investigate and exclude participants whom they thought could be inherently prone to placebo responses (Deutsch, 1997, p. 1435). However, this effort failed to curb the trend.

In researching what triggers the placebo effect, a rudimentary ranking system of a variety of compared therapies has been uncovered. Where the placebo effect was once observed through pill form, studies found that sham therapies such as fake

acupuncture, “radiation” therapy, surgery, and surprisingly, even just care and attention, were enough of a vehicle to improve symptoms via their application. For instance, larger pills produce a greater placebo effect than smaller ones; branded ones are favored (as opposed to unmarked); greater doses are more effective than lower doses; and “more impressive” treatments such as injections, pacemakers, radiotherapy, etc., produce the greatest effect of all (Olshansky, 2007, p. 416). As further evidence to the example illustrated above, Deutsch et al.’s *The Placebo Effect* quotes, “...surgery, has the most potent placebo effect that can be exercised in medicine.” (1997, p. 1436).

Placebo’s associative power became apparent as soon as curious scientists began evaluating its effectiveness in the same manner as any industry tested drug. But first, testing design had to be re-configured so that the placebo baseline would not cancel out the placebo behavior that researchers were curious about. The only way to do that was to disassemble the RCT format and designate the placebo as the independent variable against drugs with an already known effectiveness profile.

What followed was the first comprehensive investigation into the placebo effect, conducted by Beecher in 1955 (Colagiuri et al., 2015, p. 2). In his seminal work, Beecher evaluated 15 separate trials and determined that on average 35% (that is 1/3) of patients achieved a 50% or greater pain relief via a placebo (Deutsch, 1997, p. 1433). His findings were backed by Evans, who achieved similar results and went on to calculate the placebo’s drug efficiency index (about 55-60% for morphine, aspirin, Darvon, codeine, and Zomax) against known analgesics (Deutsch, 1997, p. 1434). The results showed how prevalent the placebo effect was and how standard it appeared over a variety of trials. Though both Beecher and Evans’ work has since been

questioned because it correlated placebo strength and analgesic strength via mean (as opposed to median), the overarching consequence was a newfound interest in the placebo effect, marking it for further research in the scientific community (Deutsch, 1997, p. 1434; Colagiuri et al., 2015, p. 2).

For a time, researchers proposed that stemming from a psychological response, particular personality traits could be teased out that would support a placebo prone “type” (Deutsch, 1997, p. 1435). The hope was that with a breakthrough in pinpointing these traits, individuals with the placebo-prone profiles could be identified and excluded before trials began. However, the only consistent trend among trial participants was their commonly held belief that the treatment would work. Thus, none of this came to fruition and therefore individuals could not be prescreened from testing in this manner.

Working off the belief that psychology was the main sphere in which placebo operated, researchers began by looking for mechanisms there. The first is that the placebo effect works via apparent benefit to the patient; which can be difficult to tease apart from actual benefit (Olshansky, 2007, p. 419). This leads some to argue that the perceived placebo effect is much larger than the actual one (Deutsch, 1997, p. 1434). In concrete numbers, the fluctuation is high: from the possibility of little to no apparent effect, to greater than 80% of a reported treatment impact. “For most situations and conditions, placebo contributes to 30% to 40% to the benefit of an intervention.” (Olshansky, 2007, p. 417).

Further accepted mechanisms involved in the placebo effect include expectation-confirmation, classical conditioning, context effects, and somatic attentional feedback (Colloca, 2015, p. 17, Colagiuri et al., 2017, p. 5). Expectation-confirmation or

expectation-fulfillment is a mechanism by which the patient's heightened expectation of improvement is psychologically rewarded by interpreting the desired response. Under this umbrella is the meaning response, a commonly discussed mechanistic theory in which cause and effect are interpreted into a personal explanation of the illness – which can be on a spectrum of inconvenient to life-threatening but rarely is an accurate assessment of the underlying pathology (Olshansky, 2007, p. 419).

Classical conditioning, commonly taught via the story of Pavlov's dogs, works by a learned cue that then triggers a particular response – for example a pill or a doctor in a lab coat may invoke the idea that relief from symptoms will soon follow. Researchers have replicated this effect by following up an active treatment for pain with placebos and finding that they mimicked the response of the active treatment, extending the life of the medicinal effect on patients (Colloca, 2015, p. 17)! Somatic attentional feedback has also raised some interest, though further exploration is necessary, and highlights the link between body sensations and our awareness or preoccupation with them (Olshansky, 2007, p. 419).

Research has shown that conditioned placebo responses fundamentally change somatic pain activity through biochemical pathways. The identified pathways tied to pain regulation and activated by the placebo effect include the endogenous opioid systems as well as additional nonopioid neurotransmitters, and the dopamine, cannabinoid, and cholecystokinin (CCK) systems (Colagiuri et al., 2015, p. 16). The relationship between these networks was documented via an array of studies using brain imaging (fMRI) technology and antagonist drugs to experiment with the response. In the case of opioids, Naxolone was used as an opioid antagonist to determine whether it would

dampen placebo effects (Colagiuri et al., 2015, p. 15). It did, showing that both share the same pathway. Most recently, the genetic basis of the placebo effect is being investigated, thanks to the decoding of the genome (Colagiuri et al., 2015, p. 17). Once we know more about the biochemical and genetic impacts, it will be easier to know to what limit placebos are useful in practical medicine.

Despite the burgeoning interest and growing knowledge base about placebo, there has been an absence of a proper unifying theory to guide further research. Not until the 21st century was the Integrative Framework Theory proposed by Colloca and colleagues (Colloca and Miller, 2011a, qtd in Colloca, 2015, p. 17). Colloca's theory posits that the placebo effect is a learned response prompted by various conscious and subconscious cues – stemming from verbal, conditioned, and social spheres – that are then integrated into a central nervous system response (Colagiuri et al., 2015, p. 5). This is backed by the knowledge that placebos can take any appearance (for example a pill), inspire in the taker a particular expectation via that appearance (remember red, marked, etc. have greater positive effect), and then fulfill those expectations by selective perception. This change improves the study of the placebo effect because it “synthesizes empirically supported hypotheses” available on the subject and removes the inconvenience of having to evaluate separate mechanistic theories (Colloca, 2015, p. 17; Colagiuri et al., 2015, p. 6).

The most obvious and successful effect of placebo is on the experience of pain and illness. As a symptomatic, at times psychological experience, pain is recognized in the medical community as part of illness rather than disease (Colloca, 2009, p. 5). To provide some background, illness is the personal experience of the disease that in truth

has only limited connection with it. Disease as a somatic pathology, can be treated with medication that affects biology but pain and psychoactive issues sometimes persist as a symptomatic response even after the disease has been cleared. Contrary to intuition, disease can be asymptomatic (without symptoms) and illness can have no identifiable disease underlying it. This dynamic is where placebos can become very useful in the future as an easy aid to the illness component (take for instance fibromyalgia) that is not always addressed when biomedicine treats disease via interventions (Colloca, 2009, p. 5).

The scientific community has had great struggle with the alleviation of pain via opioid painkillers, made even worse by their addictive nature (Resnick, 2017). Thus, the discovery of the placebo effect as an aid may be a welcome addition to existing therapies. As mentioned above regarding the conditioning of a response to placebos, this may be a useful trait to capitalize on. In fact, a survey of clinicians in the United States claimed that 53 from a sample of 89 clinicians give out placebos (inactive drugs) to patients and that some even used it as a “diagnostic tool” (Olshansky, 2007, p. 417). The danger of engaging in this practice is that 1) that the conditioned response may be unbeneficial; or 2) a placebo effect could be induced, improving a patient’s illness without treating the underlying pathology. In that case the actual disease remains unaddressed, possibly until it is too late for any successful intervention (Olshansky, 2007, p. 417). For this reason, placebo effect eliciting treatments have been warned against and viewed with suspicion in the scientific community in the past; however, clear guidelines, and proof of effective and smart use of placebos could change that inhibition (Arnold, 2015).

Following a deeper understanding of placebo properties and mechanisms leads to two areas of impact: placebo use in clinical trials and placebo effects in the patient-practitioner environment. Not too recently, a main part of the debate surrounding placebos in these fields was deception. With interest and agreement that the new knowledge on placebos should be put to positive use in clinical trials and clinical practice, deception seemed to be the one barrier to the ethical use of this phenomenon (Colloca et al., 2009, p. 12). For each of these, it seemed that to harness even the positive effects of placebos, some level of deception was required – something the medical community is against for valid reasons (Blease, 2016). To this extent, some advocates proposed all manner of creatively orchestrated loopholes, which lead to a stringent debate.

In blinded, placebo-controlled trials, the concern was that informing the participants of the possibility of placebo could throw the results of the trial. With this in mind, debriefing was proposed as an option after the fact. However, this practice is frowned upon and cannot be endorsed as common practice. To resolve the issue, it was decided that patients would receive consent forms in which they would be told that either the real medication or a placebo could be administered them, giving them the opportunity to consider and remove themselves from the trial if they so wished (Colloca et al., 2009, p. 15). This arrangement is not thought to compromise placebo activity because as quoted by Blease, “A placebo may still be effective if the patient knows it will be used but cannot identify it and does not know the precise timing of its use.” (2016, p. 409).

A staggering change in the way placebos are viewed arose when researchers established that not just the inactive treatments, but that all medical interventions, even active ones, are aided by placebo responses. That is apparent in the way researchers evaluate and compare the placebo control with the trial today: the effect can be “additive”, improving the receptivity in patients, or “non-additive”, masking or taking away from the full effect of the active treatment (Abdi, 2016, p. 2). This is serious because it affects the success of a drug in trial. For the majority of published cases, the placebo effect is posited to be counted more often when it amplifies the treatment response rather than reduces it. Critics assume this may be the product of publishing bias where only positive responses are given credit and negative or inconclusive ones fall through. The danger then is that some positive accounts are due to the placebo effect (and thus ineffective) while negative or inconclusive trial products may in fact be effective but are put away due to insufficient understanding.

Since recognizing the interplay between active treatments and placebo effects, some previously lauded medical interventions have been reassessed for their effectiveness. An astounding example is coronary bypass surgery, in which improvement has been implicated as largely due to placebo effects. Though personal reports of improvement were high, studies found that the surgery did no more than relieve pain and improve a patient’s belief in self-efficacy (Deutsch, 1997, p. 1436). Ultimately, the underlying heart condition was not effectively treated.

In the patient-practitioner relationship, concerns were raised that the positive effects of placebos could only be harnessed through a historical model of clinical practice that encouraged paternalism in physicians (Colloca et al., 2009, p. 14). This

form of practice was used throughout most of medical history but can lead to lack of transparency and also breaches of power in patient care. Thus, it is discouraged. Nevertheless, some advocated a form of return to this practice by proposing authorized deception (Roesser, 2015, p. 16). In authorized deception, patients ultimately placed their care and decision-making power solely in the hands of the physician, signing away their autonomy and rights to know about treatment options – possibly in the hope of experiencing a positive placebo effect?! For that possibility it is not worth essentially excluding patients from their own healing process. However, deception seems to not be absolutely necessary for placebo effects to take root.

Resolving this debate, it has been found that placebos seem to work even if they were disclosed as such and patients were told directly that they would be receiving them (Colagiuri et al., 2016, p. 4). As a matter of fact, more and more studies have given preliminary information on placebos, or open-label placebos, to patients and found that even with the knowledge that they were “fake”, they received benefit from their use. In one study, 15 neurotic outpatients were given placebos with the knowledge that they were just that and still experienced relief; five (1/3) of them even expressed that they would continue their use (Colagiuri et al., 2016, p. 4). A larger study with similar format also had great effect on IBS (Irritable Bowel Syndrome) (Colagiuri et al., 2016, p. 4). Further investigation on the matter is due.

Another complication to the doctor-patient relationship in clinical practice leads to the effect of nocebo (Colagiuri et al., 2015, p. 5). While placebo was observed in clinical trials, nocebo was observed in clinical practice. Nocebo is the negative effect spectrum of placebo – meaning that the suggestion that negative symptoms could occur spurs

their appearance in the individual. This negative effect can popularly take place when patients receive real (or fake) medication and reading the warning slip attached, begin experiencing the migraines, stomach aches, etc. that are described there (Colagiuri, 2014). This is especially significant because it shows the interaction between the placebo effect and validated, tested, functioning medication. In fact, it supports that the psychological perception of how medication affects us and the biological impact are relatively separate experiences, by placebos overriding the true effects of a medication in our brains. (As was illustrated earlier in the discussion on pain and the difference between illness and disease.)

Finally, the recognition that physicians have a huge influence on the placebo effect has led to emphasizing good practice habits. The scientific community has outlined ways to harness the positive placebo effects and minimize nocebo effects in patients (Meynen, 2015). For physicians, it is recommended: to be caring, empathetic, therapeutic relationship-oriented, and to not rush or dismiss the patients (Colloca et al., 2009, p.11). As expressed by Brian Olshansky, “A compassionate, hands-on approach may be more valuable than any single medical therapy.” (Olshansky, 2007, p. 420)

Since pinning down its mechanisms to support an overarching theory, the problem in placebo effect research has been the lack of a cohesive, standard definition between researchers (Colloca et al., 2009, p.2). What is constant however has been the confounding, highly variable, and quantitatively hard to characterize nature of the placebo effect – due to the many cues that trigger it and conditions that respond (Deutsch, 1997, p. 1434; Olshansky, 2007, p. 416). With that said, as Blease et al. writes, “the placebo effect should not be confused with the natural course of a disease,

response bias or regression to the mean: it refers to genuine psychological effect that result from placebos and/or contextual factors of care.” (Blease, 2016, p. 408). To close I would offer my own cobbled together definition, spawned from the Integrative Framework Theory: Placebo Effect - a beneficial response, arising from expectations and conditioned sensory cues; usually induced by placebo, but also a component of active therapies (Colagiuri et al., 2015, p. 5). At the brink between psychology and biology, the placebo effect will certainly continue to be a fascinating phenomenon to study in the scientific community.

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Resisting Resistance: A Global Look at the Issues of Antibiotic Resistance

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Antibiotics made their mark, in 1929, through Alexander Fleming's invention of penicillin. Since, many more antibiotics have been created, and have, as a result, reshaped and altered the length and quality of life for the better. The value of antibiotics extends to assisting in ensuring the success of surgical procedures. The Breast Cancer Organization explains that surgery and anesthesia weaken the immune system, and as bacteria make their way via a surgical cut, the chances of an infection developing are increased ("How Surgery Affects the Immune System"). Antibiotics aid recovering surgery patients defend against infection, and without antibiotics, the ability to perform surgeries successfully can be compromised. In "Antimicrobial Resistance in India," Isha Patel states, "it is reported that every 1 in 7 catheter and surgery related infections can be caused by antibiotic resistant bacteria including Carbapenem-resistant Enterobacteriaceae" (Patel). A day may come when deciding to perform surgery may pose a dilemma due to the unavailability of antibiotics as an assurance in case an occurrence of an infection. Such a day may be soon, as the effectiveness of antibiotics is currently being challenged by antibiotic resistance. Microorganisms, overtime, are growing resistant to antibiotics by way of mutation and posing a threat to a mechanism humans have created to sustain life. The World Health Organization (WHO) reports, "without urgent action, we are heading for a post-antibiotic era, in which common infections and minor injuries can once again kill" ("Antibiotic Resistance"). Cases in which people died from infections developed by minor injuries were none-to-few due to antibiotics, but as resistance is increasing, such cases are appearing to be more common once again. WHO states that it is becoming more difficult and even impossible to treat

diseases such as pneumonia, tuberculosis, blood poisoning, gonorrhea, and foodborne diseases because of antibiotic resistance ("Antibiotic Resistance").

The issue of antibiotic resistance is not anything new.. In fact, antibiotic resistance cannot be avoided; it can only be delayed. The problem is not that antibiotic resistance exists, as it is inevitable, the problem is that it is occurring at such a dangerously fast pace. The issue of antibiotic resistance is continuing to grow due to various causes including antibiotic overuse, antibiotic misuse, and lack of new antibiotic development. Because bacteria are capable of rapidly reproducing, and transferring genes among one another in a method called horizontal gene transfer ("Use of Antibiotics: From Preceding to Contemporary"), it can be difficult to keep up with and contain the spread of resistance. The causes of antibiotic resistance are aggravated differently across the globe, that it also makes it a complex issue to approach. In "Antibiotic resistance: synthesis of recommendations by expert policy groups," Jerry Avon writes, "While microbes move freely around the world, unhindered by borders, human responses to infectious diseases are conditioned by jurisdictional boundaries" (Avon). No matter how progressive one country may be in constricting antibiotic resistance, another nation's carelessness or lack of effort can produce onto it regressive effects. Therefore, antibiotic resistance is not something that can be fought as a nation alone; a global collaboration is necessary. However, it does not go unrecognized that different economic and political conditions across the globe make combating antibiotic resistance on a worldwide scale difficult. This paper will identify the various challenges that make it impossible to address the issue of antibiotic resistance in a uniform approach by focusing on those challenges found in the

United States, India, and Ethiopia. The chosen countries vary in their economic development and political structure, making them a good comparison ground.

Although the United States is an economically well-off and technologically advanced country, it is not free of health threats such as the one exhibited by antibiotic resistance. In “Battling Superbugs with Big Data,” Sharma presents that “in 2015, such resistance was identified as the cause for about 23,000 deaths annually in the US” (Sharma). Antibiotic overuse in agriculture is one of the main causes of antibiotic resistance in the United States. A publication on Global Research titled, “Definitive Link Confirms Antibiotic-Resistant Bacteria Transmits from Livestock to Humans” notes that “currently, 80 percent of all antibiotics sold in the United States are sold for agricultural use” (“Definitive Link Confirms Antibiotic-Resistant Bacteria Transmits from Livestock to Humans”). Antibiotics are excessively used on farm animals, partially, to prevent infectious diseases, but, prominently, to drive profit. Furthermore, the report, “Antibiotics Used in Farm Animals Causing Hard-To-Treat Infections in Humans” informs that all farm animals in the United States are routinely treated with antibiotics, not because they have an infection, but in order to eliminate the possibility of an infection from occurring (“Antibiotics Used in Farm Animals Causing Hard-To-Treat Infections in Humans”). Although routinely applying antibiotic to livestock may pose as an efficient method of inhibiting the rise of infectious diseases, it may, in the long run, and on the contrary *generate* infectious diseases. Consistent low-dosage antibiotic exposure to animals may allow microorganisms within them to become increasingly resistant to antibiotics as selection for the survival of naturally resistant microorganisms is induced. Om V. Singh, the author of *Food Borne Pathogens and Antibiotic Resistance*, observes a corresponding

development of resistance with the antibiotic fluoroquinolones, which is used on poultry to kill campylobacter (Singh).

While the United States is a heavy user of antibiotics for agricultural purposes, European countries are putting more regulations on how antibiotics are used on farms. According to "Antibiotics Used in Farm Animals Causing Hard-To-Treat Infections in Humans," European countries, at large, are trying to limit the use of antibiotics on infected animals only, rather than routinely applying antibiotics to animals for preventative measures, the way that the United States does ("Antibiotics Used in Farm Animals Causing Hard-To-Treat Infections in Humans"). Such dissimilarity indicates that it is possible for the United States to, similarly, prohibit the use of antibiotics on livestock. Restricting antibiotic use for agricultural purposes in the United States, however, is more complex than it appears to be at a glance. In the United States, antibiotic use plays such an essential role in the economy, that it would be difficult to eradicate simply. It is reported that besides antibiotics' direct purpose of preventing infections, that they also promote animal growth ("Antibiotics Used in Farm Animals Causing Hard-To-Treat Infections in Humans"). Within a short period, the size of baby chicks can disproportionality exceed their age in just a matter of weeks. Animals grow big and fast enough to be slaughtered and put on the market quickly. Thus, profit of the meat and poultry industry is directly reliant on the technology of antibiotics where farmers can maximize their rate and mass of meat production and equally reap the returns. Farmers argue that in the currently rising population rate, increase in the production of food is, in parallel, necessary. The meat industry makes the case that by using antibiotics to boost animal growth it, as a result, fulfills such a necessity of producing at a fast enough rate to keep up with the number of

mouths to feed. Besides, in “Money Makes Bacteria Resistant to Antibiotics,” the author, Chris Alderman notes that if meat is not produced in such a way that is fast and relatively easy, it would be too expensive for the general public to afford (Alderman). The iGrow organization, which is a teaching platform created by the South Dakota State University, estimates that 1,851,000 jobs are created by the livestock industry (SDSU iGrow). Consequently, the government has to consider all stakeholders if it is to make changes to the regulation of antibiotic use. Not to mention, \$15 billion in income taxes and \$6 billion in property tax is reportedly paid by the livestock industry (SDSU iGrow). In effect, the government has to consider how implementing new regulation placed on antibiotic use in agriculture will affect the meat industry and, in turn, the economy.

India faces one of the most severe occurrences of antibiotic resistance globally. Although India’s healthcare system may not be an immediate agent to blame for the cause of antibiotic resistance, the system can undergo modifications to assist in the fight against antibiotic resistance. In “Relevance of Health Economics to the Indian Healthcare System: A perspective,” Sunita Nair writes, “one of the main challenges [of India’s healthcare system] is that health spending in India is mostly out-of-pocket; nearly 70% of hospitals and 40% of hospital beds are private. Health insurance is largely private, and the urban poor cannot afford private care.” (Nair). Nair exposes the disparity that exists between the rich and poor in their ability to seek medical attention. However discriminant the healthcare system may be between rich and poor, communicable diseases cannot make a differentiation alike. As communicable diseases can spread from the poor to the rich and vice versa, neglecting to consider the poor under the healthcare system, could be detrimental to all. A healthcare system that is inclusive of both groups would help to

minimize the occurrence of communicable diseases and antibiotic resistance overall. One of the reasons as to why providing the poor the proper medical care they need will help to reduce antibiotic resistance is because doing so can prevent practices that induce resistance. In “The threat of Antimicrobial Resistance in Developing Countries: Causes and Control Strategies,” the author, James A. Ayukekbong mentions how antibiotics are so poorly regulated in some developing countries that they can be found being sold on the streets. (Ayukekbong). Lack of antibiotic regulation is also a problem found in India. Author of “Antibiotic Resistance in India: Drivers and Opportunities for Action”, Ramanan Laxminarayan, writes, “Over-the-counter, nonprescription sales of carbapenems in India are among the highest in the world and contribute to growing carbapenem resistance among Gram-negative organisms” (Laxminarayan, Chaudhury). Because antibiotics are loosely regulated, patients may skip seeking the help of medical professionals, and instead directly purchase antibiotics without a prescription. Laxminarayan makes the connection that “over-the-counter access to antibiotics is a problem, but regulations to restrict access have to be balanced against the need to maintain access for the significant proportion of the population that lacks access to doctors” (Laxminarayan, Chaudhury). Laxminarayan’s statement suggests that being deprived of proper medical care can encourage antibiotic misuse and the rise of antibiotic resistance. Furthermore, the unreachable state in which medical professions are to the population at large can cause uninformed citizens to remain in the dark about the dangers of antibiotic misuse.

There are also other economic factors that make the fight against antibiotic resistance challenging. In the Australian study, “Assessing the Public Acceptability of proposed Policy Intervention to Reduce the Misuse of Antibiotics in Australia” by Chris

Degeling, 12-15 citizens from various regions were selected to form groups of “community juries.” The goal of forming these community juries was to get their input in the assessment of the methods used to curb antibiotic use. In addition to evaluating methods that have been used to combat antibiotic resistance in the past, the community juries were asked to “identify 3 other measures to promote sustainable antibiotic use” (Degeling). The jury made the following suggestion: “decrease people’s exposure to the iatrogenic acquisition of antibiotic resistant pathogens through the minimization of unnecessary hospital-based human health care, for example by...minimizing inpatient exposure to AMR by increasing the number of single occupancy rooms” (Degeling). Although assigning each patient to his/her own hospital room is a method that could be implemented in Australia, it might not be as feasible for a country like India where population rate is high, and resources are limited. In confirmation, Nair states, “India has approximately 860 beds/million population as compared to WHO's estimate of the world average, which is 3,960 beds/million population” (Nair).

Lack of treatment adherence is a practice that contributes to antibiotic misuse. In the book *Drug Resistance*, author, Sarah Boslaugh, defines treatment adherence as a measure of how well patients stick to the period that doctors have instructed them to take their prescribed antibiotic. Treatment adherence is a big problem in the issue of antibiotic resistance as many patients do not take their antibiotic for the full amount of time they are instructed to by their doctor. Patients often stop taking their medication prior to completing their prescription because they feel better halfway; this causes a similar problem to the one observed in the overuse of antibiotics on farm animals. When someone takes an antibiotic, the antibiotic begins to kill the susceptible bacteria. However, if a person stops

taking his/her antibiotic before the instructed time, then some bacteria are left alive for the immune system alone to handle. The immune system is not always able to fight off the leftover bacteria because they are more naturally resistant which is why they were not the first to be killed by the antibiotic in the first place. Because the immune system has difficulty combating the leftover bacteria, a resurgence of infection may take place. In such a process, lack of treatment adherence promotes the development of resistance (Bosolaugh).

According to Ayukekbong, poverty can affect level of treatment compliance (Ayukekbong), which is the case in Ethiopia. "Factors Contributing to Non-Adherence with Treatment among TB Patients in Sodo Woreda, Gurage Zone, Southern Ethiopia: A Qualitative Study", by Cherinet Boru Gugssa, presents a study conducted on TB patient's level of treatment adherence to TB treatment in Ethiopia, uncovering that patients had difficulty adhering to treatment due to economic barriers. Because TB treatment centers were far from where patients lived, patients had to travel far to receive treatment. Patients said that paying for transportation to get to treatment centers was a cost they could not afford; discouraging patients from properly sticking to their treatment plan. Additionally, in some instances, patients had to stay nearby for the duration of their treatment and had to rent a house in the town of the treatment center, which was also a cost they could not afford. Other patients said that they did not have food to eat which interfered with their ability to take their medicine because the medicine produced worse side effects than when taken without food, preventing patients from taking their medication if they did not have food to eat beforehand. Other patients sought traditional treatments, instead, because traditional treatments were cheaper and more accessible to them (Gugssa).

Moreover, the study quotes a patient saying “I tried local herbs and religious remedies in many occasions... And I did not continue the treatment until my situation become worsened and reached to a point that I could not milk cow for my children” (Gugssa). Not only do cultural methods of treating infectious diseases interfere with treatment adherence, but, in some cases, they also promote antibiotic resistance. Ayukekbbon explains that seeking traditional healers is a practice that persists in developing countries, and, sometimes, the herbal remedy or concoction that traditional healers create for the use of their patients make pathogen fitness better (Ayukekbbon).

A challenge that developing countries, in general, face with properly using antibiotics is the unavailability of appropriate technology to diagnose infectious diseases. Ayukekbbon shares that in areas where there are no diagnostic tools to isolate the bacteria causing an infection, broad-spectrum drugs are used to treat patients (Ayukekbbon). Although Broad-spectrum drugs are useful in that they target various groups of bacteria, they have a downside in which they can cause an increase in antibiotic resistance. In “Antibiotic Use and Emerging Resistance—how Can Resource-Limited Countries Turn the Tide?” author, Bebell, explains why the use of broad-spectrum drugs is necessary as follows, “one study performed in sub-Saharan Africa showed that one third of neonatal meningitis cases could be misdiagnosed without lumbar puncture studies[78]. Such reports underscore why antibiotics may be over-prescribed in settings without diagnostic testing; they are a theoretical protection for individual patients” (Bebell). The availability of such tools is something that can be affected by a nation’s level of economic development.

In addition to the economic challenges found in the United States, India, and Ethiopia, there are other economic challenges around the world that hinder the fight against antibiotic resistance. With an increase in resistance, there is a need for the invention of new antibiotics, and, unfortunately, there is no motivation to create new antibiotics due to the cost of creating them. Funding research toward the invention of new antibiotics is expensive which is not guaranteed to be returned by the sale of new antibiotics. More explicitly, researchers cannot make a profit if people cannot afford to purchase the antibiotics. Illustrating the pharmaceutical industry's desire to make a profit, Alderman writes, "[e]ager to pay good shareholder dividends, [the pharmaceutical industry] focus their attention upon producing blockbuster drugs for chronic diseases such as heart failure, diabetes and depression, but the proportion of research and development funds aimed at the development of new antibiotics is relatively meagre...[t]he regulatory pathways for antibiotic approval through the US Food and Drug Administration are now very complex: this agency approves antibiotics based on specific disease states (e.g. pneumonia) instead of approving them based upon the organisms the antibiotic is designed to treat, meaning that the commercial opportunities are limited" (Alderman). Although lack of new antibiotic development is a problem, it is not as pressing as the issue of misuse and overuse. Unless the issue of misuse and overuse are first addressed, microorganisms will develop resistance to the newly developed antibiotics for the same reason.

Along with its strong economic force, the meat industry displays its political power by its significant presence in the American government. The meat industry's political power makes the creation of any policy that opposes or conflicts with its interest almost

impossible. Author of “The Politics of Meat,” Steve Johnson, notes, “the [meat] industry has succeeded in weakening or preventing many new meat-safety initiatives in recent years” (Johnson). Johnson also points out that the meat industry’s investment in political candidates and connection with legislators allow the industry to get its agenda across. In “If FDA Does Not Regulate Food, Who Will? A Study of Hormones and Antibiotics in Meat Production” author, Christine Donovan details the way in which antibiotic use on animals is regulated. In doing so, Donovan entails that the antibiotic use on farm animals is not regulated by one agency, but rather multiple agencies including the FDA and USDA. Such a collection of regulative agencies creates a dilution and collision of regulatory authority that causes tasks to be inadequately completed. Donovan claims that “the unclear regulatory division between agencies; and the influences of money, politics, and industry capture on agency decision-making” (Donovan). Because the task of antibiotic regulation is divided, Donovan reveals that it makes it easy for the regulatory agencies to deflect responsibility and stray from taking ownership for any mishap (Donovan). Furthermore, the funding that goes toward an agency like the FDA is unmatched to that of the worth of the meat industry, making it difficult for the FDA to regulate something that is astronomically more powerful than itself. The reason is that, as previously stated, the meat industry has lobbying power, and has the budget to fund studies that report findings which align with its interest, while regulation agencies, without similar generous funding, are unable to conduct unbiased studies. Additionally, the meat industry acts as a source of funding for the FDA which may create a conflict of interest (Donovan).

Johnson illustrates that, in previous years especially, the meat industry had an extremely close relationship with the USDA. A reason as to why such a relationship

existed may have to do with USDA's mission that closely favors that of the meat industry's interest. Donovan presents the USDA's mission as, "to expand economic opportunity... to promote agriculture production sustainably that better nourishes Americans while also helping to feed others throughout the world" (Donovan). As the use of antibiotics in agriculture can promote *production sustainability* and expand *economic opportunity*, the USDA's mission to maximize food production gives insight as to why the USDA may turn a blind eye to the dangers of antibiotic use. However, Donovan also notes that the USDA has another mission of "[considering] the sustainability and the health effects of the farming practices it regulates" (Donovan). Even though the latter mission should cause the USDA to reconsider the use of antibiotics in agriculture, it would be easier for the USDA to focus more on the mission that matches that of the powerful meat industry. It can be inferred that the USDA will not go through the trouble of opposing the meat industry when it can instead dedicate its energy on something they both agree on.

One method of combating antibiotic resistance is by taking preventative measures through the creation and maintenance of an environment where an infestation of (pathogenic) bacteria is not promoted. Such an environment will create less of a need for the use of antibiotics and thus will result in the decline of antibiotic resistance. Sanitation is essential to maintaining an environment where bacteria do not thrive. Laxminarayan demonstrates that India faces challenges with sanitation stating, "The percentage of the population with access to improved sanitation facilities in India (36%) was far lower than the percentage in Brazil (81.3%), China (65.3%), and Indonesia (58.8%)" (Laxminarayan, Chaudhury). Inadequate wastewater management is a problem that has factored in lack of sanitation and has stressed the issue of antibiotic resistance in India. "Untreated Urban

Waste Contaminates Indian River Sediments with Resistance Genes to Last Resort Antibiotics" by Nachiket Marathe explains that, because wastewater is not treated properly, Mutha River of Pune city, India contains many microorganisms that are both infectious and resistant as untreated wastewater flows to the waterbody. The consumption of untreated water by civilians causes them to contract infectious diseases and be exposed to resistant microorganisms. Increase in infectious diseases creates an increased need for the use antibiotics to kill the microbes infecting them, adding to the cycle of antibiotic resistance (Marathe). According to "Sewage Mediated Transfer of Antibiotic Resistance to River Yamuna in Delhi, India" by Manisha Lamba, the same problem is found in the Yamuna river of Ganges, India. Lamba reports that poor sewage systems cause pollution of major water bodies by untreated wastewater (Lamba). The government needs to regulate wastewater management as civilian's water source and, in turn, health is directly affected. Maratha illustrates the level of danger that civilians face as follows, "Pune has several sewage treatment plants, still as much as 64% of the sewage enters river untreated. During monsoon floods, the river water enters streets and houses in the city surrounding the river banks, directly exposing the inhabitants to the bacteria present in the water. The river water is used for irrigation and farming purposes and as a source of drinking water with some primary treatment by the villages and towns downstream..." (Marathe). The Indian government should not disregard to implement proper wastewater management regulation as the time left to delay further antibiotic resistance is closing in.

Communicable diseases are one of the major causes of deaths in Ethiopia, and should, therefore be at the forefront of the Ethiopian government's concern, directing

urgent, focused attention to the cause of fighting factors that drive the rise and spread of communicable diseases. A report configured by the partnership of Ethiopian Public Health Institute, Federal Ministry of Health, and World Health Organization, titled “Ethiopia: Services Availability and Readiness Assessment 2016” shows that private health facilities in Ethiopia are far better off at infection prevention and control than public health facilities that are managed by the government are (“Ethiopia: Services availability and Readiness assessment 2016”). Adequacy of infection control was assessed by “[t]he presence of standard precautions...sterilization equipment, disposal of sharps and other infectious wastes, disinfectant, sharps box/container, single use-standard disposable or auto disable syringes, soap or hand disinfectant, latex gloves, masks, and guidelines for standard precautions,” and of the assessed public facilities, “only 2 percent of facilities [had] all items for standard precaution for infection prevention” (“Ethiopia: Services availability and Readiness assessment 2016”). Such a difference between public and private health infrastructures raises speculation as to what the cause may be.

Despite the government’s dismissal of such allegations, corruption in the Ethiopian government and its infrastructures is something that is flagrantly displayed in the day to day aspect of Ethiopian citizens’ lives. In “Ethiopia’s Hegemony in the Horn of Africa: Internal Tensions and External Challenges Before and After Meles Zenawi,” Jan Zahorik writes, “[Ethiopia’s] alleged double-digit economic growth has materialized in the form of developments in infrastructure, new hotels and restaurants, boulevards, and hospitals, all of which are readily apparent in places such as Addis Ababa, Bahr Dar, Dire Dawa, and Awasa. However, the antithesis manifests itself in the form of extreme poverty, homelessness (in urban areas), generally stagnating salaries, and growing inflation”

(Zahorik). The existence of corruption can be cited as a reason for the difference in public and private health facilities. The government may neglect its duty of overlooking public facilities, or worse yet, the government may contribute to incompetency that exists within facilities, while its focus is elsewhere and not dedicated to serving the Ethiopian people. Furthermore, no matter how many infrastructures are built, what use are they if the public cannot afford to use them?

Corruption at a higher level only sets the ground for further corruption down the line of power. In “Governance and Corruption in Public Health Care Systems,” Maureen Lewis discloses such activity in “Governance and Corruption in Public Health Care Systems” stating, “In focus groups in Ethiopia health officials complained about unfair hiring practices, nepotism and preferential treatment to well connected individuals” (Lewis). Entering the job based on nepotism may give individuals hired in this kind of process a sense of overt authority and carelessness for duties within the hospital. Lewis also notes, “In Ethiopia feedback from policymakers, experts and health workers revealed that inappropriate payments are rife in the health sector. Patients typically must pay for every service and each item, from registering to paying bribes for changing bed sheets to drugs and supplies” (Lewis). Bribery to change bed sheets is an atrocity that should not be tolerated. If patients have to bribe their way into getting their bed sheets changed, it is not hard to imagine the level of negligence that takes place in these institutions. Under such a circumstance, the spread of infection cannot be contained. Doctors are supposed to be figures that educate the public on the necessity of sanitation, not deprive patients of it.

The political climate of a country affects various things including health-related issues. In “Antimicrobial Resistance Global Report on Surveillance,” a WHO report examining the surveillance of antibiotic resistance around the world, data is missing or incomplete for Afghanistan, Cameroon, and Somalia (“Antimicrobial Resistance Global Report on Surveillance”). A possible reason for the absence of information could be due to the political instability in those countries. With turmoil in Afghanistan, the conflict between the French and English side in Cameroon, and recovery from a civil war in addition to warlord activities in Somalia focus on health issues such as antibiotic resistance in those countries would be unlikely. In some developing countries, the issue is not that there are inappropriate prescriptions, it is that there is no need for prescriptions at all. In “The Threat of Antimicrobial Resistance in Developing Countries: Causes and Control Strategies,” Ayukekbong writes that “Misuse of antimicrobials is facilitated in developing countries by their availability over the counter, without prescription and through unregulated supply chains” (Ayukekbong). It is hard to imagine that such regulation would take place in the countries listed amidst the distraction of political instability and where regulatory infrastructures do not exist.

In brainstorming methods of warding off antibiotic resistance, Bebell writes, “turning the tide requires intensifying research and surveillance, antimicrobial stewardship, and developing new bedside diagnostic tools for bacterial infections and antimicrobial susceptibility” (Bebell). Specifically looking at Bebell’s suggestion of “intensifying research,” upon research, it became apparent that there was limited focused research on antibiotic resistance in Africa. The issue of antibiotic resistance cannot be solved, if information about it is scarce. For a problem to be solved, it must first be

identified. As antibiotic resistance is a global concern, no country should be left out from being a site for research. More effort to obtain data on antibiotic resistance as it exists in nations that have largely been ignored could inspire new methods of combatting resistance.

Looking at the issues that drive antibiotic resistance in the United States, Ethiopia, and India has made it clear that there are different factors that cause antibiotic resistance from region to region. Thus, while it is necessary for global cooperation to deal with the problem of antibiotic resistance, it would not be effective to make a “one-size-fits-all” solution. Specific oriented solutions would better address those resistance-driving factors that exist within different nations. Primarily, nations need to be willing to recognize the issue of antibiotic resistance as prominent and worth addressing, and, moreover, nations need to look into the elements that are causing resistance within *their* own countries and take steps to address those factors. That does not mean, however, that nations should have an attitude of which is merely self-serving; nations should instead extend a helping a hand where it is needed.

Developing countries have fewer resources to treat antibiotic resistance and experience more accounts of infection outbreaks; this, among many other reasons, makes it necessary that nations help one another. Helping out can mean that nations are cautious and feel a sense of accountability for their actions. Nations should consider how their actions may not only induce antibiotic resistance within their own country but also how it may affect other countries. For countries with more resources, it is essential that they consider extending their funding overseas because resistance overseas is a problem on the home front. In the United States, there may be a dispute over the regulation of

antibiotic use on farms because the cost is money, but the cost for developing countries where antibiotic resistance is not the only issue but also unavailability of antibiotics, the cost is in lives. At the current rate of antibiotic resistance, no one will be safe from the effects of antibiotic resistance.

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Environmental Protection: The Meat of the Problem

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“Environmental Protection; The Meat of the Problem”

Human beings have long since become aware that our planet is very much over populated. Each year, the global growth of the human population is nearly seventy-five million, a statistic that is only expected to grow (“Human Population Growth”). This exponential rise in population results in a coinciding rise in the demand for food production. The more people survive, the more food is needed for consumption. Because of this demand, the food production business flourishes and bears relentless pressures to keep up, and as a result, quantity is preeminent over quality. Unfortunately, it does not end there. While the quality of products is enough of an issue itself, the preservation of the planet is also compromised in order for the necessary quantities of these factories’ outputs to be met. Although both animals and human health take a hard hit, planet Earth particularly suffers the most. Since humans have populated the planet we have mindfully polluted it. Up until now, we have relied on the government and large corporations to reverse these negative trends, however this has produced limited success. Therefore, after years of inadequate attempts, it is necessary we place matters into the hands of the individuals, and the most tangible, direct approach in which we can save our planet is environmental veganism.

Dietary Detriments to the Environment

There is little that could be done to stunt the rapid growth of the human population, however there is much to be done about the food that is eaten and how that food is produced and distributed. Meat is not only one of the most common food groups, but also one of the most desired. Ninety seven percent of the world’s population

consumes meat as it is available to them (“The Number of Vegetarians in the World”). Now especially, as there is an increase in affluence and developed nations, meat is incorporated more into the daily diet. The global average of meat consumed by one person in their lifetime is seven thousand pounds. Seven thousand pounds of meat consumption is the equivalent to about eleven cows, twenty seven pigs, two thousand four hundred chickens, eighty turkeys, thirty sheep, and four thousand five hundred fish. This average is only anticipated to grow as years progress (Reubold).

This increasing demand for meat consumption calls for the quick and abundant manufacturing of meat products. To satisfy the pressures, livestock production has become far more industrialized than it has ever been before. Today, to accomplish the appropriate factory outputs, Earth’s resources are utilized. The issue, however, is that these resources are exploited. This unsustainable retraining and usage of resources is in fact the “meat” of the problem.

Unsustainable Land Depletion

Land depletion is one of the major issues in raising animals for food. Not only does land have to be cleared to host the animals that are raised for food, but land has to be cleared to grow the food that those animals eat. Scientists at the Smithsonian Institute claim that seven football fields of land is cleared every minute to create room for farm animals and crops to feed them (“Facts on Animal Farming”). To make matters worse, farm animals are bred to be stocky and are thus excessively fed. For example, a hog undergoes a process called the “finishing stage” shortly before it is killed. During this stage, which lasts about sixteen weeks, the hog is fed six to ten pounds of feed a

day (Wise). In this “finishing stage,” each hog consumes a total of nearly nine hundred pounds of grain, corn, and soybeans (Carlson). Land is required to both quarter these hogs as well as grow the crops to fulfil their dietary requirements. Of all the agricultural land in the United States alone, it is estimated that eighty percent is used to raise animals for food and grow grain to feed them. When calculated, that adds up to about half the total landmass of the lower forty eight states. Conversely, if we limit the number of animals consumed worldwide, there will be far less animals to feed. Naturally, the decrease in the consumption of animals leads to a decrease of land that is required to raise these animals. Just the same, the land required to grow food for these bred animals will decrease, and what land remains necessary for agriculture is only that that will grow the crops we consume. The decrease of animals raised for consumption and the lessening amount of food that is needed to be grown to feed those animals will collectively create a drastic decline in the amount of land that is cleared for consumption purposes.

Unsustainable Water Depletion

Although more than seventy percent of the Earth is water-covered, about ninety seven percent of that is salt water which is not suitable for drinking or growing crops (Evans). Thus, water conservation is necessary for the survival of mankind. Meat production is a leading factor of water depletion. Producing food for meat eaters requires far more water than is required for the production of food for vegans. Meat manufacturing is extremely reliant on water in both a direct and an indirect manner. Of course, water is vital to the survival of the animals that are being raised, they must

directly drink water to thrive. More significant, however, is that an abundance of water is necessary to grow the food that these animals consume. Because larger leaner animals are more desired and make for a better meal, raised animals must eat more food more frequently. For example, cattle, who are so physically large, require nearly eighteen thousand gallons of water per pound for production (Olson-Sawyer). One pound of whole wheat flour requires a mere one hundred and eighty gallons of water (“The Water Content of Things”). Thus, one pound of whole wheat flour is able to feed many more mouths than one pound of meat can. As for a days worth of food, over four thousand pounds of water is required to feed a meat eater, and only three hundred is required to feed that of a vegan (Olson-Sawyer). It is clear: less meat eaters, less water exhaustion.

Air Pollution and its Effects

Along with the the detriments of rapid resource depletion, planet Earth is inarguably polluted. While there are many faults to blame for the tainting of our environment, and the atmosphere specifically, livestock emissions tower over the rest. The Worldwatch Institute claims that at least fifty one percent of greenhouse-gas emissions, including carbon dioxide, methane, and nitrous oxide are a result of livestock and their byproducts (Nyman). Supporting this allegation, a single cow alone can release over two hundred and twenty pounds of methane per year (Doyle NP). Methane causes much more damage to the environment than the common pollutant carbon dioxide. The two hundred and twenty pounds of methane that is produced by a single cow in one year has potential damages that are the equivalent to that of twenty two thousand pounds of carbon dioxide within just a five year time span (Nyman).

The release of these greenhouse gas emissions is so destructive because they are responsible for the greenhouse gas effect. The greenhouse gas effect is the trapping of greenhouse emissions within the atmosphere, and thus the onset of global warming. Sunlight and solar radiation, as normal, reach the Earth and bounce off of its surface. From there that same sunlight or solar radiation should return to space, which is where it originated from, but instead is trapped by the excess pollutants that have settled in our atmosphere. Because all of this heat is trapped so near to the Earth's surface, global warming takes its toll. The consequences that present themselves, at their least, are extreme rises in air temperatures and an increase in ocean water temperatures (MacMillan).

In addition to the release of excessive greenhouse gas emissions, animal waste has a substantial effect on the air. Animal waste, predicted by the Environmental Protection Agency (EPA), produces roughly eighty percent of the United States' ammonia emissions. It was concluded that a single dairy cow emits over nineteen pounds of volatile organic compounds per year, making dairy products the largest source of the smog-making gas, surpassing vehicles ("Agricultural Pollution"). Smog-making gas, in other words, is ground-level ozone. This ozone, if at a high enough dosage, can be poisonous to plants and animals (Rutledge). Accordingly, smog is most ruinous during hot days. Also, factory farms produce an increasing amount of particulates. Particulates such as dust and other contaminants pollute the air. This particulate matter (commonly referred to as PM 2.5) is dangerous not only because humans inhale it due to excessive exposure, potentially developing severe damages to

the heart, lungs, and occasionally the bloodstream, but because it takes an even more damaging toll on our environment. PM 2.5 causes a severe visual impairment, which has been recorded most strikingly in China. When the PM 2.5 level of suspension is heavy enough, the air around us appears to be a cloudy haze. This pollution appears right in front of our eyes. PM 2.5 also depletes nutrients in soil, causes damage to forest and farm crops, and affects the diversity of ecosystems. As far as water pollution, PM 2.5 makes lakes and streams acidic, changes the nutrient balance in coastal waters and large river basins, and contributes to acid rain affects. PM 2.5 is capable of having such a considerable effect on the environment because it is a mixture of small particles and liquid droplets that can very easily be carried by wind. It settles on any body of water or piece of land and affects its host depending on the chemical compositions (“Health and Environmental Effects”). Clearing the matter from its host would be ineffectual, as the particles are far too small. The most efficient way to avoid PM 2.5 and its contamination would be to prevent it from forming and free falling in the first place.

Water Pollution and its Effects

There are many ways in which the effects of our diet contaminate water. According to the EPA, agricultural runoff is the number one source of waterway pollution in the United States (“Agricultural Pollution”). Soil erosion occurs due to the dependence of the topmost layer of soil for effective crop growth. The exposed topsoil is eroded by either water or wind, and builds up in ditches or bodies of water. This is known as sedimentation. Sedimentation is particularly harmful to the environment because it can potentially increase the size and frequency of flooding. When bodies of water contain

more sediment than usual, they fill up quicker and drain slower, thus worsening and extending the effects of floods (Clay). Another large contributor to water pollution is runoff of fertilization. Factory farm animals produce one trillion pounds of waste that is typically used to fertilize crops. This bacterial suffused fertilizer subsequently runs off the land it was initially dispersed on and ends up in our waterways. The effects of this runoff is ultimately the creation of dirty, contaminated water (“Consequences of increased”). In the United States specifically, streams and rivers carry this fertilizer into the Mississippi River. The Mississippi River further deposits the contaminated water into other, bigger bodies of water such as the Gulf of Mexico. The nitrogen and animal feces that make up the fertilizer are additional nutrients that promote eutrophication, and thus cause large algae blooms. These blooms leave little oxygen for other biodiversity in the body of water where they occur, in this case the Gulf of Mexico. As a result, when little oxygen remains available the competition to survive becomes more intense and typically, to algae, the existing inhabitants do not win (“Center for Earth”).

Faults of Loss of Biodiversity

The overproduction of meat threatens biodiversity in other ways as well. While there is much to blame for the reduction of biodiversity, the livestock sector is crowned as the leading cause and has been since 2015. The Food and Agricultural Organization of the United Nations claims that there is a direct link between a decline in biodiversity and deforestation, land conversion, overgrazing, degradation, and desertification (“The Blog”). When land is cleared for these reasons the biodiversity that once existed in the particular area is expunged, or at the very least left homeless. Similarly, because of the

great extent of land that is cleared for the mass raising of the most commonly consumed animals, such as cows, pigs, sheep, and chickens, there is little land left for other biodiversity to occupy. Because of these reasons combined, it is believed, and supported, that meat-eaters are very likely to speed worldwide extinction of a variety of species, including the American pika, frogs, and alpine butterflies (Bell).

Opposition

It is appropriate to theorize that our Earth is dismantling. It is also appropriate to theorize that there are many factors that are causing our planet to dismantle. What can be substantiated, however, is that humans are primarily to blame. Our carelessness, our dependence on convenience, and our desire for so called luxuries have successfully destroyed the planet that we were given to protect. Fortunately, there are many ways in which we can reverse our faults. One way, most simply put, is to construct an international shift in diet.

Naturally, some people may find it unreasonable to eliminate meat consumption from their diets completely, and it is understandable that some may not be willing to. Nevertheless, by simply limiting one's daily meat intake, one can make a significant difference to bettering the environment. From a broad perspective, it may seem like one single person is incapable of making any considerable difference in resolving this growing issue that we are here to fix. In one year, however, a person who follows a vegan diet spares an estimated one hundred and ninety eight animals from being produced for consumption ("Vegans Save"). The more people who participate in a vegan diet, that many more animals are spared. Since we can hardly control the

exponential growth of the human population, we should revamp what we can control:
our dietary culture and the way it impacts planet Earth.

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An Examination and Comparison of the Ideal Society in Thomas More's Utopia with Colonies of the European Honey Bee (Apis Mellifera)

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An examination and comparison of the ideal society in Thomas More's *Utopia* with colonies of the European honey bee (*Apis mellifera*) By Daniel Schmidt

Thomas More wrote *Utopia* in the early sixteenth century and today, five hundred years later, his story still remains relevant. He describes an ideal society, in which problems like greed and wealth inequality are nonexistent. It can be thought of as a model for a perfect civilization. The European Honey bee (*Apis mellifera*) colony can also be thought of as a model society. A beehive can be likened to a city. The colony as a whole acts like one organism and can only survive through the cooperation of all of its individuals. This is referred to as a superorganism. Bees can be thought of as cells in a body. Individual Honey bees cannot survive on their own, because it takes a large number to complete tasks like building comb and raising young. Millions of years of evolution have created a social superorganism that instinctively organizes its nest for maximum efficiency and resilience. Labor is divided for optimal growth, and resources are shared equally among tens of thousands of bees. This system has been so perfected by nature that it is comparable to the flawless society on the Island of Utopia. Both bees and Utopians live harmoniously in communities where cooperation has replaced competition, collaboration leads to abundance, and everything is held in common. This idealistic way of life eliminates the follies intrinsic to human civilization like corruption or injustice. Utopia is a fictional place, however. While our modern society has yet to reach such a level of sophistication, honey bees have developed their own form of a real Utopian society.

Utopia begins with a conversation among More, his friend Peter Giles, and the seasoned, wise traveler Raphael Hythloday. Hythloday, an outsider, begins by giving his criticism of Western society. He mocks the decadent debauchery of the corrupt

kings of Europe and the crime in England brought on by its economic instability. He then goes on to describe his visit to Utopia where he learned all about its citizens' way of life, and the systems they've created to maintain prosperity and equality.

Hythloday's travels around the world give him a unique perspective on human civilization. Since he is a foreigner in the various lands he's visited, he has the ability to critique different cultures from an outside point of view. This is a way for the author to vicariously criticize contemporary English society. More urges Hythloday to offer his counsel to the king, believing it will do the public good, but he refuses. Hythloday believes men of great power tend to become imperious and prideful. Allowing a king such tremendous influence over so many people predisposes him to arrogance. It can be futile to offer words of wisdom to such a man. Hythloday references a line from Plato's *Republic* to defend his reluctance to advise the king: "Commonwealths will become happy only when philosophers become kings, or kings become philosophers" (*Utopia* 27). Hythloday believes a ruler is more likely to be captivated by vice, rather than intellectualism, to the detriment of progress. Hythloday observes how counselors in the court are most concerned with their own careers and interests. "...they approve and even flatter the most absurd statements of favorites through who's influence they seek to stand well with the prince" (15). Thus, a counselor may offer sage advice, but be ignored if the king doesn't like what he hears.

The government of More's Utopia is a democratic republic. The public elects representatives, who then elect a governor. This system is far more resistant to corruption than a monarchy. None of the problems of a monarchy exist in a honey bee colony. Honey bees have no ruler, so it is a misnomer to say "Queen Bee." The Queen

is actually the mother bee. She lives for years and all the bees in a colony are born from her. Her only jobs are to mate and lay eggs. The mother bee has no control over the rest of the bees. She doesn't make any decisions. The workers feed her, prepare cells for her to lay eggs in, and decide how to build the combs. Dr. Tom Seeley describes the decentralized power system of a honey bee colony in *Honeybee Democracy*:

So the mother queen is not the workers' boss. Indeed, there is no all-knowing central planner supervising the thousands and thousands of workers in a colony. The work of the hive is instead governed collectively by the workers themselves, each one an alert individual making tours of inspection looking for things to do and acting on her own to serve the community (5).

Bees simply know what to do when they see a job to be done. In a honey bee colony, decisions are made by thousands of individuals reacting to stimuli from the environment directly around them. The unit is tied together using a cohesive system of communication using pheromones and dances. The most famous dance is called the waggle dance. When a forager finds a valuable nectar source, she returns to the nest and performs a waggle dance. She wiggles around contacting others nearby. The information on the location of the flower patch, and its productiveness are encoded into the dance. The other bees then use that information to locate the nectar source, and soon numbers of bees show up to exploit it (*Dance Language of the Honey Bee*).

Compare a honey bee to a cell in a human brain: one brain cell doesn't control the mind, but millions of interactions among many cells produce a thought or action. Honey bees' decentralized power system is very efficient and has served them well for tens of millions of years (*Honeybee Democracy* 218).

To understand More's inspiration for *Utopia*, it's important to note that in the early 16th century, England was going through economic changes as a result of a rising population. The Black Death centuries earlier resulted in such high numbers of casualties that population dynamics were still in the process of equalizing. Many able bodied people died, and so there was a shortage of laborers. G.R. Elton describes how the reversal of this imbalance affected the economy in *The Problems of the Realm*: "The pressure was heaviest of the peasantry, the men who had benefited from the shortage of labour created by the demographic disasters of the fourteenth century and who now found the terms of life were against them" (*Utopia: a revised translation, backgrounds, criticisms* 122). As the demographics equalized, and the population even began to grow, the result was unemployment. This drove some to destitution. Another cause for the economic troubles, besides distorted demographics, was that wealthy landowners entered the wool trade, and began to buy up public farmland in order to convert it to private pasture. Large areas of the countryside were seized, subsistence farmers were driven away, and fences were put up to contain grazing sheep. A plot of land that had formerly employed a number of family farmers, would then only employ a few sheep herders. Virtually all of the proceeds went to oligarchs, while the majority were left to poverty. In *Utopia*, Hythloday describes the plight of small farmers being left to destitution as a result of this hoarding of property:

these miserable people...families (poor but numerous, since farming requires many hands) are forced to move out. They leave the only the homes familiar to them, and they can find no place to go. Since they cannot afford to wait for a buyer, they sell for a pittance all their household goods, which would not bring much in any case. When that little money is gone (and it's soon spent wandering from place to place), what remains for them but to steal...(19)

This situation led to severe wealth inequality and unemployment. Rich landowners became parasites, draining society, while the group as a whole suffered. This individualistic drive for personal gain inspired the birth of capitalism. Marxist philosopher Karl Kautsky noted the economic inefficiency facing England as capitalism began to rise, contributing unemployment to the disorganization of the system:

Improvements in methods of cultivation made many workers superfluous. Capitalism in agriculture meant the direct setting free of workers. In England this proceeded in its severest forms, at a time when industry was developing but slowly and required only small supplies of labour-power; least of all, the ignorant country labourer (*"The Roots of More's Socialism"* *Utopia: a revised translation, backgrounds, criticisms* 165).

This situation is important to the contemporary conditions in England that influenced More as he wrote *Utopia*. The absence of this problem of unemployment on the Island of Utopia is a large part of what makes it such an ideal society. In honey bee colonies as well, every worker bee is utilized. None of them are left idle.

The inevitable consequence of this displacement of the farmers in England is crime. When there are no options for work, and the hunger and discomfort of poverty builds, people become disillusioned. Hopelessness overcomes them, and the consequences of committing crimes like robbery can appear equal to, or less than the suffering of poverty itself. Thus, increased crime is inevitable. This is a point Hythloday argues in *Utopia* in response to the idea of executing thieves.

...If you allow young folk to be abominably brought up and their characters corrupted, little by little, from childhood; and if you punish them as grownups for committing crimes to which their early training has inclined them, what else is this, I ask, but first making them thieves and then punishing them for it (21)?

Hythloday believes that the policy of capital punishment is a desperate attempt on the part of the government to counteract the effects of inequality caused by a flawed economic system. The true causes of crime are not acknowledged because the oligarchs in power benefited from the system. They saw it better to execute the thieves than address their role in creating economic instability.

Hythloday who traveled to the Island of Utopia, observed a society in which no one is cast aside. However, Utopia isn't without crime. Convicted criminals are subjected to slavery. Honey bees are not entirely innocent themselves, they have their own form of crime. Colonies have been known to occasionally rob other hives in times of dearth. Weak colonies that are unable to defend themselves are often pestered by robber bees. The bees' excellent sense of smell allows them to perceive vulnerable hives that contain honey to plunder. This typically happens in crowded apiaries where hives are very close to each other, rather than between wild colonies spaced kilometers apart (*Honey bees of the Arnot Forest* 27). Thus, while it is a harsh reality of nature, robbing is usually a result of man-made conditions. Within a colony itself, however, there is no sort of crime. Nest mates don't hoard resources and everything is shared, so thievery is pointless. Individual bees stand to have a better quality of life by working together and sharing everything.

Utopians work together much like honey bees. Hythloday criticizes the contemporary English culture of individualism. He believes such a philosophy put into practice leads to inequality. When people selfishly pursue their own economic interests, wealth becomes concentrated, much like the example of wealthy landowners seizing property and displacing small farmers. In *Utopia*, Hythloday asserts the problems with

individualism are linked to the concept of private property. He references the philosophy of Plato to support his point:

Wisest of men, he saw easily that that the one and only road to the welfare of all lies through the absolute equality of goods. I doubt whether such equality can ever be achieved where property belongs to individuals. However abundant goods may be, when everyone tries to get as much as he can get for his own exclusive use, a handful of men end up sharing the whole pile, and the rest are left in poverty (36).

Utopians do not struggle with this problem because they do not hold private property, as everything is shared and money is unnecessary. More's character is quick to dispute the plausibility of this system. He argues with Hythloday: "If men are driven by need, and yet cannot legally protect what they have gained, what can follow but continual bloodshed and turmoil..." (37)? And yet, the Island of Utopia is effectively immune from this problem of selfishness. There are no quarrels over resources, and there is no penchant for greed. This is a critical aspect of what makes Utopian society so perfect. Hythloday sums it up in his conclusion:

For among us, even though the commonwealth may flourish, there are few who do not know that unless they make separate provision for themselves, they may well die of hunger. Bitter necessity, then, forces them [to] think that they must look out for themselves rather than for others, that is, for the people. But in Utopia, where everything belongs to everybody, no one need fear that, as long as the public warehouses are filled, anyone will ever lack for anything he needs...no one is poor, there are no beggars, and though no one owns anything, everyone is rich (94).

This scenario of collectivism triumphing over individualism seems implausible considering human nature gives man a proclivity towards greed and covetousness. However, the Island of Utopia is unique; its citizens' instinct is to cooperate. Bees, not being subject to these flaws of human nature, have evolved their own form of a

commonwealth comparable to Utopia. There is no private property within a beehive. Individual bees have no ownership of specific parts of the hive. The nest is structured so that cells for raising young are situated in the center surrounded by pollen and nectar, while the honey is stored at the top. This architecture allows for maximum efficiency. If singular bees were to hoard resources in private spaces, the group would not survive because they all rely on each other to complete crucial tasks like caring for young, or processing nectar. Famous early beekeeper Charles Butler in 1623 compared honey bee colonies to communities of selfless workers all working for the good of the group.

...And for their order, it is fuch, that they may well bee faid to haue a Commonwealth, fince all that they doe is common, without any priuate refpect... they worke for all, they watch for all, they fight for all (*The Feminine Monarchy Or the History of Bees* 1) .

Hythloday commonly refers to Utopia as a commonwealth, just as Butler does to a honey bee colony. Butler's observations of the biology of bees support the comparison of a colony to a human society. He saw from years of keeping bees how cooperation is instinctive to them, just like Utopians. Each individual labors for the good of the group.

More's Utopians have a labor system that is quite unique from the conventional capitalist system. Everyone is required to participate in farming. Hythloday outlines the sharing of duties on the island: "Agriculture is the one occupation at which everyone works, men, and women alike, with no exceptions. They are trained in it from childhood, partly in the schools...and partly through field trips to nearby farms..." (44). Food is produced by all, and distributed fairly. This is precisely how honey bee colonies function. Bees pass nectar to each other through a process called trophallaxis (Korst, P. J. A. M., and H. H. W. Velthuis, Introduction). During the process, foragers bring in nectar, and

it's quickly passed around throughout the nest. So, a colony effectively has one giant stomach.

As Utopians mature, they adopt a second profession besides agriculture, usually that of their parents. They are able, however, to change occupations but must be adopted into a family which practices such a trade. Individual worker bees actually perform several different jobs in the hive throughout their lives. The division of labor in honey bees is called temporal polyethism:

Among the workers, there is an age-correlated behavioral DOL[division of labor], referred to as temporal polyethism. Young workers perform brood-nest associated tasks such as brood-cell cleaning and larval feeding. Middle-aged bees typically perform food processing, nest construction, and guarding. Finally, older bees progress to foraging outside the nest for food (Siege, Adam J. et al, Introduction).

Since mature active Queens continuously lay eggs, there is a constant turnover of different aged bees. This age based division of labor has proven to be a highly successful way of distributing jobs among tens of thousands of worker bees.. Delegating the dangerous and physically taxing work to the older foragers, who work until death, allows honey bees to get the maximum utility from each bee.

The division of labor in Utopia is also highly efficient. Hythloday focuses more on the condition of excess labor power, rather than a deficit. When there is an excess of labor power, Utopians devote their free time to learning and leisure. The Utopian system of production and employment is so efficient that this occurs often. Utopians only work six hours a day. It seems counter-intuitive that workers could labor such short hours, and still have the needs of society be met, but Hythloday insists in *Utopia* that an organized system could achieve that outcome:

...But suppose again that all the workers in useless trades were put to useful ones, and all the idlers... were assigned productive tasks-well you can easily see how little time would be enough to produce all the goods that human needs and conveniences require-yes, and human pleasure too, as long as it's true and natural pleasure (47).

When humans are left to pursue profit from the fulfillment of individual tastes and desires, time and energy may be wasted. Effort might be invested into products that are superfluous to what is required for human survival. Directing such labor to tasks that benefit the entire community lessens the workload for all. Since honey bees are strictly utilitarian like Utopians, all of their labor is directed towards survival and reproduction. The reason honey bees store honey is to supply energy for the colony during winter when no flowers are blooming. During spring it can appear the bees are working frantically. They must work as quickly as possible to utilize blooming flowers. Once a flower is pollinated, it ceases to produce nectar so the bees must find another source. Charles Butler gave a poetic description of his observations of honey bee work ethic in *The Feminine Monarchy Or the History of Bees*:

...in their labour and order at home and abroad they are fo
admirable, that they may be a patterne vnto men, both of the
one and of the other. For vnleffe they be let by weather,
weakneffe, or want of matter to worke on, their labour neuer
ceafeth (1).

It's no wonder the idiom "busy as a bee" came about. They waste no time when work is to be done. Almost immediately after emerging brood cell as adult bees, they begin working and do not stop until they have literally worked themselves to death.

Perhaps the most significant aspect of Utopia that makes it so ideal is the way communities graciously share the fruits of their labor. Hythloday outlines how Utopians aggregate resources and distribute commodities equally.

...in the middle of each district is a market for all kinds of commodities. Whatever each household produces is brought here and stored in warehouses... Here the head of each household looks for what he and his family needs, and carries off what he wants without any sort of payment or compensation. Why should anything be refused him? There is plenty of everything, and no reason to fear that anyone will claim more than he needs. Why would anyone be suspected of asking for more than needed, when everyone knows there will never be any shortage (50)?

While these areas are referred to as marketplaces, there are no transactions being made, so it would be more accurate to refer to them as cooperatives. Meals are almost always consumed with everyone together in giant halls. Utopians are perfectly content with sharing everything. They don't even bother to lock their doors in fear of having their possessions stolen. In honey bee colonies, all resources are gathered by foragers. They gather water, nectar for carbohydrates, pollen for protein, and plant resins to make a substance called propolis used to seal cracks in the hive. Once a forager returns from the field, she transfers her load to house bees who process it. Foragers are the oldest bees and labor until they die, so much of the benefit of their hard work goes to future generations. The resources foragers gather are mostly stored or fed to developing larvae. Since a colony acts like one giant organism, it functions in the same way as the commonwealth of Utopia.

The word Utopia translates to "no place." Perhaps this is meant to suggest it is improbable that such a perfect place could exist. Modern humans have only existed for several hundred thousand years, and so we are still a relatively young species (J.J. Hublin et. al.). This could explain why human nature is so flawed. If we're to survive in the long run, we must eliminate social problems that are uncomplimentary to long-term survival. Honey bees have existed for at least 30 million years (*Honeybee Democracy* 218). For a

species to persist for such a long time, it takes a sort of natural wisdom, and tremendous adaptability. Bees have become so highly evolved, that humans look primitive in comparison. Despite phenomenal advances in technology, humans have only survived an instant of evolutionary time. It remains to be seen if we can adapt to the environmental changes that will happen over the next tens of millions of years. It may seem naive to anthropomorphize bees, but nevertheless they are indeed social insects, with complex interactions between them. We have yet to fully understand all of the processes that go on in a colony. Dr. Tom Seeley has studied the process of how a swarm of bees finds and determines an optimal nest site. His conclusion is that bees have a collective intelligence, which he names swarm smarts:

For the members of a decision-making group to work together productively, they must have a fair amount of alignment of interests so that they are inclined to form a cooperative and cohesive unit...so, because the workers have a common need for their colony to thrive, and because a thriving colony passes the workers' genes into the future...it is not surprising that the workers of a honeybee colony cooperate strongly to serve the common good. The humans in a community rarely share a singularity of purpose like the bees in a swarm, so humans are less inclined than bees to be highly cooperative when tackling a problem they must address together (*Honeybee Democracy* 220).

Political discourse caused by this uncooperative tendency of humans isn't conducive to progress. Long term problems can fester in human society, so if we're to remain a successful species, it would do us well to emulate the wisdom of the bees. For they have truly made a Utopian society for themselves.

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Global Mental Health: How Culture Shapes the Prevalence and Expression of Anxiety and Obsessive– Compulsive Disorders

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Global Mental Health: How Culture Shapes the Prevalence and Expression of Anxiety and Obsessive-Compulsive Disorders

How does modernization and other cultural factors manifest in mental disorder prevalence and expressions, especially for anxiety disorders, as seen in America's multicultural population, Turkish and Egyptian populations, and other populations?

Background:

Discussed in Suman Fernando's 2010 book *Mental Health, Race, and Culture*, philosophers and medics have sought to define the mind for ages, theories spanning from old Cartesian-Newtonian models viewing humans as machines to Ayurvedic beliefs view the mind in tandem with health, the soul, and nature. Many older traditions did not view the mind distinctly separate from the body: Many Asian traditions, health is a 'harmonious balance' of internal and external forces, akin to Indian traditions of harmony between an individual and their community. In African traditions, health is more social than biological with religious or spiritual causes (Fernando 36-7). Originating in older European psychiatry (that has roots in Islamic medicine), today's biomedical psychiatry is the study of abnormal states of the mind. These abnormal states are primarily mental disorders (MD) defined and identified by common signs and symptoms outside 'normal' parameters according to the World Health Organization's International Classification of Diseases (ICD) and the American Psychiatric Association's Diagnostic Statistic Manual (DSM-V). Based on these two standard systems of classification and treatment of MDs, medical professionals diagnose patients and determine the 'abnormal mental state.'

In the increasingly globalizing world, societies are adapting to new ways of life, new standards of technology, and capitalism among other trends. As more people travel across national borders, more patients from diverse backgrounds, especially migrants and minorities, encounter biomedical psychiatry and challenge the international standard classifications for mental disorders. Diverging from the dated European psychiatry, culture becomes increasingly crucial to biomedical psychiatric diagnosis and treatment as the world modernizes and cross-cultural situations multiply.

Though the term is subjective and inexact, Fernando defines culture as the “non-physical influences on individuals that determine their behavior, attitudes, and ways of life” from concepts of the mind to coping strategies (Fernando 26). Susan T. Fiske and Shelley E. Taylor in their 2008 book of *Social Cognition From Brains to Culture* qualify that “it is not ‘culture’ that produces differences, but the cultural practices over the long and short term that support and further differentiate or moderate different regulation tendencies” (Fiske & Taylor 266). Cultural practices such as stigma, discrimination, and emphasis on cultural values can directly or indirectly affect the mind and development of mental disorders.

The multitude of patient cultures and the biomedical psychiatric culture itself obscures the validity and quality of mental disorder diagnosis and treatment. Biomedical psychiatry’s European roots have created some bias, or conundrums in the health system. While the diagnosis is considered a precise measurement of a human mind performed by a medical professional, the diagnosis is ultimately a social concept founded on the premise that there are normal and abnormal mental parameters. Another bias occurs when a “[set] of symptoms” encountered in often non-western countries do not neatly fall under existing DSM or ICB criteria- the symptom

cluster is termed a culture-bound syndrome (Office). For example, the CBS *ataques de nervios* is a common syndrome in Puerto Ricans and other Latino communities, sharing similarities to anxiety disorders, but does not meet the DSM-V's criteria to be counted as one. The existing bias in the forms of medical professional's subjectivity, CBS, and the philosophy behind the act of measuring mental and physiological symptoms can alter the diagnostic results and impede patient treatment.

Additionally, the patient's own beliefs and attitudes affect their development and divulgence of mental symptoms (stigma, understanding of the body and mind, etc). Psychiatric stigma is discrimination against people who are diagnosed with a mental disorder. To measure cultural influence on mental disorders, this paper will focus on MD prevalence and frequency. The prevalence of an MD is the frequency of an illness in the population, while the expression is the MD's common symptoms, or cluster of symptoms.

General Trends in American Ethnic Minorities:

Cultural factors such as racial discrimination and racial acculturation influence colocated ethnic populations' MD prevalence and expression. The United States, aptly called a melting pot, contains a highly diverse population in ethnicity and culture. American subpopulations defined by American racial categories (Caucasian, African, Hispanic, Asian) possess different prevalence rates for anxiety disorders according to Tina Chou et al.'s 2012 scholarly article "Perception of racial discrimination and psychopathology across three U.S. ethnic minority groups" and Asnaani et al.'s 2010 scholarly article "A Cross-Ethnic Comparison of Lifetime Prevalence Rates of Anxiety Disorders" (Chou et al.; Asnaani et al.).

Tina Chou et al. studied the survey and health data of 4,530 participants who reported to have experienced racial discrimination out of 9,569 minority participants collected from May 2002 to November 2003 by the Collaborative Psychiatric Epidemiology Studies (CPES). Participants were 18 years old or older and underwent screening interviews, then answered national surveys on mental health: the National Comorbidity Survey Replication (NCS-R), the National Study of American Life (NSAL), and the National Latino and Asian American Study of Mental Health (NLAAS). Data included participants' frequency of experiencing perceived discrimination, demographics, acculturative stress measured in a 9-item questionnaire, and diagnoses of five types of MDs: mood [major depressive disorder (MDD), bipolar disorder I and II], eating disorders, anxiety disorders [panic disorder (PD), general anxiety disorder (GAD), social anxiety disorder (SAD), and post-traumatic stress disorder (PTSD)], and substance abuse (Chou et al.).

Chou et al. states compared to the other categories, Asian Americans had lower prevalence of GAD and PTSD than other groups, but similar rates for social anxiety disorders and panic disorders. Of Hispanics and African Americans who reported to have experienced racial discrimination, Hispanics were more likely to endorse major depressive disorder than other groups while African Americans were fare more likely to endorse PTSD, supporting the positive correlation between perceived racism and mental disorder prevalence (Chou et al.). Thus, experiencing perceived racial discrimination aggravates the MD symptoms, leading to the MD development.

Asnaani et al. also examined the lifetime prevalence of anxiety disorders data from 16,711 participants collected from May 2002 to November 2003 by the CPES. The participants

were 18 years old or older, English speakers, and answered the NCS-R, NSAL, and NLAAS surveys. Data included demographics and psychiatric disorder prevalence rates that were evaluated based on the DSM-IV for SAD, GAD, PD, and PTSD. Demographic variables including age, gender, and socioeconomic status were accounted for as covariates (Asnaani et al.).

In Asnaani et al.'s words, Caucasians "were more likely to be diagnosed with social anxiety disorder, general anxiety disorder, and panic disorder" than the other three groups, African Americans most frequently diagnosed for PTSD, and Asian Americans were less likely to be diagnosed for GAD and PTSD than Hispanic Americans, and SAD, PD, GAD, and PTSD compared to Caucasians (Asnaani et al.). Previous studies cited by Chou et al. mostly support Asnaani et al. and Chou et al.'s findings that African Americans have higher prevalence rates of anxiety and depressive symptoms, Asians had higher prevalence rates of depressive symptoms and alcohol abuse, and Hispanics had higher depression prevalence rates (Chou et al.). W. Vega elaborates on Chou and Asnaani's findings on Hispanic American mental health, noting in their 1991 scholarly article "Ethnic Minorities And Mental Health," that New Yorker Puerto Ricans' marital disruption level "almost doubled between 1960 and 1980," with depressive symptom prevalence high (Vega).

Analyzing Asnaani et al. and Chou et al.'s most recent studies, there are clear correlations between mental disorder prevalence, racial discrimination, and commonalities within the general American minority groups. Chou et al. link their findings to possible influences. The low Asian rates of endorsements were cautioned with references to acculturative stress as a causal factor for substance abuse, the slightly higher Hispanic rates were conjectured to be partially

attributed to “several culturally salient metaphors...such as heightened fear of shortness of breath and shakiness, which are typically experienced in panic disorders and agoraphobia,” or plainly put cultural awareness for certain somatic symptoms, and the higher rates of PTSD endorsement in African Americans reported to have experienced racism were explained by the impact of experiencing racial discrimination (Chou et al.). Asnaani et al. support Chou et al.’s conclusion, stating acculturative stress impacts the development of mental health and disorders (psychopathology), citing studies that suggest “greater identification with one’s minority racial or cultural status” positively correlates with higher levels of collective self-esteem and inversely correlated to higher endorsement of psychological distress and PTSD symptoms (Asnaani et al.). The patient’s sense of identity, notion of self can have unforeseen impacts on their mental wellness. The stronger the patient identifies with their ethnic identity(ies), the higher the chances the patient will have for both coping well with abnormal psychological symptoms and developing certain MD symptoms. These concepts of identity, culture, and mental health are tightly interwoven, and this is but one of intangible strands untangled.

Contrary to the 2010 and 2012 studies, Asnaani mentions the National Epidemiologic Survey on Alcohol and Related Conditions data’s findings on forty thousand people from fifty states in 2001-2 that Asian, Hispanic American, And African American ethnicities were “associated with a lower [12 month and lifetime] prevalence rate for social anxiety disorder (SAD).” Five other studies spanning 1989 to 2008 indicated similar results for GAD and PD, Hispanics had an elevated rate for PTSD, and that Hispanic and Caucasian Americans had the same prevalence rates for PD and SAD (Asnaani et al.). Despite the chance American minority mental health changed significantly in a few years, changes in diagnostic criteria for MDs and

methods for measuring prevalence rates are highly probable to account for the contrary statistics (Hinton and Good 14). Further research is needed to determine MD prevalence differences in American ethnic populations.

The MD prevalence statistics on American minority mental health may be biased by cultural differences between the standards of classification of MDs and the patient's culture. Asnaani et al. caution at the DSM-IV, the Diagnostic and Statistical Manual of Mental Disorders 4th edition, may "not capture culturally specific experiences or symptoms" in its criteria wording, resulting in "artificial lowering of the prevalence rates" of MDs in ethnic minorities (Asnaani et al.). The authors of the 2010 study further qualify their data by noting cultural differences in the acceptability of self-disclosure, specifically Asian Americans' "low rates of mental health service utilization" potentially due to the "fear of losing face" (Chou et al.), suffering from societal disapproval related stemming from psychiatric stigma.

Racial Discrimination:

In Chou et al.'s study, the broad categorization of African American, Hispanic American, and Asian American for 'ethnic minorities' may limit the ability to discern other causative factors for the spike in endorsing MDs, as there are many different ethnic cultures being generalized into one group – i.e. Costa Rican, Puerto Rican, Nicaraguan, etc. for Hispanic American. But, the inclusion of the subcategory of 'patients who experienced perceived racial discrimination' enables the data to clearly verify the statement found by previous studies cited by Chou, "discrimination may affect mental health status by changing one's perception of self and their surroundings" (Chou et al.). According to the Office of the Surgeon General, racism can "exacerbate trauma related consequences (especially for refugees)" (Office). In light of this,

racial history, social environments (divided or cohesive), media's portrayal of ethnic minorities, and other elements of culture that shape perceived racism likely influence individual mental health and predisposition for developing MD symptoms. Vega suggests the United States' sociopolitical history of slavery, segregation, social divides towards immigrants, and civil rights "may manifest in varying reactions or heightened sensitivity to identifying discriminatory events" (Vega), which could partially explain Chou's data causational correlation between perceived racism and expression for MDs. However, the link beneath the statistical correlation is complicated with the subjectivity and individual variations in perception, interpretation, and context of racist incidents.

Racial discrimination as a MD prevalence factor in US suggests other racial or ethnic conflicts have similar aggravating effects on the ethnic population in question. Additionally, societies with divided social environments, and polarizing media portrayals likely experience higher prevalence rates of MDs, probably mood and anxiety MDs. As transnational migration increases in the globalizing world, acculturative stress and racial discriminations' probable causational links to developing substance addiction may grow as well in proportion to cross-cultural interaction between immigrants and host ethnic populations.

Identity:

In his book "In the Name of Identity," Amin Maalouf states an identity is comprised of "a number of elements," unrestricted to ethnic or national modifiers and extending to any attachment or 'belonging' (Maalouf 10, 3). Thandie Newton theorized in the TED TALK, "Embracing otherness, Embracing Myself," that identity, the personal concept of self is the vehicle we use to engage with the rest of the world (Newton). Both Maalouf and Amartya Sen

agree that identity is neither “fixed or destined,” instead mutable and has multiple sources (Maalouf 13, 23; Fernando 15). Maalouf outlines a scenario of an Italian homosexual soldier conflicted in supporting his national army due to the army’s discrimination against homosexuals, and alludes to the psychological conundrum that contradicts the traditional ‘fixed’ concept of identity (Maalouf 14). Similar to this dilemma, Gloria Anzaldua compels the reader of her “To Live in the Borderlands Means You” poetry to vivaciously experience the inner conflict of identity people living in borderlands, or as Maalouf describes, a “frontier zone criss-crossed by ethnic, religious, and other fault lines” as well as geological (Maalouf 4). The narrator and the reader are simultaneously a multitude of identities and none, where “denying the Anglo inside you / is as bad as having denied the Indian or Black,” where “you fight hard to / resist...the pull of the gun barrel” and not commit suicide (Anzaldua). The poet implies the identity crisis, the psychological turmoil shapes a person’s psychopathy so severely they are at high risk for suicidal thoughts, and likely anxiety, depression, and other related MD symptoms. Clear research examining the data between such subjective factors like ethnic identity and mental health are scarce, but the correlation between common immigrant and minority experiences and higher MD prevalence are visceral in the literature.

One study shows correlation between behavior could include MD symptoms, identity and cultural stigma; Fiske and Taylor noted a study that demonstrated that Asian women, when asked to identify as Asian, performed better on math than when in a comparative context they identified “as women (Shih, Pittinsky, & Ambady, 1999)” (Fiske & Taylor 279). The identity the person identified with had a likely chance of indicating their ensuing behavior, possibly through psychological concepts such self-fulfilling prophecy and self-esteem rooted in external context.

If an identity is tied to negative feelings such as self-doubt, failure, and discrimination, these conflicts in identity can intensify psychological symptoms of MDs.

Cultural Psychiatric Stigma:

The cultural trend in accepting or discriminating against patients diagnosed with particular MDs can deter ‘help-seeking behavior’ and treatment compliance. According to Ruth White in the 2011 article “The Culture of Mental Health,” “people in Uganda [ridicule] people with a mental illness,” but abhor discrimination against the ‘physically sick,’ prompting families to hide family members with MDs. Even the Ugandan government adheres to the stigma, only allotting 5% of fiscal resources to mental health services (White), severely limiting available biomedical treatment for patients on top of the cultural aversion for psychiatric diagnosis of MDs. Lin and Chueng mention in their 1999 article “Mental Health Issues for Asian Americans” another example: there is documented evidence of Chinese and Japanese physicians working with schizophrenic patients and families to misdiagnose the illness as ‘neurasthenia’ to avoid stigma. Research on discrimination based on cultural psychiatric stigma is scarce, but psychiatric stigma discrimination bears similarities to racial discrimination and social exclusion, shame, and other potential results of discriminatory behavior are causational factors for MDs such as depression and *taijin kyufusho*. Taylor and Fiske elaborate on the effects of psychiatric stigma, paraphrasing another study and stating “exaggerated stigma consciousness- heightened vigilance in interacting with outgroup members” can create “a feedback loop of negativity...(Pinel, 1999, 2002)” of expecting prejudice, reacting negatively, and eliciting the expected discriminatory behavior (Fiske & Taylor 277-288). Thus, the presence of cultural psychiatric stigma in the

patient's identified culture(s) can intensify MD symptoms- especially psychological symptoms, altering the MD expression.

Patient Bias in Diagnosis:

Cultural backgrounds also affect the patient's description of symptoms to their psychiatrist or medical professional. Lin and Chueng studied the mental health system in a major city and concluded "atypical diagnoses [and misdiagnosis] were significantly overrepresenting in all ethnic minority groups...(Yeh M, Chung R, Lin K, unpublished data, 1997)" compared to Caucasian samples, suggesting that the studied mental health system's assessment tools were ill suited for diagnosing in cross-cultural situations. According to Lin and Chueng's article and the authors of the *Mental Health: Culture, Race, and Ethnicity: A Supplement to Mental Health: A Report of the Surgeon General* chapter on "The Influence of Culture and Society on Mental Health," patients often express their symptoms in culturally acceptable manners (Office). For example, Asian patients were less likely to report psychological symptoms during the diagnosis, often only reporting somatic symptoms. Due to the cultural differences between Asian and European psychiatry, "Asians, who are less inclined to dichotomize body and mind, tend to report distress" in a similar fashion. Coupled with a tendency to be reticent about expressing emotions, Lin and Chueng suggest these are additional possible causes for the majority of studied Asian patient's initial inclination to only report somatic symptoms and not divulge psychological symptoms until further prompting (Lin & Chueng). However, several studies point out that some ethnicities such as "Asians have no difficulties in identifying and reporting psychological symptoms" (Lin & Chueng). In cross-cultural settings, this patient aversion to reporting psychological symptoms can lead to misdiagnosis and mistreatment, leading to artificially lower prevalence of MDs in the ethnic population.

Coping Methods:

As a negative event, feedback from psychiatric stigmas as stated by Fiske and Taylor “typically provoke appraisal of threat and subsequent coping” mechanisms common to a culture (Fiske & Taylor 227). The United States Department of Health and Human Services reported “children in Thailand were two times more likely than children in the U.S. to report” using covert coping methods – i.e. “not talking back”- instead of explicit behaviors such as screaming or running away (Office). While coping methods are highly personal, cultures often find different types of coping styles acceptable. Parental and social feedback as well as exposure to different coping methods – all of which are adjusted by culture- strongly influence children’s behavioral patterns, including coping mechanisms. These methods of cultural impact on mental health can be further studied in children and teen developmental psychology. However, depending on cultural acceptability associated with help seeking behaviors and biomedical medicine, mental health patients may not even see a psychiatrist or medical professional for MD treatment.

Bias in the DMV and ICD:

Culture’s effects on mental disorders impacts not only the ongoing academic debates within mental health research, they impact medical professionals’ ability to diagnose MDs and provide culturally attuned care in worldwide. In the 2009 book *Culture and Panic Disorder*, Devon Hinton and Bryan Good argue parts of the DSM-IV diagnostic criteria are not universal across ethnicities or cultures and do not account for cultural variance and individual history. A common experience during panic attacks, European psychiatry refers to persistent ringing in the ears as tinnitus. The same symptom is called “*khyl* shooting from the ears” in Cambodian

refugee populations, stemming from Khmer ethnophysiology, the cultural understanding of the human body. Cambodians view the *khyal* as a somatic problem rather than a potentially psychological panic attack as the DSM-IV does. Additionally, the DSM-IV groups the different symptoms, “dizzy, unsteady, lightened, or faint [and] having chills or hot flashes...under a single criterion” while ‘data suggests’ not all societies or cultures would do the same and consider these symptoms equivalent (Hinton and Good 13-24). The book’s argument is corroborated by the Lewis- Fernández et al. review. According to Lewis- Fernández et al. in the 2010 scholarly article “Culture and the anxiety disorders: recommendations for DSM-V,” one Chinese study revealed that “60% of all [Chinese cases studied] of DSM-IV-defined anxiety disorders fall in the Not Otherwise Specified category,” indicating the American DSM criteria do not account for Chinese pathological anxiety (Lewis-Fernández et al.). Controversy over the American middle class-based DSM’s criteria for PDs and GADs lack of exclusion of other cultural definitions or ethnophysiology such as the Cambodian ethnophysiology (Hinton and Good 13), likely applies to many non-Western cultures’ pathological anxiety, panic, and other excess or deficiencies in thoughts or beliefs characteristic of specific MDs. Both academic works’ argumentative points are based on the claim that cultures influence and define mental disorder psychopathy uniquely- no two cultures’ psychopathy are the same.

The 2014 Hofmann and Hinton article notes the DSM-V has made headways into broadening diagnostic criteria for cultural-specific disorders such as the primarily Japanese and Korean CBS *taijin kyufusho* (TKS). There are four subtypes of TKS. The physical deformity TKS subtype resembles the DSM-IV defined body dysmorphic disorder while the fear of blushing subtype most closely resembles the DSM-IV definition for social anxiety disorder

(SAD). In the DSM-V, both subtype symptoms were included in the SAD through the wording of the fear of negative evaluation (Hofmann and Hinton). These controversies impair medical professional's ability to diagnose and treat mental disorders in patients of different cultures and ethnicities- the patient may not even fully comprehend the DSM or ICD diagnosis, as the lack of ethnophysiological and ethnopsychological understanding goes both ways. Stated in his book *Culture, ethnicity, and mental illness*, Albert Gaw explains culturally influenced cognitive systems, "conceptions of the body, [including] parts and processes...ideas of disease and causation...can make suggested therapies or invasive surgery in the mode of Western medicine difficult" (Gaw 10). To provide cross-cultural medical treatment and lower elevated minority prevalence rates, the DSM-V's should be broadened to encompass culturally specific MDs beyond European-specific disorders- after all, there are no European CBS in biomedical psychiatry.

Cultural Values Shaping Mental Disorders:

Individualistic cultures, i.e. American, and collectivistic cultures, i.e. East and Southeast Asian, diverge greatly. In Mauricio Sierra-Siegert and Anthony David's 2007 scholarly article "Depersonalization and Individualism: The Effect of Culture on Symptom Profiles in Panic Disorder," the authors review studies on PDs and conclude 'nonwestern countries' had a far lower frequency of depersonalization during a panic attack than Western cultures.

Depersonalization is where the patient dissociates with their current identity, body, and own thoughts, instead viewing their experiences as someone else's. The depersonalization frequency and fear of losing control highly correlated with individualism, corroborating with Hoffman and Hinton (Sierra-Siegert and David; Hoffman and Hinton). Therefore, people in individualistic

societies are possibly more at risk for the related anxiety and panic disorders, potentially explaining the prevalence rates, while collectivist psychopathy may offer better coping styles or simply not aggravate the panic and anxiety MD symptoms in comparison. Individualistic culture's values likely shape the anxiety and panic disorders' expression to include depersonalization and other related symptoms more frequently.

Additionally, Asnaani et al. state prevalence rates for anxiety disorders differ between non-American samples and US studies, potentially indicating the difference in immigrant population's responses depending on the collectivist or individualist culture they identified with versus their host culture's orientation, as well as methodological flaws and response bias (Asnaani et al.). The studies' conclusions suggest culture, especially the perception of the world in relation to the self and the value of the individual and community play a significant role in the psychopathology of PDs, and possibly other mental disorders as well.

Stefan Hofmann and Devon Hinton penned the scholarly article "Cross-Cultural Aspects of Anxiety Disorders" 2014, discussing differences in social anxiety disorder expressions in individualist and collectivist cultures. Southeast Asian people may be embarrassed more often due to the larger amount rules governing social behaviors – external sanctions- while guilt and self-blame are more pervasive in individualistic cultures due to internal sanctions and the emphasis on the self (Hofmann and Hinton). Depending on the cultural orientation and the perceived locus of the sanction, a person can associate 'life satisfaction' with their social transgressions, shaping the expression of anxiety and anxiety psychopathy. The Hofmann and Hinton article discuss TKS, a primarily Japanese and Korean SAD associated with collectivist external sanctions. People with TKS specifically fear offending others through their body odor,

blushing, eye-to-eye contact, or physical deformities. Anxiety expressions similar to TSK have been reported in other countries (Hofmann and Hinton), but the cultural acknowledgement and inclusion in general knowledge juxtaposed to the absence of similar disorders in individualistic societies like America demonstrate the deep cultural orientation influence on anxiety disorder expressions, and likely by extension other MDs.

While individualist and collectivist cultural differences are more apparent in cross-cultural research, other cultural values impact the MD expression and prevalence as well. Research also examines the MD prevalence and expression relation with Turkish and Egyptian cultures in comparison to individualistic cultures like Canada. In the scholarly article “OCD in Egyptian Adolescents: The Effect of Culture and Religion” 2004, Ahmed Okasha discusses the prevalence of obsessive-compulsive disorders in Egyptian populations. He examined a study of 1,000 psychiatric patients in a university clinic in Cairo, Egypt, and another study of 90 obsessive-compulsive patients that completed General Health Questionnaire for “screening psychiatric morbidity” and the Arabic Obsessive Scale for OCD symptoms. The most common OCD expressions were religious and contamination obsessions (60%) and somatic obsessions (49%). The most frequent compulsions of ritual repetition, cleansing, and checking on prayers were related to Islamic beliefs in ritualistic cleansing and praying (Okasha).

Drawing similar conclusions, Orcun Yorulmaz et al. compare non-clinical samples of obsessive-compulsive patients and non-patient controls in the article “Vulnerability factors in OCD symptoms: cross-cultural comparisons between Turkish and Canadian samples” 2010. The specific methodology was not accessible. There were correlations in neuroticism and types of metacognition (appraisals of responsibility, threat estimation, perfectionism/ need for certainty,

and thought-action fusion) between the two samples, Turkish participants were “more likely to utilize worry and thought suppression,” and Canadian participants tended to employ self-punishment more often than not. Additionally, mirroring the Okasha article, many Turkish patients in the sample reported high levels of obsessions relating to fear of contamination and cleanliness (Yorulmaz et al.). Thus, in the case between Canadian and Turkish OCD expression, the religious values imbedded in Turkish culture likely skewed the OCD expression towards behaviors such as religious cleanliness that are associated with religious values. Both studies show the evident Egyptian, Canadian, and Turkish cultural as well as religious influences on OCD expression, and likely general MD expression.

Limitations:

Many parts need further research, from the cultural differences in defining, treating, and shaping MDs, as the comprehensive span of cultural influence on mental health is expansive and multifarious. Chou mentions there is a dearth in literature on ethnic identities as ‘potential protection- factors’ against substance abuse and the development of addiction after migrating to a new country like the US as of 2012 (Chou et al.). Hinton and Good note the small amount cross-cultural studies analyzing cultural differences in diagnosing mental disorders in their discussion on diagnosing mental disorders in 2009 (Hinton, Good). For statistics, Hoffman and Hinton mainly cite one small study both authors participated in with Asnaani, J Anthony Richey, and Ruta Dimaite and no other source for data to supplement their points. Even the same small study written by Asnaani and co. states in the introduction that despite the “surge in the number of studies focusing on minority mental health issues...there remains a dearth of information about the mental health picture of non-White race-ethnic groups in the US,” (Asnaani et al.)

which likely echoes the literature scene of the global scientific community. Numerous other authors agree with the problem in their works on similar topics (Lewis-Fernández; Vega; Yorulmaz) Therefore, the widely recognized lack of available research on the varied and nuanced relation between a population's culture and prevalence for MDs hampers the validity and applicability of trends and conclusions extracted from existing research and literature.

All the sources were written in English and the authors of the reviewed literature may be disproportionately from Western culture, perhaps introducing a bias towards Western modes of thought in the conclusions on influences- particularly cultural- on ethnic populations. The limitation to English literature also excludes cross-cultural psychiatric research conducted in different languages.

Gaps in research include the lack of research on specific aspects and factors of culture on mental health and disorders as stated above, and most of study conclusions' more uncertain nature. Gaps in logical reasoning are made when general MD trends are suggested from specific statistical trends on a small range of mental disorders and study samples. The suggested general trends based on the predominately Western literature also do not account for unique cultural, political, social, or other differences in the non-Western cultures this paper uses in its argument.

Conclusion:

The relation between culture and mental health is varied and nuanced, stemming from overt historical racial tensions to subtle shared inclinations or disinclinations towards certain stigmas and altering or causing abnormal psychological symptoms. Cultural values shape MD symptoms. In cross-cultural settings, patients and physician biases can lead to misdiagnosis or

insufficient treatment, and DSM and ICD bias against non-European ethnopsychology and ethnophysiology inhibits the biomedical psychiatric system's ability to diagnose and subsequently treat these MDs and CBS. Conflicts in identity, cultural values that align with individualism, and perceived discrimination increase the chances of developing anxiety mental disorders and panic disorders. Supported by the writers of *Mental Health: Culture, Race, and Ethnicity* and Do Kyun Kim et al. in the 2014 book *Health Communication Strategies for Developing Global Health*, ethno-specific approaches to biomedical psychiatry – tailoring the mental health system to the patient's identified cultural background – would increase the chances of successful treatment and lower higher ethnic minority MD prevalence rates. The ethno-specific approaches can be achieved through integrating non-European traditions of health and traditional methods of healing in community- based approaches (Do Kyun Kim et al. 328; Office).

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Attachment Parenting Practices and Infant Psychological Health

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The idea that a child's very early experiences may end up influencing future behavior and functioning, arise important issues concerning their well-being. An important topic related to this is the use of attachment parenting. This is an approach in caring for ones' child, where specific focus and attention is placed on him/her, often since birth. Some very common and important categories of attachment parenting include Kangaroo Care (KC), breast-feeding, and co-sleeping. Though the degrees of attention may vary from parent to parent in each of these scenarios, they have one key idea that connects them: a special contact between child and parent, particularly the mother. Kangaroo Care and breast-feeding are the types which involve the most skin-to-skin contact (SSC); co-sleeping does not necessarily involve as much closeness as the latter two, but it is likewise very significant with relation to studies and criticisms. Breast feeding itself interrelates with Kangaroo Care and co-sleeping, because often parents using these techniques use breastfeeding, too, at least partly. Though this review will focus mainly on infant psychological affects, impacts on the mother will be briefly mentioned, particularly with Kangaroo Care. Overall, the major findings revealed that these practices, if administered correctly, lead to positive cognitive functioning, release of stress, and a mature control of emotional reactions; few documents showed opposition or skepticism, but gave a mostly positive outlook. Thus, even though these three systems may consist of different procedures, they are each connected by the creation of infant-mother bonding, which can lead to improved psychological health.

The skin-to-skin contact involved in Kangaroo Care can tremendously promote mental wellbeing to an infant. Often when babies are born premature, they are

immediately taken to an incubator in the medical facilities, and remain there until they are strong enough to cope with the outside elements. However, ongoing research of Kangaroo Care is demonstrating that the former may not be the best start to a baby's life. Through the KC method, the almost naked infant is placed skin to skin on the mother's chest, and covered to keep a warm environment. Even though groundbreaking research on KC is fairly new (of the twenty-first century), it is not a recent discovery. Dr. Edgar Rey Sanbriadue first initiated this system at the "Mother and Child Institute" in Bogota, Columbia (1978), due to illnesses caused by crowded conditions, and a lack of proper "caregivers and resources" (Wildner, 2012, p. 26). The opposing method to KC is the use of incubators, whose invention dates back to the late 1800s. A French doctor named Martin Couney is noted for its creation, modeled after poultry warming chambers. Incubator care spread in popularity through experiments and exposition tours, where Couney would display several of his incubators with live babies inside! In the long run this invention resulted in negative impacts on parent-infant relationship; therefore, changes were slowly being made to allow less confinement of babies, and more connection and contact with the mother or caregiver (Wildner, 2012). In contrast, the Kangaroo Care scenario creates a mother-infant dyad, where the mother herself can act as an improved "incubator:" the baby receives the warmth needed, food on demand through breast-feeding, and extensive physical touch and protection. However, in extreme cases of premature birth, the incubator may be essential for the child's survival; but, because interaction between parent and child is essential, experts on KC still advocate its use, for at least designated periods of time.

This alternate infant care method has roused much interest, especially in the last few years, in examining the possible underlying, positive impacts on the baby's psychological health. One very extensive research was led by psychologist Dr. Ruth Feldman, and in 2014 was published as an article in the journal, *Biological Psychiatry*. Entitled "Maternal-Preterm Skin-to-Skin Contact Enhances Child Physiologic Organization and Cognitive Control Across the First Ten Years of Life," it mainly focused on analyzing if Kangaroo Care applied on premature infants had any effects in cognitive, physiologic development of the child (Feldman, 2014). One hundred forty-six mothers and their babies participated in the experiment, with a total of seventy-three preemies placed in incubators (control group), and the other seventy-three receiving Kangaroo Care (contact group); however, the latter category did not experience exclusive KC, but only at a fixed interval of "one hour daily for fourteen consecutive days" (Feldman, 2014, p. 58). Through the aid of different tests, including an electrocardiogram, and the "Trier Social Stress Test for Children," the children's physiologic as well as psychologic health were surveyed at different times in their lives: first when the preterm babies reached full term age, then at three, six, twelve, and twenty-four months, and finally at five and ten years (Feldman, 2014). Unfortunately, due to different factors, not all the participants remained in the study, but in the end one hundred seventeen stayed consistent. The outcomes of this study were ground-breaking, nevertheless. The different recorded physiological and mental developments of the contact group were found almost always higher than the control group. Specifically, the final tests done on the ten-year-old KC children showed "attenuated

stress response, more mature autonomic functioning, organized sleep, better cognitive control” (Feldman, 2014, p. 60-61) and a stronger relationship between the mother and her child.

Furthermore, an online article of *Psychology Today* by Christopher Bergland, titled “More Proof That Skin-to-Skin Contact Benefits Babies’ Brains,” reports a more recent study published in the *Current Biology* journal (2017). The leading researcher was neonatologist Nathalie Maitre from Nationwide Children’s Hospital and Vanderbilt University Medical Center. The subjects were one hundred twenty-five infants, including both premature babies of twenty-four to thirty-six weeks, and those born full-term ranging from thirty-eight to forty-two weeks old. By using a soft, baby-friendly electroencephalogram (EEG) cap, Maitrie was able to measure different brain responses to the feeling of touch (Bergland, 2017). The results were amazing, and supported earlier research findings related to KC: very early touch experiences can have a long-lasting impact in “the somatosensory brain scaffolding [which is also] linked to cognitive, perceptual, and social development” (Bergland, 2017, para. 3). As Nathalie Maitrie stated herself, it is very important to use gentle and soft touching in skin-to-skin contact, with the goal of mimicking as much as possible, the quiet, comforting state of the mother’s womb which the preterm baby did not fully experience.

When analyzing the psychological benefits of Kangaroo Care (or skin-to-skin contact), it is difficult to ignore the impact it can provide for the mother as well. After a mother gives birth, often she may experience a disorder known as postpartum depression, causing moments of anxiety, stress, and even negative effects on the

intellectual and emotional development of the child. Depending on the intensity level of postpartum depression, it can be cured through the passing of time, taking medications, or, if it is more serious, the mother should seek help through psychotherapy (Cooijmans, 2017). A study led by Kelly H. M. Cooijmans, and published in the *BMC Pediatrics Journal* (2017), discusses the benefits of skin-to-skin contact on the mother's health, based on a series of experiments that were conducted by her team. Once again, groups were separated into control and contact categories, with one hundred sixteen mothers and their "full-term infants" participating all together (Cooijmans, 2017). Kangaroo Care was administered for five weeks in total, and response measurements were taken at different times, until the child reached one year in age. This skin-to-skin intervention was found to decrease the mother's symptoms of postpartum, and provide a better mother-child relationship overall. Though the reasons for this are not clearly known, one factor, as the study reports, could be the activation of oxytocin, a hormone "released after the activation of multiple sensory nerves" (Cooijmans, 2017, p. 3) and triggered by gentle skin touch. This occurs chiefly during an interaction between a mother and her baby, which could be the reason for reduction of mental anxiety and stress in the mother. Thus, Kangaroo Care creates a unique connection between the mother and child, not only for the moment in which it occurs, but it may have other positive, future implications.

Breastfeeding is another form of SSC which can promote a healthy psychological functioning. Modern, industrialized countries have seen a decrease in mothers breastfeeding their babies, in spite of advice from health institutes like the World Health

Organization, and American Academy of Pediatrics. This is most likely caused by the increasing availability of other products and supplements, namely formula milk. Since the early twentieth century up to the modern day, studies have been conducted regarding the effects of breast-feeding on the child. Because many factors are involved in trying to analyze such a scenario, some studies obtained neutral, or even inconsistent results. Nevertheless, a majority indicate higher rates of cognitive development, more positive social behavior, and even a “higher intelligence quotient (IQ)” in children who received breast feeding, than those who did not (Tasnim, 2014). In 2012, Maria Quigley, along with others, analyzed 11,879 five-year old term and preterm children living in the UK, in relation to breastfeeding information. Children were grouped according to the amount of time they were breastfed, and the results were also split to differentiate the full-term and premature children (Quigley, 2012). Further adjustments had to be made in this experiment to ensure clarification and lack of misleading information. In the end, the participants who breastfed for the longest period, had higher cognitive outcomes, especially those in the premature category. Reasons for this are unfortunately not specific, but Quigley discusses a few very possible ones. For instance, breast milk contains several “long-chain polyunsaturated fatty acids,” (p. 30) and growth hormones not found in formula milk, that are very important for brain-functioning and advancement; also, cognitive progress may be affected by the interaction and contact that the infant experienced during breastfeeding (Quigley, 2012).

A vast majority of past studies regarding breast feeding, dealt with recording the brain development of older children. However, a study conducted by Brown University's

Advanced Baby Imaging Lab in 2013, focused primarily on babies four years and under. Examining both breastfeeding and formula-fed children, the former group revealed to have a more advanced brain development, than those who were fed with formula (Brown University, 2013). Unlike other previous studies, this one used special MRI scanning machines to analyze the above issues. In another specific experiment, babies who had fully breastfed for at least three months were shown to have more growth in brain areas related to “language, emotional function, and cognition” (Brown University, 2013, para. 2) than those who received both breast milk and formula, or formula only. These results were found in children as early as two years of age! Lastly, the period of time spent breast-feeding was also shown to be significant, where babies who were breastfed for less, and more than a year were examined. Increased growth in the brain areas responsible for motor activity were found more in the breastfed children, and decreased growth in those who received less breastfeeding (Brown University, 2013). Therefore, such research contributes to further knowledge on the implications and benefits of breast feeding.

A final significant, complex, yet controversial category of attachment parenting is co-sleeping. This method of parent-child sleep involves the baby sleeping with his/her parents in the same bed (bed-sharing), or on a separate surface close to the parents. It may also be done with older children, but is more common among infants. The main arguments proposed against this technique are posed risks of Sudden Infant Death Syndrome (SIDS), and less restful sleep for the infant and mother. First, SIDS accounts for the leading cause of infant deaths in most countries, and what is more troubling

about it is that the true motives for these happenings are indefinite. Several people have claimed that co-sleeping, and bed-sharing in particular leads to SIDS, because of the possibility of suffocation; thereby, creating a linkage between co-sleeping and SIDS, when there could be other factors involved. Such a proposition has been argued against by co-sleeping advocates like Dr. James McKenna, anthropology professor of Notre Dame University and mother-child sleep specialist. Though he believes that precautions are extremely essential with bed-sharing, especially a firm surface with tucked covers/sheets, and non-smoking, non-alcoholic parents, he does not believe that SIDS stems largely from co-sleeping. In his article entitled “Co-Sleeping, Breastfeeding, and Sudden Infant Death Syndrome” McKenna discusses what is known as the “Triple-Risk-Model” presented by Filiano and Kinney in 1994. According to this theory, SIDS might be caused by an inborn defect, a “species-specific characteristic unique to the human infant” (McKenna, 2010, p. 2), or perhaps a stressful situation or experience undergone by the infant.

Additionally, with the proper measures and guidelines followed, co-sleeping can even reduce the risks of SIDS. Along with Lee Gutler, and clinical psychologist Sarah Mosko, McKenna discovered that when co-sleeping, the mother and child undergo a light sleep, where the waking moments occur mostly in a “synchronized” manner (Martin, 2015). Also, all babies experience short apnea moments during their sleep, but are able to wake up if the breathing pause is prolonged; if children experience a prolonged shortage of breath without awakening, this may indicate a biological defect (Martin, 2015). Moreover, various other analyses found that when a mother and child

bed-share they tend to mostly sleep in the light stages, therefore, possibly contributing to a prevention of SIDS (Mao *et al*, 2004). A final series of contributions related to research on SIDS prevention, demonstrated that overall, babies who solely breastfed while co-sleeping “had a 70% lower risk of dying from SIDS” (Muller, 2014, para. 12), which is most likely due to the frequency of light sleep.

The second reason for opposition against co-sleeping is the idea that it reduces chances of effective restful sleep in child and mother. A study done in 2004, compared sleep-wake patterns of both co-sleepers and solitary-sleeping infants. Eighteen infants participated, half being co-sleeping babies, and the other half non co-sleepers and serving as the control group (Mao *et al*, 2004). Though similarities were found with regard to periods spent in active and quiet sleeping, there was one key difference: co-sleeping infants had more awakenings throughout the night than the other group. However, the period of time stayed awake lasted shorter. Another research published in the *Journal of Family Psychology* (2016), by Philbrook and Teti, and entitled “Bidirectional Associations Between Bedtime Parenting and Infant Sleep,” examined the common parental concern of infant waking and distress. Participants included mothers, and their babies who were observed at one, three, and six months of age. The main conclusion of the experiment reports the importance of “emotional availability” (EA) in the parent, which is basically a caring, responsive behavior towards the child's requirements. More contact during the child's sleep, along with a low EA, was linked to more infant distress and waking throughout the night, somewhat similar to the previous analysis; whereas, mothers who showed a higher EA contributed to their babies having

a more restful night sleep (Philbrook, 2016). Therefore, the key important point is for parents to be reassuring and responsive towards their infants' requirements.

Besides the benefits discussed above, other sources recount several positive, specific psychological benefits of co-sleeping. According to the article by Dr. Robert T. Muller, "To Share or Not to Share (the Family Bed)," bed-sharing and co-sleeping have been shown to improve social functioning and reduce anxiety in children who were previously co-sleepers (Muller, 2014). During co-sleeping, the mother is very close to her child, and therefore tends to be very responsive to his/her needs. For instance, with regard to breastfeeding, the mother is able to feed her baby at any time during the night when a need for this occurs. Such an immediate, sensitive care towards the baby facilitates and increases child attachment to the parent(s) (namely the mother), and reduces stress because the child knows his/her desires will readily receive loving attention. Therefore, in spite the unclear aspects, and controversial associations made with co-sleeping, researchers of different fields have shown that likely benefits should be carefully considered.

In conclusion, parenting methods, whether it is loving attachment, or a less responsive way, are very influential in shaping a child's behavior. Most of the literature reviewed exposed a strong connection between mother-infant bonding through skin-to-skin contact, breastfeeding, and co-sleeping, and the increase in cognitive ability and social, emotional development of the infant. Of the three practices, co-sleeping contains the most debate, particularly because of assumptions that it causes SIDS. Because of such negativity, and the possible limitations present in some of the studies, questions

still remain regarding its popularity, and truthfulness in benefits. Nevertheless, pioneer researchers have laid a foundation regarding mother-infant psychology in bonding, which can potentially lead to more important, supportive findings in the future.

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Bitcoin: Booming Business in Unexpected Spaces

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Bitcoin: Booming Business in Unexpected Spaces

There were two types of individuals when the internet boomed in the 1990s. Some saw the internet's potential in becoming a standard for occupational and life processes, while others remained skeptics who failed to understand its capacity to revolutionize the way that information is shared. Today, in part due to the internet, individuals are more connected than ever in a globalizing world. Due to technological innovations stemming from the same ingenuity that brought the internet to life, previously unattainable markets are suddenly in reach, conversations that could not have transpired due to foreign language barriers are now taking place, and business operations are expanding across continents. But if instant connectivity defines a genuinely global society, our assumed level of globalization differs from reality. The truth is that there are delays in structural financial systems and barriers in the international political landscape that prevent a state's ability to participate in global markets. However, with the emergence of cryptocurrencies, and bitcoin in particular, a genuinely globalized society can be attained.

Bitcoin is an online non-fiat digital currency, or cryptocurrency. It was created by an online developer and Japanese American under the pseudonym, Satoshi Nakamoto. In 2008, Nakamoto released a paper introducing the currency to cryptology circles and built the bitcoin domain in 2009 (Guadamuz et al.). Nakamoto engineered the cryptocurrency through a mathematical equation, intending to foster monetary transactions at little to no fees. Bitcoin, the first decentralized digital currency in existence, does not depend on governmental bodies to operate. The cryptocurrency is stored in online digital money wallets, bought with any currency (dollar, yen, etc.), and

traded on cryptocurrency exchanges. Bitcoins are secured by miners who crack mathematical equations to retrieve bitcoin blocks, and each bitcoin is assigned a sixty-four-digit tracking number (Guadamuz et al.), meaning it can never be reproduced like a dollar can. Bitcoin miners – which can refer to computer processing systems, the people operating those systems, or individuals who crack the codes themselves – receive bitcoins payments for verifying monetary transactions that occur in a public ledger called blockchain. There are only 21 million bitcoins that can ever be mined, which is why it becomes harder to extract bitcoins after every 21,000 blocks through a process called halving (Guadamuz et al.).

Fiat money, where paper money is made legal tender without backing from silver or gold reserves, is standard today. This money is deemed useful because of the value that governments attribute to it. The concept of applying value to money must, therefore, be kept in mind when attempting to understand the acceptability of bitcoin. Since bitcoin is self-regulating, its value comes from the computing power of miners. Nakamoto saw a need to provide a currency free from government intervention and free to operate under natural economic forces. Whereas in traditional monetary systems, where money receives its value from central authorities, the value of bitcoin is derived from the accuracy of blockchain. As bitcoin miners verify the transactions in blockchain, trust is bridged between bitcoin users everywhere, who have access to the ledger at all times. The faith of the currency is consequently placed in computer programming, not sovereign states (Guadamuz et al.). Whoever becomes the owner of the cryptographic address tied to a bitcoin can use the cryptocurrency for trades, purchases, and exchanges. This construct alters the role of governments in financial procedures; as

such, the emergence of bitcoin becomes increasingly useful in nurturing a genuinely global economy.

With aforementioned context in mind, it is essential to ask: What are the economic and political implications of using bitcoin within countries and across the globe? Bitcoin is fundamental since it has become the most recognizably used currency that is changing the way that value is placed on money. It is often said that we live in a globally integrated and fast-connecting economic world, but the reality is that monetary transactions across continents are not transpiring at optimal efficiency. The funds needed for these transactions must go through banks that charge high fees and require weeks of processing time. Additionally, national governments with political agendas are preventing the free flow of commerce between nations by thwarting economic opportunities for citizens through initiatives like sanctions. Bitcoin is not rooted in any one government, which means it is not rooted in any one currency. As such, bitcoin reaches more people than standard coins ever could because it allows anyone to participate in its use. This includes those in the developing world, those who cannot go through conventional banks for cash, and those yearning to reach diverse markets. With bitcoin, an accountable network connects people from diverging points of the world within seconds. Accordingly, the politically unregulated nature of bitcoin provides opportunities for economic growth on the individual level and within businesses by circumventing various policies implemented across governmental structures. This economic growth can be identified throughout nations, including unexpected spaces like Venezuela and Iran.

Venezuela, once the wealthiest country in Latin America, is in severe political

and economic ruin. The unfortunate saga begins with President Hugo Chavez, the popularly held Venezuelan leader who served from 1999-2013 and was elected on the basis of helping the nation's poor. In 2004, Chavez invested the high profits earned from a surge in oil prices on good subsidies, improved education, and healthcare for Venezuelans. While these initiatives reduced poverty by half, government spending led to a deficit as the country's petroleum-dependent economy collapsed after oil prices fell. Nicolas Maduro, the successor to Chavez, inherited a collapsing economy in 2013 rigged with hyperinflation and failed to adjust (Ellis). Venezuela now has the highest level of inflation in the world. According to the CATO Institute, the inflation rate rose from 19% in 2012 to 946% in 2017 (Ellis). The International Monetary Fund (IMF) further reports that the Gross Domestic Product (GDP) per capita in Venezuelan bolivars went from 2,091 in 2012 to 1,355 in 2017 – this 35% drop in GDP is sharper than the figures of the U.S. Great Depression circa 1929-1939 (Ellis). Venezuela's economy is plummeting and with it the inevitable fall of Venezuela's citizens.

Maduro is using Venezuela's collapsed economy to consolidate power, a tactic strikingly similar to authoritative rule despite the country's presidential system and socialist state. In 2016, Maduro replaced existing Supreme Court Justices with hand-picked political puppets who stripped the National Assembly voted in to fight his rule. Even more deplorable, Maduro set the currency exchange rate at ten bolivars to the dollar (10:1) but only made the price applicable to his political allies and the military, which gained control of the country's food supply in 2016. As such, the military imports food at the 10:1 exchange rate but sells food on the black market at a rate of 12,163 bolivars to the dollar (12,163:1), generating massive profits and creating the most

outlandish hyperinflation rates seen in generations (Ellis). The conditions are so dire that 82% of the country is considered below the Venezuelan poverty line (Ellis).

According to the Washington Post, the United States imposed sanctions on Venezuela in 2014 to oppose the human rights abuses taking place (McCarthy). These sanctions are making access to necessities impossible for citizens. A bag of grocery items filled with eggs, milk, and fruit in Venezuela costs 772,614 bolivars, or \$64 (Pozzebon). This political and economic regulatory situation, coupled with a severe drought from El-Niño and other environmental factors, is creating empty grocery stores and stomachs.

In a situation where economic mobility is nonexistent and outright survival insufferable, bitcoin became a haven for existence in Venezuela. For instance, Alberto, a 23-year old college graduate, discovered bitcoin mining as a potential form of revenue for him and his family. While job opportunities in Venezuela are so dire that workers are paid \$20 a month, Alberto began earning more than \$1,200 a day mining bitcoins (Epstein). Alberto brings food from the U.S. through Amazon's Prime Pantry service, and since Amazon does not accept bitcoin directly, he uses an intermediary company called eGifter to buy Amazon gift cards with the bitcoins he mined. Similarly, a 25-year old bitcoin miner named Alejandro buys groceries from Walmart through a Neteller card, which is a credit card that allows bitcoin deposits in exchange for dollars (Epstein). Other products commonly purchased include pharmaceuticals, toilet paper, shampoo, and electronics. Buying these goods overseas with bolivars would be impossible since virtually no country or entity would accept it as payment; i.e., the bolivar has no value.

Bitcoin not only allows citizens to bypass structural economic policies in Venezuela but also fosters economic opportunity in an otherwise grim situation. Mining

bitcoin alone is a business and mode of employment, yet bitcoin is responsible for saving companies that would have failed in Venezuela's climate. A young man named Jesus, who lives in a city called Barquisimeto, says bitcoin allowed him to save his electronic repair business. As suppliers ran out of inventory to sell to him due to trade restrictions imposed by the government, Jesus opted for bitcoin mining to order his supplies on Amazon. His business has fully recovered since then; without bitcoin, this relief could not have been possible (Epstein). Bitcoin in Venezuela is thus essential to the survival of citizens in a time when the government's initiatives consistently fail.

The above stories are some of many in the Venezuelan bitcoin mining community, which has its own Facebook group and operates underground due to impending threats of criminal prosecution from the Servicio Bolivariano de Inteligencia Nacional (SEBIN) – aka the country's secret police (Epstein). Bitcoin users take additional security by masking their identities and computer locations to prevent government tracking. Since bitcoin mining demands intensive electrical power, users move to industrial zones to fight power outages. As bitcoin is legal in Venezuela, police forces charge users with improper acquisition of paperwork for trade transactions and improper use of electricity. Arguably, mining bitcoins is the most efficient use of electricity because it provides a stable currency that can be exchanged internationally across markets. SurBitcoin, the most popular site where bolivars can be traded for bitcoins, allows Venezuelans to send money overseas without hassle in lieu of alternative methods like sneaking money across borders, which is time-consuming and dangerous (Epstein). Thus, the overarching benefit of bitcoin in Venezuela is that it

frees citizens from the fixed-exchange system that is skyrocketing currency rates, thwarting economic growth, and threatening the survival of individuals.

Unfortunately, Venezuela is not the only nation experiencing economic obstacles. While the situation in Iran is not as drastically severe, Iranians have been suffering from a lack of proper financial stimulation due to international sanctions placed on the country. These sanctions date as far back as Jimmy Carter's presidency, when the Iranian Hostage Crisis of 1979 ensued as sixty plus U.S. citizens were held hostage at the U.S. Embassy in Tehran (Levs). The crisis evolved from America's ongoing involvement in the Iranian political process through the placement of marionette political leaders used to consolidate American and British control of Iranian petroleum reserves. More specifically, the execution of the 1953 coup, placing the Shah, Iran's royal family, as head of the new pro-western secular government began a trend of frustrating the Iranian populace witnessing the devaluation of their political influence ("Iran Hostage"). Today, the sanctions against Iran are positioned by the United States, the United Nations, and the European Union (Levs), partly due to the development of nuclear weapons promised to destroy America. These sanctions include economic embargos and trading bans against the country, which severely thwart economic growth for citizens.

Bitcoin is the loophole to the undeniable problems associated with sanctions because it has no dependency on politics. Iran has become a feeding grounds for bitcoin since its economic and political environment restricts individuals from buying goods and acquiring resources internationally. Exchange rates and the value of the rial shift so regularly that Iran has no dependable standardized currency. Contrastingly,

bitcoin mining allows Iranians to “exchange bitcoins for dollars that can be kept outside the country” (Raskin et al.). Much like Venezuelans, Iranian bitcoin users send money in their online digital money wallets to family members overseas to pay for expenses. Likewise, money can be sent to Iranians from people living abroad by using services to exchange bitcoin for other currencies (Raskin et al.). Citizens can use Localbitcoins to acquire the cryptocurrency and use a marketplace called Coinava to trade bitcoins actively. Iran's bitcoin Facebook group has over 31,000 members who plan bitcoin meetups to discuss the cryptocurrency (Redman).

Furthermore, bitcoin is promoting business growth domestically and internationally among Iranians. A shoe company named Persian Leather Shoes is a bitcoin-only startup (Redman), which means it only uses bitcoins for shoe sales. The company lists its reasons for operating in this manner on their website stating, "We like to sell out products across the world and the more customers, the better" (Redman). The foundation of this very business is the connectivity of global markets, which has proven to be hindered by the political itineraries of numerous nations. On a more international note, a Swedish firm named Brave New World Investments is being funded through bitcoin and used “as an investment vehicle for Iranian equities on the Tehran Stock Exchange” (Redman). The founder, Mikael Johanasson, sees an opportunity in Iran's bitcoin-happy people and emphasizes that no sanctions are obstructing such investments from taking place in the European Union (Redman). The creation of bitcoin startups, which prop up businesses at a faster rate than through traditional currency methods, and the connectedness brought by companies doing business on such a universal platform is undoubtedly conducive to economic growth.

In February of 2017, Valiollah Seif, governor of Iran's Central Bank, announced that the country would no longer use the U.S. dollar in the nation (Redman). While no direct ruling on the acquisition, trading, and mining of bitcoin exists in Iran, this step is significant in conveying the possible acceptance of bitcoin by the Iranian government on a large-scale. In fact, the High Council of Cyberspace and the Central Bank of the Islamic Republic of Iran are jointly preparing for wide-scale bitcoin use in the country and plan to release accumulated findings on the currency in September 2018 (Mizrahi). The secretary of Iran's High Council of Cyberspace also openly declared that the Iranian government welcomes bitcoin in Iran and sees a prolonged substantial use of the currency, albeit coupled with some regulations (Mizrahi). These steps, while preliminary, indicate that bitcoin holds real authority in bypassing international political policies and structures. If capitalistic forces are considered independently of political discourses, business is clear. Self-regulated economies are closest to the natural pull of the trade. However, the case of Iran is very telling to the economic impact of policies like sanctions on the lives of individuals caught in between international political aggression.

Evidently, bitcoin is carrying out the purpose that Nakamoto intended; to operate without the need for centralized control. As demonstrated through the two case studies, this underlying factor is what allows bitcoin to thrive and financial transactions to ensue in the midst of austere political and economic turmoil. The cryptocurrency not only aids in the human survival Venezuelans and the economic survival of Iranians but also keeps these nations included in global markets despite their respective conditions at home. Ten years ago, this construct would have been a distant dream. The international

isolation and economic blockade against Iran, for instance, could not have been bypassed without negotiations between nations. While these negotiations are essential in the political sphere, there are new standards wherein citizens can generate revenue with or without these talks. However, with bitcoin's circumvention of governmental structures and financial institutions, it is quite impossible to ignore the reality of regulating the cryptocurrency. Indeed, the core of bitcoin's operation is its self-regulating nature, yet many countries are dealing with the weight of structurally controlling the cryptocurrency. This means regulation, taxation, and crackdowns on bitcoin users. As governments attempt to regulate bitcoin and legislative measures are implemented, the impact on global markets and global bitcoin trends must be questioned. More specifically, what happens to people who are dependent on bitcoin for survival after these policies are applied, such as in Venezuela and Iran?

As Facebook founder Mark Zuckerberg puts it, "Cryptocurrency takes power from centralized systems and puts it back into the hands of its rightful owners – the people" ("Fighting for"). This shift in power dynamic is what frightens governments from fully accepting bitcoin. The lack of ability to monitor illicit transactions, tax evasion, and money laundering are vital to the centralized opposition of bitcoin. While all transactions are publically documented in blockchain, meaning that unauthorized transactions can be traced back to an initial source, illicit transactions persist. In August 2017, thieves stole \$72 million a Hong Kong cryptocurrency exchange called Bitfinex (Wieczner). Adam Dachis, an entrepreneur based in Los Angeles, California, also had \$10,000 stolen in cryptocurrency from his online money wallet in a matter of seconds (Wieczner). While this is the case, other crypto exchanges, like Coinbase, attract traders by

marketing safety guarantees and network accountability. In fact, Coinbase amassed “9 million customers who store at least \$3 billion in cryptocurrency...and who have traded \$25 billion,” valuing the company at \$1.6 billion (Wieczner). It is clear that while there is significant value in the cryptocurrency business, hacks leave users weary and can disrupt currency exchanges and money wallets. In addition to a genuine lack of understanding of cryptocurrencies, this is what compels governments to institute regulations. The reality is that using bitcoin *is* a risk because of its market volatility; yet, thousands of people are quite notably using bitcoin in spite of these risks.

The three nations whose regulations have proven to disrupt bitcoin markets include China, South Korea, and India. It should be noted that all three nations have strong bitcoin followings. First, China is home to hundreds of thousands of cryptocurrency users; in 2017, the country accounted for up to 95% of all bitcoin trades in globally (Wong). Also, China is home to cheap and abundant electricity (Wong), which are needed to power the computers and processing systems intended to crack mathematical equations and mine bitcoin blocks. South Korean bitcoin users are plentiful as well; as of December 2017, South Korea accounted for 20% of daily worldwide bitcoin trading (Shane). Bitcoin is so desired that South Koreans pay a 15-20% premium just to trade and the country accounts for three of the fifteen largest cryptocurrency exchanges in the world (Shane). Finally, India accounts for 2-3% of all cryptocurrency trades worldwide (Iyengar). In the last seventeen months leading up to 2018, an estimated \$3.5 billion in bitcoin transactions were launched within India (“A History”). Hence, China, South Korea, and India have a significant stake in global bitcoin markets. The regulations imposed by their respective governments hence have

direct implications on the price of bitcoin, how businesses can function, and the many citizens who are dependent on bitcoin for their livelihoods.

The way that government institutions categorize cryptocurrencies determines the policies within countries. In China, cryptocurrency is a restricted commodity (Coin Dance). Since the nation does not see bitcoin as a form of currency, the cryptocurrency is treated as a material that fluctuates in and out of the country, meaning that the amount of bitcoin permitted to be traded is restricted. For instance, in October 2017, China banned all Initial Coin Offerings (ICO) funding in the country (“China Escalates”). ICOs essentially fund the creation of new cryptocurrencies. According to a report by the National Internet Finance Association of China, “China-based ICOs raised about \$400 million through 65 offerings with more than 100,000 investors” in 2017 alone (Hackett). China’s regulation was largely responsible for the 10% bitcoin loss that year since cryptocurrencies like bitcoin are used to fund the formation of ICOs. Most crucially, though, China banned bitcoin exchanges in December 2017 to prevent trading (“China Escalates”). The People’s Bank of China has a mission to lower capricious conditions within economic transactions, making its prototype cryptocurrency to regain the control that it has lost in financial markets amidst the “libertarian ethos behind bitcoin” (“China Escalates”).

The push for regulations coming out of China has had enormous impacts on the price of bitcoin and the businesses that utilize it. Zhao Changpeng, CEO of Binance, one of the largest cryptocurrency exchanges to date, had to move his business operation from Hong Kong, China to Tokyo, Japan due to the crackdowns in China. His business operates not only within Japan but across Asian Islands including Taiwan. In

spite of the regulations that were intended to shut his exchange down, his business is thriving as up to 140,000 new users registered on Binance within the first hour of launching out of Japan (Lam et al.). Changpeng's story is an indication that efforts to silence bitcoin users cannot render successful. His ability to relocate his business exemplifies the truly global phenomenon that bitcoin embodies. For those who have a significant reliance on bitcoin, such as in Iran and Venezuela, the flexibility of universal actors like China to adapt to regulations is paramount.

In South Korea, cryptocurrency is legal with no further classification – currency, property, etc. (Coin Dance). While bitcoin is technically lawful in the country, the Prime Minister sees it as a threat and a source of corruption to youth by encouraging a get-rich-quick mantra. Although South Korea instated cryptocurrency regulations on December 28, 2017, that allowed for bitcoin operations (“Fighting for”), tighter supervision restricted users beyond belief. On January 30, 2018, South Korea initiated a plan to reduce illegal actions that occur through bitcoin transactions by making citizens link their crypto-exchange accounts to bank accounts holding their real identities (“Fighting for”). This measure ultimately negates the construct of anonymity that bitcoin adopts. South Korea's Justice Minister, Park Sang-Ki, actually proposed a ban cryptocurrency, but a petition filed by citizens with over 120,000 signature delayed the progression of these talks (Kim and Yang). Meanwhile, the state is investigating a cryptocurrency tax to track information concerning trade volume and sales from exchanges (Lam et al.). South Korean tax and police agents raided Bithumb, a digital currency exchange based in the anti-crypto country, to seek this information (Lam et al.). Inevitably, Korean crypto exchanges were penalized because of regulations,

causing the price of bitcoin to drop, which will be discussed shortly.

In India, cryptocurrency is classified as a currency (Coin Dance). By these terms, the country sees bitcoin as a legitimate form of income. India is cracking down on traders by surveying transactions to collect tax revenue and stop illegal financial sales in the country (“A History”). Domestic, self-regulated cryptocurrency exchanges are adding 200,000 new users every month (“India’s Tax”), placing Indian authorities in a vulnerable position. Government officials visited exchanges to gather intel on money laundering, tax evasion, and the identities of bitcoin users, investors, and traders. India’s Income Tax Department requested that thousands of identified citizens file taxes on capital gains from bitcoin whilst seeking details of their total bitcoin holdings. India’s Supreme Court called on the government to regulate bitcoin; accordingly, India’s central government repeatedly issued warnings of arrests if bitcoin is used without going through the proper channels of taxation (“India’s Tax”).

An important reminder when considering federal influences on bitcoin is that any regulations imposed by outside forces disrupt the balance designed within blockchain by causing human behavior to change. There is a direct correlation between imposed regulations and bitcoin price fluctuations. On February 1, 2018, bitcoin fell below \$9,000 when its peak value was \$19,343, losing more than half of its value since December 2017 (Meyersohn a). India’s declared position, the ban encouraged by South Korean officials, and China’s augmenting crackdowns led to reduced trading volumes, inherently lowering the value of bitcoin as miners pulled back from bitcoin processes and traders from exchanges (Meyersohn a). In other words, the February crash, which

presented ripple effects on the global economy, can be attributed to the collective laws of Chinese, South Korean, and Indian governments.

It is evident that the relationship between bitcoin and governments is ever-evolving and that government actions impact the acts of bitcoin consumers. Since the total number of bitcoins that can ever be mined cannot exceed 21 million blocks, bitcoin prices naturally fluctuate as the number of bitcoins in circulation changes. Of course, this is why bitcoin halving is a premeditated design in blockchain, wherein it becomes harder to mine bitcoins after every 210,000 blocks. When the price of bitcoin plunges to astronomically different amounts due to the acts of governments and not of bitcoin miners, the bitcoin ecosystem is disrupted. Treading from an impressive price point of nearly \$20,000 to an inferior \$9,000 makes it less likely for bitcoin to be traded on global markets. Users will naturally accumulate reduced profits, leaving individuals like Alberto from Venezuela and startups like Persian Leather Shoes in Iran at a disadvantage due to the parameters imposed by governments. While the intended populace for these regulations consists of each nation's respective populations, it is clear that such policies are impacting people in South America, the Middle East, and other bitcoin-abundant areas like the United States, Europe, and Russia. The all-encompassing, connected bitcoin landscape means that legal action taken in one country thoroughly intertwines with the worldwide flow of bitcoin markets; individual incomes, crypto exchange systems, and the ability for people from diverging points of the globe to connect instantly could be compromised. Consequently, bitcoin users have a responsibility to understand the regulations imposed by their governments and that of foreign nations at all times.

In a domain of structuralized systems, it is naïve to think that bitcoin, a self-regulating entity, could exist untouched. The veracity of bitcoin's penetration into economic systems indicates that a period of no government involvement would not have extensively endured. There are realities that such institutions are faced with; how to allow due process to the victims of cyber hacks, prevent illicit activities, collect taxes, and ensure the value of established currencies and legal tenders. While it may be assumed that all bitcoin users want a hands-off approach from governments, long-term bitcoin investors support regulations to help legitimize bitcoin. These individuals see the potential for bitcoin with standardized acceptance of the cryptocurrency's operation. Contrastingly, short-term bitcoin investors believe that laws will hurt bitcoin stock so much that revenue becomes gradually more difficult to attain. Regardless of investor desires, it is apparent that governments will continue their attempts to monitor, prevent, or even legitimize cryptocurrency.

Though some nations are implementing policies to thwart bitcoin use, others are seeing the cryptocurrency to tap into unrealized markets. In the United States, where cryptocurrency is legal and considered property (Coin Dance), bitcoin is a tradable item. Bitcoin futures, contracts permitting the buying or selling of a commodity at a set price in the future, were launched on the Chicago Mercantile Exchange (CME) and the Chicago Board Options Exchange in December 2017 (Meyersohn b). Starting bitcoin on CME is considerable since the exchange is one of the world's largest platforms where currency can be traded, legitimizing bitcoin's presence as a valuable force in finance. Yet, the U.S. Securities and Exchange Commission (SEC) remains wary of bitcoin; in early February of 2018, the SEC obtained a court order to halt an ICO claiming to be the

world's first "decentralized bank" (Meyersohn b). What is occurring in the United States indicates that even a nation taking considerable strides to embrace bitcoin will remain on alert of and work to address its deficiencies. These strides are critical to the survival of bitcoin operation and its ability to function in areas around the world.

Furthermore, the United States is implementing a tax on bitcoin profits; whereas in previous tax laws, "like-kind exchanges" could be exempt from taxation, the new 2018 tax bill states that "real property" is subject to taxation – and that means bitcoin (Roberts). Likewise, Russia, which classifies bitcoin as an illegal currency (Coin Dance), is taking measures not only to tax bitcoin but also to legalize cryptocurrency transactions altogether. Russia's Ministry of Finance published a Digital Assets Regulation Bill meant to legalize and regulate cryptocurrency trading, mining, and ICOs (Lam et al.). Although the central Bank of Russia is against bitcoin trading altogether, trades occur on Russian-validated exchanges (Lam et al.). The United States and Russia show that there are checks and balances when implementing bitcoin policies. Even with regulation supporting bitcoin, there is no substantial backing for all types of bitcoin practices. The policies that sustain bitcoin operations legitimize the worth of bitcoin transactions, make connectivity across the globe more achievable, and allow citizens to financially interact with the rest of the world without limitation – from Venezuelans to Iranians. Equally necessary are the measures set to prevent criminal behavior that obstructs the use of the cryptocurrency. As bitcoin becomes increasingly accepted, the possibilities are limitless.

Bitcoin is no longer a far-reaching concept. It has become a legitimate aspect of global society and remarkably connects individuals and businesses. Bitcoin's ability to

surpass economic and political instability by promoting instant financial transactions has optimistically transformed the number of people who can reach worldwide markets.

People of all races, from the poorest to wealthiest countries, are now connected by a currency that any citizen, regardless of state, can employ. With the potential that bitcoin demonstrates, many researchers are considering if bitcoin will – or can – completely replace the currencies established across societies. As of now, this is just not possible, as indicated by the regulations imposed in China, South Korea, and India. However, the blockchain technology utilized by bitcoin is too powerful to be stopped and has proven to survive the regulations intended to inhibit its operation. If applied within other automatic systems, such as within infrastructure and energy industries, blockchain can modernize and transform life everywhere. The future does not end with bitcoin; instead, it starts with bitcoin and magnifies. With bitcoin at the center of revolutionizing economic markets, it can indeed be said that a globalizing society exists at this very moment.

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The Awakening of Black Women

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The Awakening of Black Women

Alice Walker's *The Color Purple* explores the subjection of black women living in the Deep South during the early 20th century and how sexism, exacerbated by the remnants of a slave culture, has made the transition to economic independence more difficult and more painful for black women than for white women. Through the literary device of letter writing, Walker documents the repression of women in the Deep South, showing how abuse can be either blatant or subliminal resulting in both economic dependency and a psychology of despair.

My thesis is that Celie, a downtrodden black woman in the Deep South during the 20th century, uses her limited language skills, faith, and support from other black women in her life to survive. This leads to an evolution in her thinking and actions that gave rise to her economic independence and personal development. This in turn had a positive effect on the people who surrounded her.

Historically, women were generally subjugated to men, but as time progressed and war became normative the role of women in society was further diminished by forcing those who were conquered into slavery. This imbedded within American civilization not only a caste system for women based on economic standing, but one that now discriminated against women based on culture, religion, and race.

Women have struggled through the centuries for emancipation and equal rights. Then came the Sixties: it was a time of rebellion that resulted in a new era of enlightenment for Western civilization. America was caught in the throes of a relatively bloodless revolution that highlighted the struggle for civil rights, gay rights, and women's rights that persists today. This eruption of emotions resulted in many women being able

to remove the shackles of economic dependence allowing them greater freedom to both express their creativity and escape from abusive relationships.

Black women, however, were less inclined during the Sixties to join the women's movement since they felt a greater allegiance to black men than to white women. Consequently, the struggle against violence and for independence has been particularly challenging for black women. As social critics have noted:

Along with the black civil rights movement, the 1960s also brought demands for equal treatment of women...Black women as a group rarely participated in the feminist movement...Many black women believed that racial liberation and progress could be realized only through the growth of a strong, male-dominated black society. This, they reasoned, should take first priority over the struggle for equal rights for women (Overview).

Walker, in *The Color Purple*, puts on display a young girl, Celie, whose family was enslaved. Celie is now free but is still violated and abused, showing the divide between liberty and bondage for black women in the Deep South. Walker shows us that the struggle for emancipation began long before the eruptions of the Sixties and that the hardships were far more severe for those women who were poor and black accentuating why black women had difficulty embracing the woman's movement during the Sixties.

Poverty was widespread...Beginning in 1915, many blacks [sought] a better life in the...North, participating in an ongoing exodus from the South called the Great Migration...For those who stayed [in the South]...life remained hard. The women

faced not only racial discrimination but also sexual oppression, which made their existence there generally arduous, painful, and sometimes dangerous... (Moss).

Celie's circumstances, during the early twentieth century, are extreme, as she is raped and beaten at the age of fourteen by the man she believes is her father, the person in her life who should be most protective of her. Her father "steals" Celie's children damaging not only Celie but potentially her progeny. "He took my other little baby, a boy this time. But I don't think he kilt it" (Walker). Celie is denied both her personhood and her motherhood by a man hell-bent on destroying her spirit. Even her mother betrayed her:

My mama dead. She die screaming and cussing. She scream at me. She cuss at me. I can't move fast enough...She ask me bout the first one Whose it is? I say God's. I don't know no other man or what to say (Walker).

In a loveless marriage Celie is second best to her striking younger sister, Nettie, who Celie's husband wanted to marry. "I ask him to take me instead of Nettie..." (Walker). Celie is again forced into a world of denial where her sexuality is used merely as a vessel for the sperm of Mr.____, her husband, rather than a cherished part of who she is as a woman. When marrying, Celie not only loses herself, but also her sister who not only runs away to avoid being raped by Pa (Celie's and Nettie's father) but is then is forced to leave Mr.____'s home because Nettie would not sleep with him.

Nettie here with us. She run away from home...He still like her...He try to give her a compliment, she pass it on to me...Soon he stop. He say one night in bed, Well, us done help Nettie all we can. Now she got to go (Walker).

Celie's lifelong quest is to find not only her core as a human being but to find someone who will love her and give her some sense of security in a world where bleakness reigns. Celie is used mercilessly as a pawn for people who want to abuse her sexuality or take advantage of her labor. This pattern continues for much of her life. Poverty exacerbates her afflictions while fear and cruelty work to destroy her soul. She is an example of life at its worst with the confluence of being impoverished, brutally beaten and sexually abused, and even marginalized, as a person, by even those who should love her most including her Pa and her husband. When Harpo, Mr. _____ son asks why he beats Celie, the answer is disconcerting. "Harpo ast his daddy why he beat me. Mr. _____ say, cause she my wife...He beat me like he beat the children" (Walker).

But neither beatings nor degradation can extinguish the spirit of those who rebel against tyranny. What gives Celie the strength to endure? Celie uses her dialect of poverty to protect herself against those who would demean her. Her semi-literate style of writing and black idiomatic speech is both a barrier against those who try to hurt her and a weapon against those who want to change her. Celie refuses to make any changes or demonstrate that she has become more sophisticated and successful "As Celie grows from a submissive but survival-oriented girl into a strong, independent woman, her language becomes a badge of honor to her, a reminder of her identity and the hardships she has survived" (Overview).

The story of Celie's life and the cruelties she has faced are outlined in her letters to God. These letters reveal Celie's dismissal of God as a white man while embracing the concept that God is in everyone and everything. Her last letter to God is addressed: "Dear God. Dear stars, dear trees, dear sky, dear peoples. Dear Everything. Dear God"

(Walker). This idea of God gives Celie the strength to battle her daily struggles that, at times, seem almost impossibly unbearable to withstand. Patricia Harris, a literary critic, discusses in her essay, “The Gift of Loneliness: Alice Walker’s *The Color Purple*” how God as a “spirit” has given Celie the fortitude to escape being enslaved and the motivation to become successful:

[I]n **The Color Purple**...[Walker] has her characters...reject the traditional notion of a white God in favor of a spirit which resides in all of us and ultimately everything...In existential terms, this is similar to essence. The major conflict becomes the struggle between **Everythingness**, an optimistic belief the human spirit will not only endure but prevail and **Nothingness**, a resignation to chaos and despair (Harris).

What allows Celie to get beyond survival and overcome the abuse in her life are the women she encounters who create a fabric of trust and support between them. Quilting, the piecing together of cloth, is a symbol of creativity and how a life torn apart can be rewoven like a patchwork of people who are intertwined making life more tolerable. The theme of quilt making is important to Walker because of her experiences. The author’s mother was a quilt maker, “and Walker was [also] deeply affected by a quilt she saw in the Smithsonian...It had been created by an anonymous black woman more than a hundred years before” (Harris). These experiences were likely the catalyst for Walker’s quilt work theme in “The Color Purple.” Celie and Sofia quilt. Yet, even as Celie develops friendships with other women her heart is broken because she misses her sister, Nettie.

During this period, when Celie is struggling for survival, her sister, Nettie, became a Christian missionary after being forced to leave Mr. _____'s home. For many years Nettie continues to write to Celie, never knowing whether or not Celie has received her letters.

Nettie explains, through her letters to Celie, the story of the sisters' history including the fact that Celie's Pa was not their father but stepfather. Nettie also details the domination of black women by black men in Africa from her experience with the Olinka tribe for whom she is doing missionary work.

There is a way that men speak to women that reminds me too much of Pa. They listen just long enough to issue instructions. They don't even look at women when they are speaking. They look at the ground and bend their heads toward the ground. The women also do not 'look in a man's face' as they say. To 'look in a man's face' is a brazen thing to do. They look instead at his feet or his knees...[M]any of the women rarely speak time with their husbands...Their lives center around work and their children and other women...They indulge their husbands...Praise their smallest accomplishments...[A] grown [male] child is a dangerous thing, especially since, among the Olinka, the husband has life and death power over his wife (Walker).

How do the women in this story finally find success and peace in their lives? It is a testament to Walker's good nature that within each woman and some men she is able to express her hope by giving these women the tools for their personal growth and enlightenment. All of the women who have opened themselves up to the friendship of

other women are not only able to survive but find the strength of character to be free in thought and sexuality.

Celie, the most oppressed of all the women in this story, breaks through the yoke of oppression when she discovers that her husband has hidden her sister's letters from her as punishment for Nettie's rejection. Celie by this time has developed a backbone because she has been sexually awakened by Shug, Mr. _____'s mistress and befriended by Sofia, Mr. _____'s daughter-in-law. Celie rises above her circumstances to take control over her life and even goes so far as to threaten to take her husband's life. Shug's wisdom prevents her from doing this, but Celie leaves for Memphis with Shug to discover that she can turn her back on her life of persecution and find a path to creativity and economic independence. This leap in thought is monumental for anyone who has been enslaved since slavery is not only physical bondage but being psychologically terrorized. According to literary critic Tahir:

Physical and psychological violence were another type of violence which [was] used by black men to oppress black females...Celie has been a property in hands of sex-starved men. Her stepfather treats her harsh. He tortured her psychically and psychologically. He never cares about Celie's feelings, emotions and her body, and treats her less than a human. He causes emotional damage by never showing any respect for her...he orders her around without ever saying anything kind to her (Tahir).

In Memphis Celie feels inadequate since Shug will not let her help take care of her. Shug does not want Celie to feel like she is her maid. "...You are not my maid. I

didn't bring you to Memphis to be that. I brought you here to love you and help you get on your feet" (Walker).

So, Celie begins to sew pants. For Celie, pants become a symbol of economic independence and a way to express her creativity.

I sit in the dining room making pants after pants. I got pants now in every color and size under the sun. I dream and dream and dream over Jack's pants. And cut sew...Next thing I hear, Odessa want a pair...Then Shug want two more...[Shug say] Let's us put a few advertisements in the paper. And let's us raise your prices a hefty notch...You making your living, Celie...Girl, you on your way (Walker).

Shug, although not the protagonist, is the gem of the story. She is a woman scorned. She is also an acclaimed singer. Shug has had three children with Mr.____, but leaves him in anger after he chooses to marry another woman because he is too cowardly to stand up to his mother. Shug returns to Mr.____'s home sick where Nettie cares for her and eventually falls in love with her. Shug is sexually extravagant and freely voices her opinion to those people who are lucky enough to share her life. Shug is a woman of the world. She brings light not only to the black community but to the white community with her presence and her gifted voice. She frees both Celie and Squeak, Harpo's mistress, from lives of despair. And Shug saves Celie from committing murder after Shug tells Celie that Mr.____ has been hiding Nettie's letters from her and then helps Celie to get back her faith.

[Celie says to Shug] Naw, I feel better if I kill, I say...Naw you won't Nobody feel better for killing nothing. They feel something is all. Man corrupt

everything...Whenever you trying to pray, and man plop himself on the other end, tell him to git lost, say Shug. Conjure up flowers, wind, water, a big rock (Walker).

Sofia is the most tragic character in *The Color Purple*. She is the strength we see in people who revolt despite the consequences they may face. Sofia stands up to her husband as they reign blow for blow on each other. Sofia is even foolish enough to stand up to a white man and suffers not only irreparable physical harm but a stiff jail sentence. Sofia is saved by Squeak, who Sofia had beat up, but is still willing to suffer a rape in order to save Sofia's spirit, which is being broken in jail. Sofia even forgives Celie who encouraged Harpo, Sofia's husband, to beat Sofia because Celie was so jealous of Sofia's strength. The decency and strength of Sofia are almost completely sapped, and she cannot get beyond her own prejudices against white people, when the young woman she raised, Eleanor, wants Sofia to love her son.

Just a sweet, smart, cute, *innocent* little baby boy say Miss Eleanor Jane...Don't you just love him? ...No ma'am, say Sofia. I do not love Reynolds Stanley Earl...I just don't understand, say Miss Eleanor Jane. All the other colored women I know love children...I love children, say Sofia. But all the colored women that say they love yours is lying... (Walker).

Sofia softens her stand against Eleanor and her son when Eleanor helps Sofia's child, who is ill, by bringing her food. Like Sofia nurturing Eleanor when she was a child, Eleanor is reciprocating by helping Sofia's child, Henrietta.

Miss Eleanor Jane gone look in on Henrietta and every other day promise to cook her something she'll eat...She brings Reynolds Stand with her? I ast.

Henrietta say she don't mind him...It not my salvation she working for. And if she don't learn she got to face judgment for herself, she won't even have live...Everybody learn something in life, she say (Walker).

Squeak, Harpo's mistress, sacrifices herself for Sofia's sanity. Sofia, Harpo's wife, is annoyed by Squeak's jealousy and knocks out two of her teeth. Despite this, Squeak visits her white cousin and using reverse psychology gets the white woman, who was insulted by Sofia because she did not want to be her maid, to give her a job in lieu of Sofia's jail sentence. Squeak is raped in this process by her cousin. Subsequently, Shug encourages Squeak to leave Harpo and come to Memphis where she can sing. Squeak leaves and not only acquires a career but begins to use the name given to her at her birth, Mary Agnes.

At the end of *The Color Purple*, even Mr._____ is redeemed and is given name; Albert is acknowledged. Albert has been able to win the struggle for freedom within his own soul. Celie gifts Albert a pair of pants as a symbol of his growth as a man who, like Celie, escaped the remnants of the slave mentality. Both were able to free themselves and sit together engaged in a creative and productive activity. This symbolizes the evolution of their relationship and their personal victory over the oppression they had suffered over their lifetimes.

In this poignant story, Celie triumphs. Walker portrays Celie as a symbol of hope and of evolution in thought and action. Celie finally finds a place she can call home and a family where she is accepted and loved. She does this through her belief in herself, her vision of God, and the women who surround her. Despite the countless trials she has suffered, she has persevered and embraces a process of healing, overcomes, and

moves forward. And despite the darkness she has faced she chooses life and the light. It is momentous that Celie is able to overcome the physical and psychological abuse she suffered. By doing so, she is redeemed in her own eyes and in the eyes of God. Walker shows us how this redemption reverberates in the lives of others when we heal ourselves. The literary critic, Mel Watkins of the New York Times, concurs with this interpretation of how the deliverance of one, can be transformative for others:

...Ironically, it is Albert's real love and sometime mistress, Shug Avery, and his rebellious daughter-in-law, Sofia, who provide the emotional support for Celie's personal evolution. And, in turn, it is Celie's new understanding of an acceptance of herself that eventually lead to Albert's re-evaluation of his own life and a reconciliation among the novel's major characters...(Watkins).

The Color Purple, shows not only Walker's brilliance, but also her bravery and enduring sense of hope. Walker's ability to use the literary letter writing device makes it simple to understand the abuses Celie and other black women in the South suffered during this period of American history. The interactive letters between Celie and her sister let us appreciate that women face many of the same issues of subjugation in other cultures. Walker does not justify violence. She sees it as exacerbated by cultures of slavery and colonialism, but her belief in God gives her the strength to endure the difficulties she faced in life. She reflects these beliefs in Shug's statement about being your own salvation:

...The thing is I believe. God is inside you and inside everybody else. You come into the world with God. But only them that search for it inside find it. And sometimes I just manifest itself even if you not looking, or don't know what you

lookin for. Trouble do it for most folks, I think, Sorrow, lord. Feeling like shit...It ain't something you can look at apart from anything else, including yourself. I believe God is everything...Everything that is or ever was or ever will be. And when you can feel that, and be happy to feel that, you've found it (Walker).

"I think it pisses God off if you walk by the color purple in a field somewhere and don't notice it" (Walker). Even in despair the human spirit seems to be able to grasp onto something to find solace. For Celie, flowers and color also add a texture to her life of austerity. They allow her to hold on to what little love she had from her mother and give her a sense of hope. Walker, in the same way, seemed to cherish her mother and her memories of working in her garden, and yet, her mother was extremely self-sufficient.

I notice that it is only when my mother is working in her flowers that she is radiant, almost to the point of being invisible—except as Creator; hand and eye. She is involved in work her soul must have. Ordering the universe in the image of her personal concept of Beauty...

Although their society denied them the access to most of the means of creation...these women used quilting, gardening, cooking, sewing to order their universe in the image of their personal concept of beauty...The mother also passed on to the daughter another quality that marks her art. Her mother and her aunts were the most independent people the child knew...[T]hese women fished, hunted, worked like any man, and dressed as fine as any woman (Christian).

Walker was also extraordinary in her ability to see past racism and realize that sexism played a destructive role in the relationships between many black men and

black women. She paid a price for her honesty as it was seen as a betrayal of her community. She was a woman before her time.

Unlike the stereotype of the socially conscious writer, she asserts “the importance of diving through politics and social forces to dig into the essential spirituality of individual persons...”. Walker was one of the first contemporary black women writers to insist that sexism existed in the black community and was not only an issue for white women. She did this at a time when most black leaders focused only on racism and considered her position to be practically heresy. At the time, she also dramatized in her works the nature of racism and the relationship between sexism and racism as modes of oppression that restricted the lives of all women and men in this country (Christian).

What is disheartening, is the staying power of women’s subjection in Africa, where women still suffer the indignities of genital mutilation and economic suppression. It is with great admiration that I look to Walker and believe if she can have hope for a better future so can we all. Walker realized that there is always the potential of violence in men and that this is especially true when men are, like women, forced to endure degradations to their dignity. She realized that the frustrations of life can cause anyone to be cruel but she also believed that everyone had the potential for personal growth and goodness. She was, clearly, an optimist and the evolution of Celie is a shining example of her beliefs.

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Word count, 3967

Expulsion of the Jews in Spain: Laying the Groundwork for Modern Day Anti-Semitism

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Jews have endured many hardships in Spain throughout history. They have been persecuted, massacred, and expelled. The idea of Jews being a corrupt or evil people has existed in every century and has been the foundation of every tragedy that Jews have experienced. The expulsion of Jews from Spain in 1492 is a prime example of when preconceived ideas about Jews became dangerous and inhumane. It was one of the events that strengthened anti-Semitic attitudes that still exist in the modern world.

History of Jews in Spain

Anti-Semitism in Europe has existed for many centuries. There is evidence that skepticism towards the Jews occurred as far back as the second century CE. Jews are historically known to be a traveling people and specifically merchants. They commonly did not settle in one place until being formally invited by a monarch. Prejudices against the Jews grew stronger as they migrated in large groups. Jews were accused of being a rejected nation and expelled from Jerusalem. Their beliefs were also greatly criticized. Jews were called atheists because they believed in a god that could not be seen. Some thought of the Jews as a nation that could not find harmony with any other nations. Intolerant people from other nations would not accept the Jews (Morris 10).

Before the events of 1492, there had been a significantly growing Jewish population in Spain since the early centuries of the Common Era (Amor 191). Researchers have determined that many Jews relocated to Spain after the destruction of the second temple in Jerusalem in 70 CE (Ayton-Shenker 161). The Jews that first

arrived in Spain were Sephardi, who became the majority of Jews in Spain for centuries to come (Pérez 5). Researchers may never know exactly when Jews initially arrived in Spain. However, there is strong evidence of Jews living in Spain in these early centuries. Ancient artifacts, such as Hebrew engravings on tombstones, have been discovered. Such items help researchers narrow down the time period of when Jews first arrived in Spain (Amor 191).

Jews in Spain before 1492

Historians have conducted extensive studies of Jewish communities in Spain under different rulers. Their research dates back to Visigothic rule in Spain in the early fifth century. The first Visigoths were Arian Christians. King Recared decided to convert to Roman Catholicism in 586 CE, and the Jews quickly became a religious minority group in Spain. Recared was the first Visigoth monarch to begin persecuting the Jews. He created laws that prohibited Jews from owning Christian slaves, marrying Christians, and holding public office (Perez 6). He even created a law that forced Jews to convert or flee Spain. However, it was not enforced because the Jews were an essential part of the economy (Finkelstein 13). Recared's actions were echoed by King Sisebut, who was crowned in 612. He expanded Recared's agenda to include more discriminatory measures. Sisebut extended Recared's laws to Jews that had converted to Christianity, in an attempt to specifically persecute converts secretly practicing Judaism. He attempted to force Jews to convert to Catholicism by giving them the ultimatum of exile or conversion (Pérez 6). Many Jews converted or fled out of fear (Finkelstein 13).

The persecution only heightened with King Chintila, who was crowned in 636. He only wanted to rule over Catholics. In an attempt to eliminate other existing religions, Chintila carried out laws that “anticipated modern ethnic cleansing practices to purify blood” (Pérez 7). Chintila allowed the number of death sentences by stoning or burning to increase during his reign. As a result, violent acts against Jews reached their peak during the second half of the seventh century. Persecution continued with the following monarchs, who reiterated their predecessors’ discriminatory mindset and laws (Pérez 7). However, there were no known revolts by the Jews during this period (Pérez 8).

A Muslim invasion and occupation of Spain occurred in the eighth century. Muslims did not enter Spain with the same discriminatory mindset as the Visigoths. They believed that Christians and Jews were both “sons of Abraham and monotheists, the same as themselves” (Pérez 9). Researchers believe that a large number of Jews willingly converted to Islam during the eighth, ninth, and tenth centuries. The Jewish population was also quickly growing at this time. Conflicts arose in cities that did not want a greater number of Jews. However, many cities encouraged a thriving Jewish community, such as Granada and Tarragona. Muslim rulers authorized Jews to oversee unpopular economic activities, which included collecting taxes. This allowed many Jews to reach “economic prosperity,” except in times of a recession or crisis (Pérez 11).

Some Jews were also able to achieve success in high positions of power. Christians, Jews, and Muslims were able to share their communities despite “regular tensions, frequent misunderstandings, and occasional acute conflicts” (Kamen 6). Some authors call this extraordinary period the “golden age” in Jewish history. However, a

separate Jewish culture did not necessarily exist in Muslim Spain. Jews learned to speak Arabic and adopted many elements of the Muslim culture (Pérez 11). Jews were able to act as “middlemen between Arab and Christian cultures” (Finkelstein 14). Christians had a difficult time learning Arabic, which came more naturally to the Jews (Kamen 6).

Life for the Jews changed drastically when the Almohads arrived in Spain. The Almohads had a “narrow and strict interpretation of the Islamic law” (Pérez 12). They believed that Jews had to convert or be punished. Many Jews fled to northern Christian provinces and were welcomed by Christian monarchs. The monarchs knew the Jews would help with recolonization and repopulation, which would help them achieve the Reconquest of the Iberian Peninsula. Jews had three main advantages that made them useful in the Reconquest. The first advantage was that “many specialized in commerce and craftsmanship” and were able to begin a new life in the “relatively undeveloped lands of Christian Spain” (Pérez 13). The next advantage was that some Jews were wealthy and could finance new conquests. The final advantage was that many Jews spoke Arabic and could act as intermediaries with Muslim leaders. Jews benefited from financing conquests and making other contributions. Monarchs rewarded the Jews by putting them in high positions of power (Pérez 13).

New Christians (Conversos)

Anti-Semitism began to grow throughout the late fourteenth century. In 1391, Ferrant Martinez, a Dominican archdeacon of Ecija, formed a mob to destroy the Jewish

quarter of Seville. The mob shouted anti-Semitic chants, such as “Jews for Christians,” as they invaded the area (Finkelstein 22). Twenty-three synagogues located in Seville were destroyed, and two were made into churches. Around four-thousand Jews were killed during the riot (Raphael 2). Massacres targeting Jews spread from the north eastern kingdoms of Aragon-Catalonia to the southern parts of Andalusia in the kingdom of Castile (Amor 191). Similar massacres occurred in the following years.

Many Christians believed that the “Jewish problem” could be solved if “all Jews accepted Christianity” (Finkelstein 22). Clergymen began offering Jews the option of conversion or death. Thousands of Jews converted out of fear, and many others fled from Spain (Finkelstein 22). Jews who converted were known as New Christians, or conversos (Ayton-Shenker 162). Many Jews converted, and some of the estimates are as high as 200,000 people (Morris 13). Some New Christians were able to flee the country after being baptized. However, they were still subject to Church law if they were ever discovered (Finkelstein 23).

Some researchers believe these New Christians should be divided into three groups. The first group was made up of Jews who quickly removed themselves from their Jewish culture. These Jews were eager to adopt a new religion. They spoke negatively about Judaism and made up lies about the religion (Finkelstein 23). These Jews occasionally participated in riots to get rid of their Jewish “social and economic shackles” (Raphael 5). New Christians commonly moved up in society after doing such acts (Raphael 5). This group consisted of even the most respected people in the Jewish

communities, such as rabbis and scholars. Although this was a relatively small group of Jews, it still constituted a significant portion of the New Christians (Finkelstein 23).

The second group was made up of Jews who secretly attempted to maintain small parts of their Jewish culture after converting to Christianity. However, the children in this group lost their connection to Judaism within one generation. Many of these Jews were wealthy, which allowed them to obtain power in the community. This group was significant due to its relations with Christians. Many of these Jews encouraged their children to marry successful Christians. Likewise, many poor Christian parents encouraged their children to marry wealthy, former Jews (Finkelstein 23). By the mid-fifteenth century, barely any “aristocratic family in Castile or Aragon could claim that it was free of Jewish admixture” (Raphael 5).

The final, and largest group, was made up of Jews who were devoted to their religion, and continued to maintain their Jewish traditions after converting. Jews in this group agreed to openly practice Christianity. They supported Christian charities and attended services. However, many of these Jews secretly went to synagogue and observed Jewish holidays (Finkelstein 23). They also secretly celebrated the Sabbath. These Jews had the knowledge that the Old Christians were constantly looking for a chance to reveal New Christians practicing their former religion (Raphael 4). New Christians participated in Christian traditions but found ways to conserve their former faith. New Christians were forced to baptize their children, but Jews in this group “symbolically wiped the holy water” off of the child as soon as possible. These Jews commonly married other people that were in similar situations and shared their beliefs.

They were required to be married in a church, but had a secret Jewish service afterward (Finkelstein 24).

New Christians were initially “welcomed into Spanish society” (Finkelstein 24). Some of the converts even became priests (Finkelstein 24). However, there were still Jews who did not convert to Christianity. The Spanish monarchy believed that those Jews were holding the New Christians back from fully accepting and participating in their new religion. Laws were created to separate Jews and Christians. In 1412, Jews in Castile were banned from many of their former trades, such as carpentry and butchering. Jews were also banned from drinking with Christians and had to wear “coarse” clothing (Morris 14). Anti-Jewish legislation continued to be passed. Several years later, Jews were forced to live in specific, crowded areas in major cities. They were forced to sell their homes and relocate immediately without a valid explanation (Roth 27).

The Inquisition

Spain had a history of allowing basic religious coexistence before King Ferdinand of Aragon and Queen Isabella of Castile took the throne. Although Christians were forbidden to convert to Judaism or Islam, the three major religions were able to practice their faiths. However, there was a suspicion that Christian converts were not fully devoted to their new religion. In 1478, Ferdinand and Isabella requested that the papacy create an Inquisition in Castile to “investigate the misbehavior of converted Jews” (Waddington 7). Spanish churchmen had initially suggested that the rulers make this

request. Isabella was interested in the Inquisition to demonstrate her devotion to Christianity. There were many successful Jews who converted to Christianity at the beginning of Ferdinand and Isabella's reign. Some even became successful after they converted. Ferdinand was interested in the Inquisition for the wealth that could be taken away from the successful New Christians (Altabé 729).

The Inquisitors commonly confiscated a New Christian's land when they first became doubtful of their religious practices. New Christians were not always aware of what they were accused of, whom they were accused by, or if they were accused at all. Entire converted families were accused of secretly practicing their former religion if even one of their family members was. The accusations usually were a result of former Jews attending Jewish gatherings or engaging in any Jewish holiday (Altabé 729). In 1483, a special council called the Consejo de la Suprema y General Inquisición was formed to extend the Inquisition beyond Castile. Its activities were brought to Aragon, Valencia, and Catalonia. Accusations quickly spread to New Christian households and instilled fear among converts. Hundreds of New Christians were burned at the stake during public events called Auto-de-fe. Thousands of others were spared by the church, put in Inquisition jails, or fled the country (Raphael 6). Ferdinand and Isabella were frequently urged to expel the Jews from Spain since many believed they would never "entirely give up their original faith" (Altabé 729).

The Inquisition scared Jewish families into abandoning their former religion. However, it was easy for families to be divided based on what they believed was the right action to take. New Christians who still had family members that practiced Judaism

were constantly at risk of being accused of secretly practicing as well. Many New Christians refused to go to Jewish events, such as weddings and brisses out of fear. Simply sending a gift to a Jewish family member for those occasions became dangerous. The Inquisition was difficult for children as well. Many children who grew up Jewish were rejected by their New Christian parents if they did not want to convert. On the other hand, many children rejected Judaism even if their parents encouraged them to maintain their Jewish values and traditions (Gitlitz 9).

Many New Christians decided to flee Spain after marrying a Christian. However, problems arose when Christian spouses did not want to leave. Christian spouses were always in charge of their relationships. They could easily accuse their converted spouse of practicing their former religion. The New Christian spouse could end up in jail or be killed as a result. That is why New Christians who had Christian spouses had to decide whether or not to take their spouse with them when they fled Spain. Another problem arose when New Christians and their Christian spouses fled Spain, but the Christian wished to return. Many Christians left their spouses in their new country and reconciled with the Church when they returned to Spain. Disrupted relationships between Christians and New Christians were never simple. New Christians commonly returned to Spain to seek out their former spouse after separation (Gitlitz 18).

The Expulsion

By the end of the fifteenth century, Ferdinand was in debt to many Jewish financiers who assisted with his costly military campaigns. Isabella had been inspired by

a preacher who believed that Jews needed to be expelled from Spain and was continuously reminded of the idea by Christians. These were the two main factors that led to the edict issued by Ferdinand and Isabella on March 31, 1492. The edict required all of the Jews in Spain to flee or convert to Christianity within roughly four months (Ayton Shenker 163). The first part of the edict described the problems that Jews in Spain supposedly created for Christians and Christian converts. The second part described how the edict should be implemented. It included statements that explained that there were no exceptions for any Jews, when the law would take effect, and what Jews could and could not sell or keep for themselves (Pérez 85).

Jews were forbidden to take any valuables they possessed when they fled Spain. Many Jews were stripped of their “gold and silver coins, gems, silverware, candlesticks, brooches and bracelets, coral and pearl strings, silver and gold finger-rings, and other types of jewelry” (Raphael 10). Jews attempted to sell their property. However, many had their property confiscated if it had a lease from the King (Montalvo 280). Researchers estimate the number of Jews who fled Spain in 1492 ranged from “80,000 individuals to 170,000 families” (Morris 15). Jews who owed debts to Christians were often jailed, tortured, or pressured to immediately pay the full amount. Christian debts to Jews were considered uncollectible by local judges who put off payment until the expulsion deadline had passed. They were made payable after the Jews fled Spain and the proceeds went to the royal treasury (Raphael 11).

Many Christians attempted to convince Jews to convert to Christianity so they could remain in their birthplace. However, most Jews decided they would rather flee

Spain than convert (Finkelstein 43). It is “estimated that less than twenty-five per cent” of Jews chose to convert (Altabé 729). Streets were flooded with Jews on their way to the ports. Musicians were stationed along the path and attempted to lighten the situation. Rabbis also offered comfort to the passing Jews. Some Christians agreed to maintain cemetery plots left behind by their Jewish friends. Jews that were able to flee Spain did not always escape trouble. Ship captains were cruel, and voyages across the sea were not necessarily safe. In one incident, twenty-five ships sailed from Cadiz and St. Mary to North Africa, and seventeen of them sank during a frightening storm. Many Jews hoped a miracle would save them from their terrible situation (Finkelstein 43).

The expulsion greatly affected the operation of Spain’s economy. Jews had acted as money lenders and tax collectors for centuries in Spain. Jews were put in these positions as a result of being forbidden to engage in other trades. These jobs were not desirable to Christians. The church law did not allow Christians to lend money with interest to other Christians. Most Christians wanted loans, making it difficult to find replacements for the Jews. Many Jews had become successful from this trade. Several governments even invited successful Jews to establish their businesses in their country after the Jews were expelled from Spain (Morris 18).

Relocation of the Jews

Many of the Jews fled to Mediterranean areas or nearby countries. Most of the Jews from Castile went to Portugal. They were eventually expelled from Portugal in 1496 and relocated to North Africa, where Jews had already come directly from Cadiz

(Altabé 730). The Alava Jews went to Navarre but fled to France after being expelled in 1498. Jews who went to Italy quickly found a way to make “the most of being Spanish” by seeking out Spanish nobles and gentlemen (Pérez 89). Despite being “subjected to oppression and significant fiscal pressure,” the Ottoman Empire allowed Jews to practice their religion and create new communities (Pérez 90). A majority of the Jews fled to the empire and were greeted by Sultan Beyazit II. He knew the Jews were a “peaceful, hardworking people” and was aware of the “skills that they brought with them” (Altabé 730). There is no reliable evidence that Jews went to the Middle East. Jews supposedly did not have ships traveling in that direction, and there are no valid documents from the voyage (Kamen 10). Aside from their elders, many Jews of families that were expelled from Spain did not speak Ladino, the language of their ancestors (Altabé 730). However, it is remarkable that Jews were able to bring their heritage with them to their new homes. Jews were able to preserve their traditions, food, and music for centuries (Kamen 11).

The most recent attempt to bring Jews back to Spain was the bill that was passed in June of 2012. The bill allows anyone who can prove their ancestors were Sephardic Jews to apply to be a citizen of Spain. Spain had made this offer to Jews before but required them to give up the nationality they possessed at the time. This bill requires Jews to prove that they are connected to Spain. Possible connections could include Rabbinical certification of Sephardic descent, ability to speak Ladino, and a surname that proves Sephardic ancestry. This bill indicates that the Spanish government is attempting more seriously to bring Jews back to its country (Chu).

Blood Purity

There were many motives for inducing Jews to convert to Christianity in the fourteenth and fifteenth centuries. However, the idea of Jewish blood became widespread and essentially diminished what it meant to convert to Christianity. People who had ancestors who converted to Christianity were thought to still possess “Jewish blood.” The Purity of Blood laws were created and initially implemented in Toledo in 1449. They were created to separate “pure” Christians and Christians with Jewish roots. These laws took away several rights from Christians with Jewish ancestry. Many Christians began to believe that “mixing this degenerate Jewish blood with the blood of true Christians would contaminate all future generations” (Morris 46).

Jews have been more recently treated as a race instead of a religion throughout history. The idea of blood or racial purity has been a recurring ideology for modern anti-Semites. For example, Nazi Germany created racial purity laws beginning in the early 1930s. The laws were created with the “ideologies of race defilement and contamination” (Scales-Trent 263). In 1933, the Nazi government created a racial purity law to exemplify the superiority of Aryans. The law targeted people who were of non-Aryan descent and who had any Jewish ancestry. Another law that was created in 1933 required many Jewish employees to lose their jobs and even stated that “it is not religion but race that is decisive” (Scales-Trent 265). The racial purity law that defined what it meant to be Aryan was strict. A person had to show seven documents, their birth

certificate, and the birth certificates of their grandparents to prove that they did not have any non-Aryan or Jewish ancestry (Scales-Trent 266).

The racial purity laws in Nazi Germany were problematic. They were based on a definition of race that was socially created. As a result, the target group could be arbitrarily expanded or reduced. One example of the instability caused by this arbitrary definition was in the German military. Jews were initially forbidden from joining the military. However, Adolf Hitler allowed people who were married to a Jew or had Jewish ancestry to be in the military when he needed more army officers. However, they still had to declare that they were of German blood. The racial purity laws were also different in areas occupied by Nazi power. In Nazi occupied France, people of Jewish descent could remove themselves from the “Jewish classification” if they had Christian parents, were Christians, or devoted themselves to non-Jewish culture (Scales-Trent 270).

Apart from the racial purity laws, Nazis insisted that they were able to identify a Jew by their physical features. Nazi’s examinations went from being as simple as inspecting a person’s hair and eye color to being as extensive as inspecting the shape of their nostrils, jaw, and skull. However, physical appearances could not always determine whether someone was a Jew or an Aryan. That is what led the Nazi government to force Jews to carry identification cards and have their passports stamped with a “J.” Jews were forced to wear a yellow star on their clothing beginning in Poland in 1939 and Germany in 1941. These sporadic measures of targeting and oppressing Jews throughout history led to the most devastating tragedy that Jewish people have

ever faced. The Holocaust resulted in the death of six-million Jews, simply because they identified or were classified a Jew (Scales-Trent 280).

Modern Day Anti-Semitism

Anti-Semitism has historically been based on preconceived ideas about Jews that have no basis in reality. Although many see the liberation of concentration camps as the end of anti-Semitism, it is still prevalent in the 21st century. The Anti-Defamation League is a non-profit organization that was formed in 1913 and strives to fight acts of hate. The ADL encourages people to recognize anti-Semitism in the world today and acknowledge it. Acts of anti-Semitism range from harassment of Jewish people to defacement of Jewish property, such as synagogues and Jewish community centers. Anti-Semitism can occur anywhere and has been growing more on college campuses. The ADL has acknowledged that anti-Semitic attitudes have reduced globally in recent polls, but are still very high in countries such as France and Germany. The ADL strives to condemn every anti-Semitic act around the world and encourage those countries to condemn them as well (ADL Press Releases).

The expulsion of the Jews in Spain was one of the events that laid the groundwork for modern day anti-Semitism. It was one source of ideas that led to the persecution of Jews for centuries. Those ideas have allowed people around the world to stereotype Jews based on socially constructed, arbitrary, racial designations and create preconceived beliefs about the Jewish religion. Anti-Semitic attitudes exist globally today and it is critical not to tolerate them. Organizations such the Anti-Defamation

League are working to reduce and condemn anti-Semitic acts. Anti-Semitism can be dated back to the beginning of the Jewish people. It requires global understanding of its negative impact and of the ignorance of people who hold anti-Semitic attitudes.

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The Revolution of One: The Architecture of Political Monotheism as Revealed by Islam, Revolutionary Iran and Hindu Nationalism in India

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I. Introduction

In the examination of world revolutions, monotheism appears as a revolutionary vehicle, serving as the basis for the overthrow of the old social, economic, religious and political order by creating a singular, new order that demands uniform conformity.

Monotheism allows for the reinvention of the orthodox and the traditional as the new and radical. It provides the basis of the unification of displaced peoples and disparate creeds into a newer, singular order. Further, the monotheistic order also divides and orders the new society on the fairly simple logic of belief and disbelief. The believers in monotheism are full members of society and entitled to rule, while the nonbelievers are alienated and reduced to a lower status. Owing to the simplicity of the doctrine, any variation or improvisation on the principle of belief in a single deity can be castigated as disbelief or hypocrisy. Monotheism is not merely the profession of faith in one deity to the exclusion of others, but also the instrument for the construction and reinvention of society and entire nations.

To prove this thesis as beyond reproach, this paper seeks to examine the historical development of the religion of Islam and the case of two modern monotheistic revolutions. In the case of the religion of Islam, the Arabian Peninsula and the wider Middle East region was witnessing considerable displacement of people due to the destructive wars between the Byzantine Empire and the Persian Sassanid Empire. The conflict left both regional powers economically and militarily exhausted, creating a political vacuum for the emergence of a new power. In the Iranian revolution of 1979,

the 3,000-year old monarchy, headed by Muhammad Reza Shah of the Pahlavi dynasty was overthrown and replaced by an Islamic theocracy headed by Shia Muslim clergy. The roots of the revolution are to be found in the Shah's economic modernization policies and the resulting rural-to-urban migration that left millions of Iranians economically and culturally displaced and disempowered. Many of them united under the leadership of Ayatollah Ruhollah Khomeini, who opposed the Shah's modernism with an ideology of Islamic conservatism. Khomeini's revolutionary ideology reinvented the struggle against the Shah as a cause for the restoration of Islamic monotheism and proclaimed his envisioned state as the "government of God." The opponents and alternatives of Khomeini were branded as "un-Islamic" and thus presented as corruptions to the purity of Islam. Khomeini reinvented the conservative theology of medieval Shia Islam as a revolutionary creed in the 20th century.

In present day India, an attempt at a monotheistic revolution is underway. Hindu nationalism appears as an unlikely candidate for a "monotheistic revolution," given that Hinduism is an agglomeration of diverse religious and philosophical traditions that incorporate polytheism and monism. However, presenting itself as a purely political movement allows Hindu nationalism to assume a monotheistic character. The principal ideology of Hindu nationalism, termed Hindutva, attempts to restrict the Indian national identity as applicable only to those who regard India both as the "fatherland" (homeland of the people) and their "holy land" (birthplace of their religion). This redefinition allows advocates of Hindutva to exclude Indians adhering to religions of foreign-origin from the very definition of being "Indian," while presenting the "Hindu" identity as both the religious and national identity. Pursuing this new ideal of "nation-worship" with religious

zeal, Hindutva also attempts to reinvent the occupation-based Indian caste system on religious lines by presenting adherents of non-Indian religions as low, inferior castes whose patriotism is suspect as their religions are alien to India. Although it originated in the 1920s, Hindutva has gained political currency during India's economic modernization, which initiated in the late 1980s and has led to major rural-to-urban migration and displacement.

This paper will further argue that there is a principal distinction to be made in revolutionary monotheisms. As Khomeini's revolution derived itself from the foundations of the Islamic religion and a medieval conflict in Shia theology, it presents a more authentic form of revolution, which is based on solid foundations of historical precedent and the recreation of a common and popular ideal. In contrast, Hindutva presents an inauthentic form of monotheism, which does not have any roots in the Hindu religion and does not attempt any religious reinvention. In its genesis, Hindutva was an imitation of the ideology of Muslim separation in 20th century India. Hindutva is a political monotheism that attempts to protect a conservative but polytheistic society from the insecurity and displacement of modernization and counter Islamic extremism.

II. Turbulence

The displacement of populations caused by rural-to-urban migration, industrialization and conflict provide the fuel for the emergence of revolutionary monotheisms. Both voluntary and involuntary displacement of peoples from their cultural and religious niches often results in alienation and disempowerment. In these circumstances, the singular ideal of monotheism provides a basis of unification by both conviction and force. In the Middle East of Late Antiquity, the birth of Islam as a religion was preceded by considerable turmoil and population displacement due to the wars between the Byzantine and Persian empires (Axworthy 60-69). In times prior to this displacement, Arabian society had organized itself politically and economically in both nomadic and sedentary tribes. According to historian Patricia Crone, Arabs found themselves attracted to Meccan polytheism as well as Arabian monotheism (the Hanifs), Judaism, Christianity, and Zoroastrianism (Crone 231-52). However, it is with the emergence of displacement that the absence of a nation-state identity left the peoples of the Arabian Peninsula disempowered between two rival empires. The monotheism of Islam thus became a revolutionary ideology that allowed Arabs to unite into a single religious and political system and emerge as a nation and a state (Crone 241-52).

In 20th century Iran, political alienation and socio-economic displacement were a considerable factor in the revolt of the Iranian people against the Pahlavi monarchy. The credibility and authority of the Shah had been damaged earlier by the 1953 coup against the democratically-elected Prime Minister, Mohamed Mossadegh, which was sponsored and coordinated by American and British intelligence agencies (Axworthy

225-59). Instead of being a constitutional monarchy as envisioned in the constitution of 1906, the Pahlavi regime reverted to autocratic methods to rule Iran, which alienated many people from the political system of their country (Axworthy 259). Although the Shah's ambitious land reform program of 1963 was a radical attempt to resolve the crisis of wealth inequality by redistributing land to poor Iranian farmers, the implementation of the policy was poor and resulted in socio-economic displacement (Shakoori 53-56). Wealthy Iranian landlords could manipulate the laws to retain many of their land holdings, while poor farmers obtained only small parcels of land and could not obtain credit to allow them to farm and sustain themselves (Shakoori 53-56). As a result of such drastic changes, more rural Iranians moved from their villages to cities to find employment in the booming construction sector and other industries. However, this rural-to-urban migration came as a tidal wave due to land reform and left Iranian cities struggling with rapid growth of slums and thousands of mostly young people either unemployed or only partially employed (Hooglund 115). According to Eric J. Hooglund, almost every Iranian town with at least 25,000 residents in the 1966 census experienced heavy migration, with their population increasing annually by 4-6% (Hooglund 115). The new emigres from rural Iran were alienated from the cosmopolitan, often Westernized urban culture in cities such as Tehran. The gap between the urban and rural peoples in terms of education, wealth, culture and status, which can take generations to bridge, became a source of conflict as these two distinctive population groups were suddenly thrust together into a common space.

In 20th century India, the emergence of the Hindu nationalist ideology of Hindutva rode on the coattails of religious violence and socio-economic displacement. The ideology of

Hindutva was put into writing in 1923 by the politician Vinayak Damodar Savarkar in the pamphlet *Hindutva: Who is a Hindu?* This pamphlet was written in the aftermath of the 1921 Moplah riots between Muslims and Hindus in the Malabar region, which had cost thousands of lives and spread widespread anxiety about religious violence in India (Gandhi 239-41). It was in 1925 that the Rashtriya Swayamsevak Sangh (*National Volunteers Union*, R.S.S.) was founded as a Hindu paramilitary organization (Gandhi 275). The religious violence that accompanied the partition of India in 1947 led to another upsurge of Hindu nationalist political activity, as millions of Hindus and Sikhs were forced to flee the newly-created Muslim state of Pakistan. The R.S.S. and other Hindu nationalist groups were alleged to be involved in attacks against Muslims in India (Guha 558). However, the growth of Hindu nationalism was stalled when a Hindu nationalist activist, Nathuram Godse, assassinated the Indian leader Mohandas Gandhi (Guha 38). Hindu nationalist organizations such as the R.S.S. were briefly banned, and the ideology's role in Gandhi's killing left it deeply unpopular.

The fortunes of Hindu nationalism revived in the late 1980s and have grown ever since. This period coincides with the Indian government's adoption of liberal, free-market economic policies. After forty years of state socialism that had resulted in economic stagnation, India began to witness rapid industrialization and urbanization and increasing waves of rural-to-urban migration. India's urban population has increased from 11.4% of the total population in 1901 to 31% in the 2011 census, with a migration rate of 35% (Singh) (Abbas). This rapid urbanization had major consequences for traditional Indian culture. In rural India, society remained divided between distinct, occupational castes and separate religious communities. In urban India, peoples from

various castes and religions were suddenly brought together and were no longer practically divisible by any customs or traditions. There was an equal field of opportunity for education and employment, which left previously privileged castes and religious groups insecure about their position and identity. In this cosmopolitan but turbulent environment, the Hindu nationalists found fertile fields to plough with their ideology of uncompromising Hindu chauvinism. The religiously conservative ideology of militant nationalism appealed to urban youth struggling with the problems of unemployment, housing insecurity and social disempowerment. In 1996, the Bharatiya Janata Party (*Indian People's Party*, B.J.P.), the political wing of the R.S.S. emerged as the single-largest party in the Indian Parliament and formed coalition governments from 1998 to 2004 (Guha 653). In the 2014 general election, the B.J.P. won an outright majority in the Indian Parliament.

III. The Blueprint of Revolution

Monotheism presents a natural structure for any revolutionary ideology. Firstly, it creates a common ideal for all people to pursue – fealty to one deity and the rejection of all others. Secondly, the simplicity of the ideal makes it possible to identify and challenge any kind of alternative, both past and future, as a “corruption” of the pure ideal. Both points allow a monotheistic ideology to overthrow or repudiate the old socio-political and religious system. Finally, it creates a permanent adversary of the ideal – against whom all true believers must struggle. This principle allows a monotheistic system to resist continuously the emergence of alternative systems. In 7th century Arabia, Muhammad, the founder of Islam, presented the worship of Allah and only Allah, and the acceptance of his own status as Allah’s prophet, as the common, unifying ideal for all Arab peoples and for the believers to fight the unbelievers (Crone 244). Assuming both temporal and religious power as prophet, Muhammad called for the end of the worship of any god or lesser deity except Allah. Upon the conquest of the city of Mecca, he ordered the destruction of all traditional Arabian idols that had been worshipped and banned all traditional religious cults. Those who remained non-Muslim were identified as the “unbelievers” or *kufr* (Glasse 247, 278). While fellow monotheists like Jews and Christians were given the status of being the “People of the Book” and allowed to pursue their religions, all non-Muslims were designated the status of being *dhimmi*, a second-class citizenship in a society ruled by Muslims (Haleem 70-79). While free to follow their religions, non-Muslims were forced to pay a special tax called the *jizya* and excluded from offices of power (Haleem 70-79).

Khomeini employed the language of Islamic monotheism to design his revolutionary message. The policies and cultural changes promoted by the Pahlavi regime were powerfully condemned as “un-Islamic” – they were not merely alternative cultures, but cultures in enmity with Islam. The Pahlavi regime’s desire to keep religion away from politics was presented as the “Islam of the Court,” which meant to corrupt the pure faith of the true Muslim (Muhajeri 12). The revolution was the struggle not merely of Iranians against an oppressive monarch, but of oppressed Muslim people against the non-Muslim Western powers that promoted irreligion in Iran through the Pahlavi regime (Muhajeri 12). To struggle against the oppressive practices of the regime, against poverty and against disenfranchisement was not merely a socio-economic or a political struggle, but a struggle to establish the rule of the true religion of Islam (Muhajeri 24). In a public address, Khomeini invoked Islam as a singular revolutionary goal against the political rhetoric of the Cold War, imperialism, and the Middle East conflict with Israel:

Today, with the blessing of the Almighty God, the foundations of the Islamic Republic have been set by the hands of people who have faith in Islam and in the Islamic republic. They have expelled trouble-makers and conspirators from the scene... By it, they may find their own Islamic potential and forever throw away their fear of the growls of the East and West and of their dependents and residue, and let it be an example to them to rise up with faith in the Supreme Lord, and reliance on the power of Islam, cutting the criminal interests (of the enemies of Islam) from their own countries, and focusing on the liberation of our noble Quds and Palestine as their principle aim. (Khomeini 24-25)

Khomeini was thus able to invoke Islam as a unifying message for all Iranians. It was easier to unite Shias and Sunnis under the simple banner of Islam, as well as diverse ethnic groups such as the Persians, Arabs, Azeris, Balochis and nomadic tribes such as the Qashqai, many of whom had been alienated by the Shah's "Persianization" policy. Invoking Islam also allowed Khomeini to attack and discredit the Pahlavi regime as enemies of Islam, and thus associating all Pahlavi socio-economic policies as inherently corrupting of Muslims (Muhajeri 4-7). Western culture and economic influences were castigated by Khomeini – not because of particular qualitative problems, but because they were not "Islamic" in nature (Khomeini 47). Following the overthrow of the Shah, Khomeini began to expound the final principle by creating the permanent adversary of the revolution. Unilaterally establishing a theocratic system of government where clergy held most political power, Khomeini called this the "government of God" – and thus made opposition to his government the equivalent of opposing the authority of Allah and Islam: "This is not an ordinary government... It is a government based on the sharia. Opposing this government means opposing the sharia of Islam... Revolt against God's government is a revolt against God. Revolt against God is blasphemy" (Willet 67).

Using this ideology, Khomeini could collectively attack both his original opponents, the loyalists of the Pahlavi regime, as well as his one-time allies such as the communist Tudeh party as being enemies of Islam. For fellow Islamist groups such as the Mujahideen-e-Khalq (MEK), Khomeini attacked them as being *munafikeen* – the term Muhammad had used for those people who only pretended faith in Islam – and thus succeeded in making them another category of Islam's enemies (Axworthy 271). Khomeini further launched a "Cultural Revolution" from 1980 to 1983, in which

universities were shut down across Iran in order to purge them of “un-Islamic” scientific and Western influences. Until 1989, tens of thousands of people were imprisoned, tortured and executed by the Khomeini regime for alleged opposition to his government (Axworthy 265-86).

In Hinduism, there is an absence of any overtly religious and political ideology. Vinayak Damodar Savarkar, the author of the ideology of Hindutva, admitted he was inventing new concepts and terminology that had no relationship with the Hindu religion (Noorani 81). This is precisely why Hindutva is able to take the form of a revolutionary monotheistic ideology. In applying the three principles of monotheistic ideology, we find that Hindu nationalists promote being “Hindu” in terms of both national and religious identity as the common, desired ideal. Hindutva ideology redefines Hinduism as including any religious or philosophical system born in the Indian subcontinent – thus, adherents of Sikhism, Jainism and Buddhism are automatically Hindu in national identity, even if their religious practices differ from Hindus. The “Hindu” identity is thus presented as simplified and unifying in nature:

Thus, applying the modern understanding of ‘Nation’ to our present conditions, the conclusion is unquestionably forced upon us that in this country, Hindusthan, the Hindu race with its Hindu Religion, Hindu Culture and Hindu Language (the natural family of Sanskrit and her offsprings) complete the Nation concept....
(Golwalkar 48)

As part of the project to recreate being “Hindu” as a national identity, Golwalkar attempted to redefine other significant social institutions such as language on religious

lines. Any attempt to restrict the definition of Hindu to religious terms is regarded as an attempt to betray the nation (Golwalkar 49).

Finally, the third principle of the permanent adversary is created in the Hindutva doctrine on the Indian adherents of religions of foreign origin – namely Islam, Zoroastrianism, Judaism, and Christianity. The Hindutva doctrine postulates that as the holy places of Muslims, Christians, Jews and Zoroastrians lie outside India, their loyalties are permanently suspect, and they cannot be regarded as true Indians. In his book *We, or our Nationhood Defined*, the second chief of the R.S.S., Madhav Sadashiv Golwalkar wrote: "... Here was already a full-fledged ancient nation of the Hindus and the various communities which were living in the country were here either as guests, the Jews and Parsis, or as invaders, the Muslims and Christians" (Golwalkar 136-57).

Golwalkar also attempts to negate the use of the term "Indian" as a composite national identity, and attempts to replace it with "Hindu":

... today, there is a misconception even regarding the word 'Bhartiya.' It is commonly used as a translation of the word "Indian" which includes all the various communities like the Muslim, Christian, Parsi, etc. residing in this land. So, the word 'Bhartiya' too is likely to mislead us when we want to denote our particularly society. The word 'Hindu' alone connotes correctly and completely the meaning what we want to convey. (Golwalkar 98)

If they wish to live in India, which Savarkar and Golwalkar describe as a "Hindu Rashtra" (Hindu nation), they must remain subordinated to Hindus or assimilate culturally with the Hindu identity. In the propaganda of Hindu nationalist groups, being a

patriotic and true Indian is qualified with being a Hindu in both religious and political identity (Golwalkar 49). In a 2011 letter published in the newspaper *Daily News & Analysis*, the B.J.P. politician Dr. Subramanian Swamy suggested that the only way of fighting Islamist terrorism was for Indian Muslims to be deprived of the right to vote until they acknowledged that their ancestors were Hindus:

“Implement the uniform civil code, make learning of Sanskrit and singing of Vande Mataram mandatory, and declare India a Hindu Rashtra in which non-Hindus can vote only if they proudly acknowledge that their ancestors were Hindus. Rename India Hindustan as a nation of Hindus and those whose ancestors were Hindus.” (Swamy)

Dr. Swamy’s proposal elucidates the mindset of Hindu nationalism, which seeks to relegate non-Hindus to lesser citizenship. In emphasizing the need for an “ancestral” connection to Hindus, Dr. Swamy’s definition proposes citizenship as requiring both racial and religious qualifications.

IV. Reinventing the Old as New

In a revolutionary setting, monotheism reinvents an older tradition to present it as a new and radical idea. It invokes the glory of an original principle or tradition as the basis for the reinvention of society. Although Islam is considered a distinct religion, its founder, Muhammad, claimed that it was the same religion that had been revealed to Abraham, Moses, and other Hebrew prophets (Qur'an 42:13; Qur'an 653). Muhammad asserted that the true religion revealed by the Hebrew prophets had been corrupted and perverted over the course of time, and that it was his mission to restore the original religion to humanity as the last of the prophets of the God of Abraham (Esposito 9-12). Muhammad claimed Jesus as being a prophet in the same lineage and asserted that the Christian doctrine of the divinity of Jesus and the Holy Trinity contravened pure monotheism (Glasse 429).

Khomeini's reinvention of Islam bases itself upon the doctrines of Twelver Shia Islam, which honors a lineage of twelve imams (the most senior of all clergy in Shia Islam) who were the purest and greatest leaders of Muslims (Axworthy 123-46). In presenting his doctrine the *Velayat-e-Fiqh* (Guardianship of the Jurist), Khomeini reinvents the orthodox Shia theology that anoints clergy as guardians of not only religion but also the rule of Allah on earth (Axworthy 258-66). As a result, Khomeini's vision of the Islamic Republic places un-elected clergy in the highest positions of power, with the office of the Supreme Leader reserved for himself, and after him, the most senior of all Shia clergy. The *Velayat-e-Fiqh* connects Khomeini not only with the lineage of the Twelve Imams, but also to the position of absolute authority that Muhammad enjoyed in the first Islamic

state that he founded in Arabia. Khomeini frequently invoked both the Twelve Imams and Muhammad in his speeches:

It is hoped that this Revolution will serve as a divine spark for creating a great explosion among the oppressed masses and that it will lead to the dawn of the Revolution of the Imam of Time (the Absent Imam), may all souls be sacrificed before him.... A revolution in the Path of God and one for establishing the Rule of God was precisely that for which our Prophets sacrificed themselves, and the exalted Prophet of Islam devoted his whole lifetime to this path with all his might... (Khomeini 28-29)

Khomeini succeeded as Muhammad did in creating a theocratic state, where the governing authority derives its claim to power from a religious deity. In the course of his rule, Khomeini claimed to possess as great an authority as Muhammad himself when he declared that he could suspend Islamic law and some basic principles of Islam such as the Hajj pilgrimage if he deemed it necessary (RSW 359).

Although Hindutva claims to be an exclusively political ideology, its doctrines practically reinvent the archaic Hindu caste system according to its radical worldview. With the traditional occupation-based castes and their socio-economic barriers withering away in the face of rapid urbanization and industrialization, Hindutva reinvents the caste system by placing the peoples it defines as “Hindu” – religious Hindus, Jains, Sikhs, Buddhists – into a rarefied hierarchy, while those it defines as being “non-Hindu” – Muslims, Christians, Zoroastrians, Jews – are essentially rendered “impure” and thus, “outcaste.”

In *We, or Our Nationhood Defined*, Golwalkar creates an “outcaste” status for these communities:

The foreign races in Hindusthan [India] must either adopt Hindu culture and language, must learn and respect and hold in reverence the Hindu religion, must entertain no idea but of those of glorification of the Hindu race and culture ... In a word, they must cease to be foreigners, or may stay in the country, wholly subordinated to the Hindu nation, claiming nothing, deserving no privileges, far less any preferential treatment—not even citizens' rights. (Gafoor, 20-21)

(Gandhi 430)

While the traditional caste concept is based on ritual purity – with “outcastes” being those whose occupation as butchers or leather-makers brings them in contact with animal carcasses and leaves them permanently “polluted” – the Hindutva caste system effectively renders as “impure” those peoples whose religions are not of Indian origin. It must be reiterated that the Zoroastrians and Jews are not regarded with any hostility in Hindutva, but neither are they accepted as being fully Hindu, and thus, fully Indians.

V. Authentic and Inauthentic Monotheism

Monotheism as a political mechanism can assume both an authentic and inauthentic nature with respect to monotheism as a religious principle. The Islamic monotheism of Khomeini is deeply rooted in Shia orthodox theology and Iranian history, and its emergence in the 1979 revolution serves as a resolution to historic conflict. In contrast, the emergence of Hindutva in India represents a reaction to the threats perceived from Islamic fundamentalism and separatism, and the disintegration of traditional Hindu society due to urbanization and industrialization. Hindutva is not an original doctrine rooted in Hindu theology or history, but rather an inauthentic imitation of Muslim separatism.

Khomeini's revolutionary ideology is deeply rooted in a long-standing conflict in Shia and Iranian history. After the Safavid-led conversion of Iran to Shia Islam in the 16th century CE, Shia theology that presented imams as political leaders created tensions between the Safavid monarchs and the Shia clergy (Mackey 90-113). Claiming themselves as custodians of religion deriving their authority from the lineage of the imams, Shia clergy demanded that the Iranian monarchs consult them and seek their approval on governing Iran, while the monarchs sought to preserve their independence and supremacy as undisputed rulers of Iran (Mackey 90-113). During the Iranian revolution, Khomeini obtained his opportunity to settle this long-standing dispute when the power and credibility of the monarchy were at a historic low. The clergy had always maintained a powerful position in the cultural, religious, and political life of Iran. Khomeini's reinvention of Shia theology aided the complete takeover of temporal administration by religious authorities.

On the other hand, the ideology of Hindutva is inauthentic in that it imitates monotheism. According to Julius J. Lipner, Hinduism encompasses broad religious and philosophical traditions and identities: "... one need not be religious in the minimal sense described to be accepted as a Hindu by Hindus or describe oneself perfectly validly as Hindu. One may be polytheistic or monotheistic, monistic or pantheistic, even an agnostic, humanist or atheist, and still be considered a Hindu" (Lipner 8). This contrast with Hindutva ideology augments the assertion that the latter is an inauthentic political construction. In an interview with B.B.C. journalist Mark Tully, the senior B.J.P. politician and R.S.S. veteran, Lal Krishna Advani, admitted that the nature of Hinduism as a religion resisted its politicization: "Hinduism is so varied you can't actually appeal to Hindus in the name of religion" (B.B.C.). The primary feature of Hindutva that proves this assertion is the complete lack of consistency in its ideology and actions. Although claiming itself to be a non-religious movement, Hindutva organizations have repeatedly championed religious causes such as banning the slaughter of cows, which are considered sacred animals in Hinduism. Hindutva vigilantes have been involved in acts of violence against Muslims or Dalits (formerly "pariahs" or "outcastes") rumored to be in possession of beef or transporting cattle for butchering (Diwakar). The non-religious nature of Hindutva is further challenged by the fact that Hindutva organizations spearhead the movement to construct a temple dedicated to Rama, the eighth avatar of the god Vishnu, on the site of the demolished Babri mosque in Ayodhya. Supporters of the Ram temple movement claim the land as "Ram Janmabhoomi" (Ram's birthplace) and further claim that the original temple dedicated to Ram had been destroyed by a Mughal army under Emperor Babur (Guha 630-647). Hindutva organizations have variously promoted anti-beef

vigilantism and the construction of the Ram temple as movements to mobilize its supporters, but none of the causes represent the core agenda and values of Hindutva. Rather, these campaigns are designed to aid Hindutva organizations in rallying anti-Muslim sentiment in the broader Hindu population. While the monotheistic revolution of Iran centered itself upon the monotheism of Islam, the Hindutva attempt at revolution has not been able to center its monotheism, which varies from nation-worship to the adulation of Rama, and to the veneration of the Cow.

Outbreaks of religious violence have bolstered the fortunes of Hindutva organizations. As previously mentioned, the genesis of Hindutva and Hindutva organizations followed the 1921 Moplah riots, and another brief period of support occurred during the partition riots of 1947. The destruction of the Babri mosque on December 6th, 1992 by a mob of R.S.S., B.J.P. and Vishwa Hindu Parishad (*World Hindu Council*, V.H.P.) activists resulted in nationwide rioting, claiming the lives of more than 2,000 people (Guha 582–598). In the following general election of 1996, the BJP emerged as the single-largest political party. During the 2002 riots in the state of Gujarat, the BJP was the ruling party, and the chief minister of the state, Narendra Modi, was accused of not doing enough to stop the violence (Guha 646-50). However, in the aftermath of the violence, the BJP has won every succeeding state election. It is possible to surmise that Hindutva is seen as a protective and reactive force that allows Hindus to gain a sense of security against Islamic fundamentalism.

VI. Conclusion

As a political force, monotheism is both revolutionary and reactionary in nature. When Arabia was divided between polytheism, Judaism, Christianity and Zoroastrianism, it could be unified under Islam. The understanding of the difference between an authentic and an inauthentic form of monotheism aids in understanding the future of such revolutionary movements. It can be argued that Hindutva has more in common with extreme nationalism and fascism, and this would not be untrue. However, what is remarkable about the Hindutva movement is its ability to emulate the dynamics of monotheism revolutions, in both objectives and methodology. Its reactionary nature derives from the fact that Hindutva contradicts the polytheism and monism of Hinduism and can only adopt monotheistic dynamics as a defensive measure against perceived existential threats. This is not to say that the Hindutva movement will not succeed in its efforts to create a theocratic or fascist state in India, but its potency is determined by the threat level perceived by Hindu society.

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A Cultural Problem: Domestic Violence in El Salvador

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A Cultural Problem: Domestic Violence in El Salvador

On January 23, 2018, Dr. Rosa Maria Bonilla, who worked for the Ministry of Health and was in charge of the mother-and-child program in the western part of El Salvador, died after falling down the stairs at home, according to the declaration that her partner provided to the authorities. However, subsequent investigation by the National Civil Police (PNC) and the Fiscalía General de la República determined that Bonilla didn't fall the stairs: she presented signs of being brutally beaten. Dennys Elenilson Suárez, Bonilla's spouse, was arrested and is the main suspect in the tremendous act. Traces of Bonilla's blood were found throughout the house and scratches on Suarez's body showed that Bonilla had tried to defend herself during an attack, (Perez).

This shocking account is yet another terrible episode that illustrates the prevalence of domestic violence in El Salvador, which happens across all levels of class and status. Domestic violence has been a problem faced by people all around the globe; however, there are certain places where violence against women has become a more serious problem, such as my country, El Salvador. In El Salvador, domestic violence has become one of the greatest concerns of its citizens due to the high number of victims who suffer from this type of crime.

Domestic violence, according to the Fiscalía General de la República from El Salvador, can be defined as "any action, omission or abusive act of power committed by any member of the family to dominate, submit, control or physically, mentally, financially or economically assault any member of the family, outside or inside the family home,"

(Fiscalia). Men can be victims of domestic violence; however, this increasing trend is linked with several interlocking problems that interfere with the proper development of human beings and that make women and the children they care for children disproportionately vulnerable to abuse.

El Salvador has earned the awful distinction for being the world's most dangerous country for women. According to a report published in 2012 by Small Arms Survey, a Swiss-based research project, "[w]ith a rate of 12.0 per 100,000 people, El Salvador is the country with the highest femicide rate, followed by Jamaica (10.9), Guatemala (9.7), and South Africa (9.6)," (Nowak). Being a woman anywhere is hard because of gender inequality, but being a woman in a country with such reputation is even harder. Salvadoran women know that they live in a society that oppresses them for the simple fact of being women. They grow up with the mentality that there are special duties assigned to them as women, such as cleaning up the house, taking care of children, cooking, and washing. However, in addition to pressuring women to fulfill their domestic duties without complaint, society also teaches them to be dependent on male partners economically and socially because women are not seen as having the same worth as men do.

Globally, domestic violence is a serious problem that has led many people to experience dangerous circumstances, even death. Morally and often legally wrong, violence in the home hurts the integrity of people who are being abused and of the people around them. Directly or indirectly. Each domestic violence situation is different; however, what motivates people to do it is always the same: the pursuit of control and power. In El Salvador, domestic abusers use violence either physically, mentally, or

economically; though laws against abuse exist, they are too rarely enforced, and abusers often go unpunished because in many cases, it is not socially acceptable to report abuse, and the legal system often blames women for inciting violence...

Even though domestic violence is seen as "the way it is," as socially normative, it's important to keep in mind that. violence is never be acceptable; when victims do not resist or even protest, they are giving up their rights, choosing to stay trapped in violent relationships, and preventing any progress towards gaining power in their family lives. Depressingly, the cycle of violence seems impossible to break where women have nowhere to turn for help, and social structures like law enforcement tend to reinforce domestic violence. The National Police (PNC) reported that there were 575 femicides in 2015, almost the double that the ones from 2014; however, in El Salvador "the rate of impunity for femicide is about 77 percent" (The Advocates). For women who know that the law favors men in domestic violence cases, the lack of punishment reinforces the idea that there is no other alternative. Women who live in fear lack confidence that the judicial system will help them. A battered woman will choose not to report her husband because if the law fails to protect her, he may retaliate, and a report may result in an escalation of violence. She can report her husband, but first, she is forced to ask, "What if he does not get punished?" She may fear that he will go back and kill her. Domestic violence is not about bad luck, nor is anyone immune; anyone can be a victim. Domestic violence doesn't respect social status, religion, beliefs, gender, or age. According to Carmen Molina, a family judge from San Salvador, "in 86% of cases, the victims are women, and 17% are men" (Caceres). When violence and cruelty are "normalized" in a culture, everyone suffers.

One of the aspects of Salvadoran culture that has made violence so deeply entrenched is the concept of “machismo.” There isn't a specific definition of Machismo because it is a cultural phenomenon, so each culture defines it based on their own experiences. El Salvador hasn't defined it yet. However, from a general perspective machismo refers to “the sociocultural perception of men, particularly within Latino cultures, as strong, aggressive, and proud,” (Dewey). Machismo reinforces patriarchal ideals about men being the head of everything and women being the oppressed subject, who has an absolute mandate to obey her husband. Machismo promotes violence against women because it positions them as the weak sex, unworthy of respect. In this context, a woman who steps out of place or does not do as she is told, or is in the wrong place at the wrong time, is “asking for it.”

In addition to promoting violence towards women, machismo also dictates that men cannot show or admit to weakness, even when they themselves are the victims of violence, whether at the hands of other men, or women. My family observed this close up in a friend and neighbor. Members of the community knew for many years that Mr. Cubias was a victim of domestic violence, but he never sought help, and no one would have dreamed of offering help to him, as this would have been an assault to his ego, according to the unspoken law of machismo. My former neighbor's experience is important to consider because it shows how damaging strict gender norms that promote and accept violence are damaging to everyone—men as well as women. Gender roles not only hurt women but makes men vulnerable in surprising ways. The masculine ideal of “real man” oppresses men, prohibits them from expressing their feelings and

emotions, and pushes them to be tough and hard. In this way of thinking about masculinity, the only appropriate emotion for men to display is anger, (Katz 182).

The Salvadoran ideal of masculinity is a real problem in El Salvador and in most Latino countries, and it is understood to be one of the drivers for domestic violence. Most of Salvadoran people experience patriarchy as hyper-expressed and enforced within the culture—especially in the popular media’s representation of men. Machismo culture in El Salvador is influenced by heroic characters like El Principe Azul (the prince of fairy tales), or el caballero (the gentleman) de las telenovelas. From young ages, children learn myths about masculinity. The fairy tales movies and books, along with Mexican telenovelas are very popular in El Salvador. What this all have in common is hyper-masculine heroic characters. El Principe Azul is a heroic figure in the fairy tales. He is strong, very muscular, brave and powerful. He risks his own life to save "his" princess, who is normally locked in a medieval castle, waiting to be rescued. Mexican Telenovelas under a similar context illustrate how men must be fearless, strong, violent, and able to defeat any foes who would challenge his honor; the female character, on the other hand, is usually young and poor, gains access to a higher socio-economic condition through marriage, and with it, a “happy ending.” The specific roles assigned to assigned to these characters fulfill the double function of justifying the division of patriarchal roles (he is brave, she is fearful, he is strong, she is weak, he does not need anything, she needs everything, he resolves, she waits for what resolve it). At the same time, these strict portrayals of gender to make men feel that they are the heroes of their own kingdoms. Machismo is an aggressive behavior that men develop because of standards that boys are socialized to absorb and act out from an early age.

In El Salvador, this intensive gender socialization enforces the idea that men are supposed to be stronger than women and the dominant sex. They must gain respect by intimidating others. Another indicator of Machismo culture is the cultural fascination with the Marvel characters, such as Hulk, who appears on children's clothing and school supplies, such as notebook covers, back packs, and pencil cases. Hulk is a great representation of the ideal "man" under a machismo cultures. He shows a physical differentiation that turns out to be ideal to justify male superiority. He is extremely muscular and strong, and his physical strength make him easily to be recognized as the dominant sex. Hulk's strength increases proportionally with his level of great emotional stress, mainly anger. Hulk's resistance to physical damage also reinforces the idea of how strong he is.

Where, in a culture based on such machismo standards, men are always seen as the superior beings, holding all the power and control, women lack agency and are merely subjects to be dominated. Women are expected to be weak, emotional, inferior, and are even often discussed as a man's property. In a common usage of language, in El Salvador, most men refer to their wives with nouns accompanied with possessive pronouns such as "Mi vieja" or "Mi mujer" as if women belong to them. A society under this type of culture limits the development of its citizens, especially where women are concerned. Machismo culture is a real issue that permeates into other different aspects of the culture, such as the welfare of children, education and the workforce. In a machismo culture, both male and female constructions of gender are strictly enforced.

In Salvadoran culture, women are the primary caretakers of children. This means that when women are the victims of violence in the home, children see violence; they

are victimized psychologically, and sometimes physically as well. A survey carried out by The United Nations Children's Fund (UNICEF) revealed that in El Salvador, 7 out of 10 children reported having been abused in their homes. Children who are exposed to domestic violence are thought to be more susceptible to experience psychological, social and emotional damage that can interfere with their developmental growth. The problem is not merely about children who suffer from abuse becoming abusers, but the confusion over what is acceptable. According to UNICEF, "One study in North America found that children who were exposed to violence in the home were 15 times more likely to be physically and/or sexually assaulted than the national average." The same study showed that for children who live under a violent environment, even when children themselves are not abused but witness abuse, the impacts are still devastating. "They may have difficulty learning and limited social skills, exhibit violent, risky or delinquent behavior, or suffer from depression or severe anxiety," (UNICEF 3).

In addition to witnessing or experiencing violence in the home, girls are impacted in other crucial ways by the pressures and expectations of machismo culture. Girls, since young ages, are seeing as the primary caretakers for their younger siblings, any older member of the family, or any member of the family who suffers from a chronic illness. Also, girls are the ones responsible for the housework, including cooking, washing the dishes, washing the clothes (for all the individuals at home), and cleaning up the house. Girls are not allowed to do any other activity, including studying, if they haven't done all the household chores. In El Salvador, "Five out of every 10 girls drop out of school to help in the home," resulting in "61.3 percent of the illiterate population [being] female" (11). The lack of education hinders women from finding a good job later

in life. That limits women to jobs such as housekeepers, and babysitters. This leads women to develop a dependency on men once they're married.

Although the legal age to get marry in El Salvador is 18, it wasn't until last year that lawmakers voted to make child marriage illegal without exceptions. It was stated in the Article 14 of the country's family code, that a girl under the age of 18 could get married under certain circumstances. For example, if a 14 year old became pregnant, she could be forced to marry a man if her parents wanted that; the girl's consent was not required in these cases. According to a report published by the United Nations Population Fund (UNFPA), the Minister of Health and the National Council of Childhood and Adolescents in 2016, it was revealed that 9 out of 10 girls and adolescents were already in an informal union by the age of 18 - five out of 10 had been forced into such a union. Rosa Alvarado, who happens to be my grandma, experienced a forced child marriage at the age of 17. She was forced to marry a 57 years old man. Her family lived in extreme poverty; meanwhile my grandfather was financially well enough to pay well for a young wife. Technically, she was sold to my grandfather, and it wasn't until this arranged marriage that her family (parents and siblings) were able to get out of the poverty they had been living in. That brutal decision impacted her life so badly. She never fell in love with him, her hopes and dreams were limited, and she became totally dependent on him. She never finished school, first because she was extremely poor and she had to help with all the chores at home. Then, once married, she immediately became a mom. She never worked while my grandfather was alive, because he did not want her to do it. My grandmother's story is not unique... this is a typical life pathway for a poor woman growing up in El Salvador

Women's unequal access to education and economic empowerment is an important cause of poverty, which is disproportionately experienced by women—especially those who care for children. The correlation between poverty and violence are well-established, and resources are distributed unevenly in El Salvador, where, according to a 2011 government survey "41% of households nationwide are impoverished. This rises to 50% in rural areas, where 30% of the population resides," (On the Brink 14). Globally the stressors of poverty often correlate with decreased stability and increased violence, in and outside of the home. Rural areas in El Salvador are well known for its high levels of poverty. It's important to know that there is a difference between being poor in the United States and being poor in El Salvador. According to Bureau Census, in 2015 in the United States, the income for a family of 4 with no children under 18 years old was \$24,447, while the figure for a family of 4 with 2 children under 18 was \$24,036, which means \$11 to \$16 per day, per person. In El Salvador, according to 2015 statistics, people who lived in poverty are living with \$3.20 or less per day (Proctor et al.). Besides the low income, someone who lives in poverty in the United States typically has access to some type of support coming from the government such as the WIC, food stamps, and health insurance. In El Salvador people with low income don't have access to any of those benefits. In El Salvador, the Instituto Salvadoreño de Seguro Social (ISSS), "covers workers in the formal economy and their families, who represent around 24% of the population," which means that health insurance is only given to people who work for the government, or in the private sector, if the employer decides to pay for their employees. Furthermore, living in poverty in El Salvador means having limited access to necessary resources such as electricity,

drinking water, and gas. Sometimes children who lived in poverty have no access to education because schools are far away from their homes and they lack money for transportation, or their parents prefer them to work instead (boys in the agricultural sector and girls with house chores).

In El Salvador, according to the Fair Labor Association, the minimum wage for someone who works in the agricultural section is \$6.87 and \$7.47 per day, and the price for "la canasta basica alimenticia" (basic food basket) is around \$150. This is one of the causes why families in the rural area are experiencing a high level of poverty. So, even when the man works to support his family, there is still not enough. According to Stephen Meyer, the author of *Child Abuse and Domestic Violence*, "a person with little education, low job prestige, and income, or poor interpersonal skills may use violence to compensate for a real or perceived lack of resources and to maintain dominance" (Meyer, 125). Feelings of extreme powerlessness are not an acceptable excuse for violence, but this dynamic of oppression could be an explanation of why the levels of domestic violence are high in El Salvador.

Poverty along with a lack of education under a machismo culture, have deprived Salvadoran women of authority within the family. Men, most of the time, are the only ones who earn money for the work they do, while women are housewives and the ones who take care of children, especially in the rural sector. This makes women feel that they depend on their partners, but the worst part is that this reinforces the idea of women as property. Therefore, men can beat their wives and witnesses, neighbors, friends and even family, accept this violence because a man can do what he wants with his woman. Due to El Salvador's social and cultural structures, women often do not

resist or try to break free from this cycle of violence, because they feel that they don't have any other alternative. They're poor, and besides that, they're women. They feel trapped in their marriages and then and do not report abusive husbands because if they do, "who is going to sustain me?"

"[I]n 2010, 580 women and girls were murdered. The next year, the death toll hit 647, according to the Policia Nacional Civil (PNC)" (Witte-Lebhar). Because of the increase in death number, in 2011, the Ley de Igualdad, Equidad y Erradicacion de la Discriminacion Contra la Mujer Salvadoreña was approved. However, "in the first two months of 2012, female-homicide numbers were again on the rise," (Witte-Lebhar).

The problem in El Salvador is not the lack of laws that protect people from domestic violence, but non-compliance with these laws. El Salvador needs to enforce its punishments. Statistics demonstrate that fewer than 3% of reported femicide cases are resolved by the courts. "The first person to be prosecuted under the country's new femicide law was a wealthy business executive who murdered his wife in 2012"(Witte-Lebhar). The killer, Dagoberto Gutierrez, was absolved a year later. Another case that awoke anger, impatience, and fear among Salvadorans was that of Rodrigo Samayoa in June 2012. Samayoa is a former AL (Asamblea Legislativa) deputy from GANA (political party), who was accused of beating his wife. Shortly after this accusation was made public, his wife dropped the charges. According to the Primera Camara de lo Criminal, his wife's injuries were not "so serious," and he was admitted back in the AL. The clear message was that men who abuse their wives will be given a pass; they will not be held responsible for violence against their women. As stated by Carmen Molina, a family

judge from San Salvador, "The Legislative Assembly (AL) needs to modify the law to have more elements to be able to sanction the aggressors" (Caceres).

Domestic violence is a cultural problem that has been reinforced by the apathetic legal response to violence in El Salvador. Increased compliance to domestic violence laws can decrease the severity of the problem but will not eradicate it. As a result of new initiatives, by the end of 2012, "The PNC was able to report a 47% drop overall in female homicides" (Witte-Lebhar). However, 53% of female homicides in El Salvador are still an unacceptable figure, and its necessary to consider that those are only the number of crimes that were reported to the authorities.

Fear, poor awareness, economic dependency and lack of resources that support women and their children are some of the reasons why so many women who have experienced or who are still experiencing episodes of domestic violence do not speak up and/or to leave their partners. This is the logic of Salvadoran women who decide to stay in violent relationship: "what would people think about me?", "I won't be able to pay all the bills by myself", "I don't want my children to grow up without a dad", "if I report him, authorities will not do anything", "that's the way it is, not everybody is born with the same luck." Together, these thoughts illustrate the social and economic pressures that give violent men a pass in Salvadoran culture and that keep women trapped in cycles of domestic abuse.

It's possible to reinforce the laws; maybe it's even possible to make people comply with them. What it is harder to do is to change a society's way of thinking. While Salvadoran people live under a machismo culture, eradicating domestic violence as a whole will be almost impossible. This is a tragedy because no one should be suffering

from violence at home. Home should be a sanctuary where love is reflected, not a place where one human being can violate the integrity of another because of the supposedly inherent attributes of gender.

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Remembered in Sequence: Constructing Personal Histories of War and Political Turmoil in Graphic Texts

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I. Introduction

In 1991, cartoonist Art Spiegelman published *Maus II: A Survivor's Tale*, the second volume of his comic book about the Holocaust. The book, which depicts Spiegelman's interviews with his Jewish father about his experiences in Auschwitz, made the *New York Times Book Review* best-sellers list that year; but due to its depiction of Jews as mice, Nazis as cats, and Poles as pigs, it appeared on the fiction side of the ledger. Spiegelman was not thrilled; in a letter to *The Times* in which he implored the editorial board to reconsider their placement of *Maus*, he wrote, "I could gracefully accept the compliment as intended, but to the extent that 'fiction' indicates that a work isn't factual, I feel a bit queasy...I shudder to think how David Duke — if he could read — would respond to seeing a carefully researched work based closely on my father's memories of life in Hitler's Europe and in the death camps classified as fiction" ("A Problem of Taxonomy"). In an unprecedented decision, the board published Spiegelman's letter and did indeed move *Maus II* to the nonfiction side of the ledger, but not without much internal debate. One editor allegedly said, "Let's go down to Soho and ring Spiegelman's doorbell. If a giant mouse answers, we'll put it in nonfiction" (Chute 1-2).

Meanwhile, literary critic Hillel Halkin penned a negative review of *Maus II* in *Commentary Magazine*, in which he criticized Spiegelman's depiction of Jews as mice and use of the comics medium to depict the Holocaust:

"Is there really much to be gained in our understanding of how human beings behaved in the Holocaust by imagining them as various kinds of mammals? I rather think there is more to be lost. ... The Holocaust was a crime committed by humans against humans, not—as Nazi theory held—by one biological species against another. And while the German campaign of annihilation against the Jews and the reactions of the various peoples caught up in it had to do with

many factors...instinctual behavior, except insofar as we all have instincts of aggression and survival, was not one of them. ... [*Maus*] fails to convince me that comics, no matter how sophisticated, have the slightest potential to vie with either literature or art as a serious medium of expression" (Halkin).

Although they convey very different opinions about the literary value and quality of *Maus II*, both Halkin's review and the actions of *The Times* editorial board reveal a hesitancy among readers to accept comics as a medium capable of telling difficult, autobiographical narratives. Indeed, despite the publication of countless autobiographical comics since *Maus II*'s release, it can be said that there still exists a tendency among modern audiences to view comics as inherently fictional or unsuitable to represent history—a belief which becomes particularly problematic when dealing with personal histories that intersect with the difficult subjects of war and political turmoil. However, I posit that many of the qualities that readers point to as making comics an unsuitable medium for nonfiction are what actually make the medium a particularly powerful form of human documentary. Due to their ability to purposefully and meaningfully abstract icons, create meaning on the level of concatenation, and create

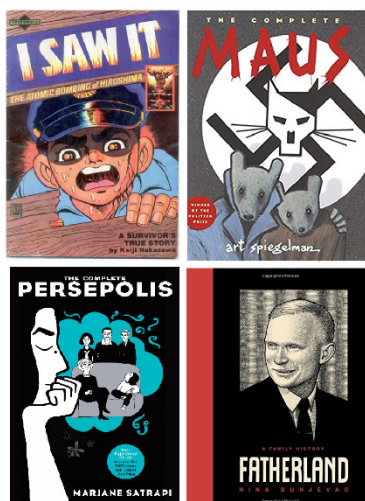


Figure 1: Covers of Nakazawa's *I Saw It*, Spiegelman's *Maus*, Satrapi's *Persepolis*, and Bunjevac's *Fatherland*.

authenticity through dialogue with a reader, it can be said that comics are a medium uniquely suited to tell autobiographical stories about war and political turmoil.

To explore this assertion, I will examine a cross-section of semiotic resources attendant on the comics medium and explain how these resources affect and enhance the messages being conveyed in four example

texts (figure 1): Keiji Nakazawa's *I Saw It: The Atomic Bombing of Hiroshima: A Survivor's True Story* (1972),

which recounts Nakazawa's life before and after the bombing of Hiroshima; Art Spiegelman's *Maus: A Survivor's Tale* (1972-1991), which follows the parallel stories of Vladek Spiegelman's experience living in Nazi-occupied Poland and Nazi concentration camps, and Art's experience interviewing Vladek; Marjane Satrapi's *Persepolis* (2000-2003), which recounts Satrapi's complicated relationship with her native home of Iran after the Iranian Revolution; and Nina Bunjevac's *Fatherland: A Family History* (2014), an account of Bunjevac's early childhood in Yugoslavia and a biography of her father Peter, a Serbian nationalist and terrorist. For clarity of analysis, authors are referred to by surname when discussing their role as scriptors and illustrators of a text, and referred to by first name when discussing their diegetic role as a character within a text.

II. Defining Comics

In his seminal 1993 book *Understanding Comics*, artist Scott McCloud defined comics as “juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewer” (20). It should be noted that McCloud's definition does not include any judgements about the content, genre, style, or material of comics; it simply outlines formal traits that typify and distinguish comics from other media. However, comics scholar Joseph Witek has countered such attempts to define comics by “the more-or-less arbitrary stipulation of some defining formal criteria,” and instead defines comics as “a historically contingent and evolving set of reading protocols that are applied to texts;” that is, “to be a comic text is to be read as a comic” (148-149). Writing for *Kairos: A Journal of Rhetoric, Technology, and Pedagogy*, Fred Johnson attempts to define how these “reading protocols” function today and arrives at two traits that have been “fundamental to

modern comics and are more or less expected by all comics readers:” comics are recognized by “the concatenation of multiple visual signs” and a tendency to be “built around cartoons” (sec. 1).

Taken altogether, we can arrive at a definition of comics as “texts that utilize the juxtaposition and concatenation of multiple visual signs and that are built around cartoons.” In Charles Sanders Peirce’s terms, “signs” are “stimulus patterns that have a meaning” which are used to convey information about an object or idea (Port). Multiple types of signs are utilized in comics. There are symbols (such as words, panel borders, and speech bubbles), which have an arbitrary and convention-based connection to the objects and concepts they signify; and there are icons (such as pictures), which bear a physical resemblance to the object they signify. In the contexts of this paper, the term “cartoons” is used to refer to non-realistic or semi-realistic drawings or paintings. Cartoons are not signs, but rather a certain style of sign-making, one of many ways in which icons and symbols can be rendered.

III. The Semiotic Resources of Autobiographical War Comics

In comics, meaning is generated through the use of symbols, icons, and the interplay between them; the style in which these signs are rendered, as well as the context in which they are interpreted by an audience, also contribute to meaning. Although I have chosen to analyze these semiotic resources in three discrete sections, it is important to note that none of them exist in isolation, and that all of them overlap and function simultaneously to create meaning in comic texts. Furthermore, it is important to note that while I analyze the effects that each of these resources has on message in the context of autobiographical war comics, it would be incorrect to

extrapolate these interpretations to all comic texts, across all genres, all of the time. As Johnson said, one must not “make the mistake of reading the formal trait as if it were a clue for decoding,” but rather “consider how the formal trait operates in—is activated by and in—the context of a scene” (sec. 4).

A. Closure and Iconic Abstraction

As Wolfgang Iser famously claimed throughout his career, reading is an inherently interactive endeavor, insofar as all literature contains “blanks” or gaps in information that the reader must fill in with their individual interpretations (qtd. in “Heterosemiosis”). However, in his prolific book *Understanding Media*, Marshall McLuhan introduced the theory of “hot” and “cool” media, which posits that different media create meaning with varying degrees of audience participation. Hot media, McLuhan states, are “high in definition” and “low in participation or completion by the audience;” this includes media such as movies and photography, which engage one or two senses completely and provide high-fidelity information to the audience (30-32). By contrast, cool media are those “low in definition” and “high in participation” (McLuhan 30-34), such as television (which was of a lower fidelity than movies at the time of McLuhan’s writing) and face-to-face verbal interactions, which require greater interpretation of abstract stimulus. McLuhan himself classified comics as cool media, calling them “a highly participational form of expression” (183), and comics scholars universally acknowledge the important role that “closure” (defined by Richard Zakia as “the universal human tendency to maintain meaning by filling in missing information” (50)) plays in creating meaning in comics. Indeed, comics are notable for just how many semiotic “gaps” are embedded within the structure of the medium, from the gaps

created between signs and their signified concepts, to the literal gaps that exist between panels (referred to as “gutters”). Among the ways that this coolness manifests itself is in comics’ tendency towards what McCloud calls “iconic abstraction,” a property of cartoons wherein an icon grows to resemble the object it represents less and less, yet still retains its meaning (McCloud 30).

This is demonstrated in a chart drawn by artist Scott Kolbo, in which a self-portrait of the artist is rendered in several different styles along a continuum of icon abstraction (figure 2). As explained by McCloud, on the left side of the scale exists a realistic icon of a human face; due to the icons’ close approximation of reality, one receives and processes the basic meaning of the icon “by way of resemblance” (30-31). In the right side of the scale, there exists a simpler icon which “moves away from resemblance” by stripping away certain details and exaggerating others, yet “still conveys the basic meaning” by maintaining details critical for recognition (30-33). At the far-right side of the scale, beyond the realm of the most extreme of iconically abstracted icons exist symbols, or arbitrary images that no longer bear any resemblance to the signified object yet still convey meaning; in our example, this can be seen in the word “face” (31-33). Referring back to figure 1, one could plot the art of Bunjevac, Nakazawa, Satrapi, and Spiegelman on this continuum to illustrate the same effect. Bunjevac’s

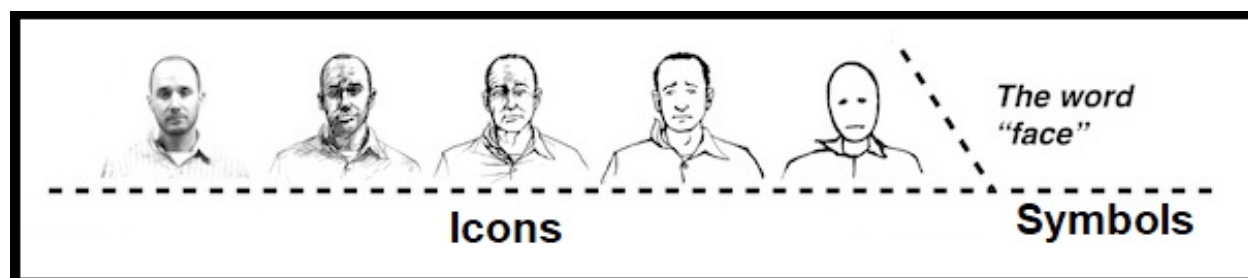


Figure 2: A rendering of Scott McCloud's scale of iconic abstraction drawn by Scott Kolbo and edited by the author (Johnson sec 2).

detailed, cross-hatched depiction of her father would fall to the far left of the scale; Nakazawa's wide-eyed self-portrait would fall closer to the middle-to-right side of the scale, as would Satrapi's pseudo-naïve depictions of herself and her family; and Spiegelman's images of humans as mice may be said to be straddling the line between icon and symbol, as there is a degree of arbitrary association, or symbolism, in the way



Figure 2: Marjane Satrapi, *Persepolis*, p. 134.

Spiegelman has chosen to render his icons. As stated, iconic abstraction works as a semiotic resource because of human's tendency for closure. The ability of an artist to strip away extraneous detail and still convey core meaning—as McCloud termed it, a process of “amplification through

simplification” (30)—affords comics a capacity to render things such as memory and violence in ways not easily achieved in other media.

Persepolis perhaps offers the clearest examples of this affordance as it relates to memory. Throughout the text, Satrapi's clean, simple icons are manipulated to convey aspects of memories that one could not otherwise visually represent. For example, figure 3 portrays Marjane's attempts to bargain with a member of the Guardians of the Revolution, a group responsible for monitoring Iranian women's wearing of the veil. As Marjane



Figure 4: Marjane Satrapi, *Persepolis*, p. 6.

grows more frantic, the icon used to convey her becomes more abstract, utilizing more erratic linework and exaggerating key features such as Marjane's wobbling lip and teary eyes (Satrapi 134). The use of abstracted icons allows Satrapi not simply to recall an event, but to convey emotions and sense memories that she otherwise would not have been able to visually represent. Satrapi also uses iconic abstraction to render memories of pure feeling, which have no clear, indexical image to represent them; in figure 4, for instance, Satrapi draws a panel in which she utilizes icons to create a visual representation of her inner turmoil over the veil (Satrapi 6). She chooses not to render a



Figure 5: Keiji Nakazawa, *I Saw It*, p. 15.

visual of any actual, specific moment, but instead creates a representative composite memory that concisely captures the feelings she remembers experiencing as a child.

Nakazawa's work similarly use icons to focus readers' attention on certain details of memory, although his particular focus on memories of the physical disfigurement caused by the atomic bomb allow us to gauge icons' ability to render violence. In captions, Nakazawa describes details such as the "ghoulish" way burn victims walked "hunched over,

dragging their skins” (24), and the way those in black appeared to have been “melted” by the blast (16). As seen in figure 5, these verbal recollections are reiterated clearly in Nakazawa’s visuals (15). Nakazawa’s icons amplify the specific details that Nakazawa remembers while downplaying those he does not remember or finds less important, in effect creating a representation not of reality, but of Nakazawa’s recollections of reality. Notably, in this sequence the perspective of the panels shifts between Keiji’s point of view and images of Keiji in the act of witnessing; this serves to, as Hillary Chute writes, “produce a phenomenology of memory and trauma, both exterior and, crucially, interior;” in other words, readers not only see Nakazawa’s experience as a witness, but take on this own optical perspective to become the witness (Chute 125).

In *Maus*’ case, the use of iconography to render violence serves as a way for Spiegelman to convey the horror of concentration camp violence without turning off readers for whom the physical repugnance that would accompany a more realistic rendering would be too great. This is perhaps best illustrated on page 71 in a panel depicting people being burned alive in crematorium ovens (figure 6), one of the starkest

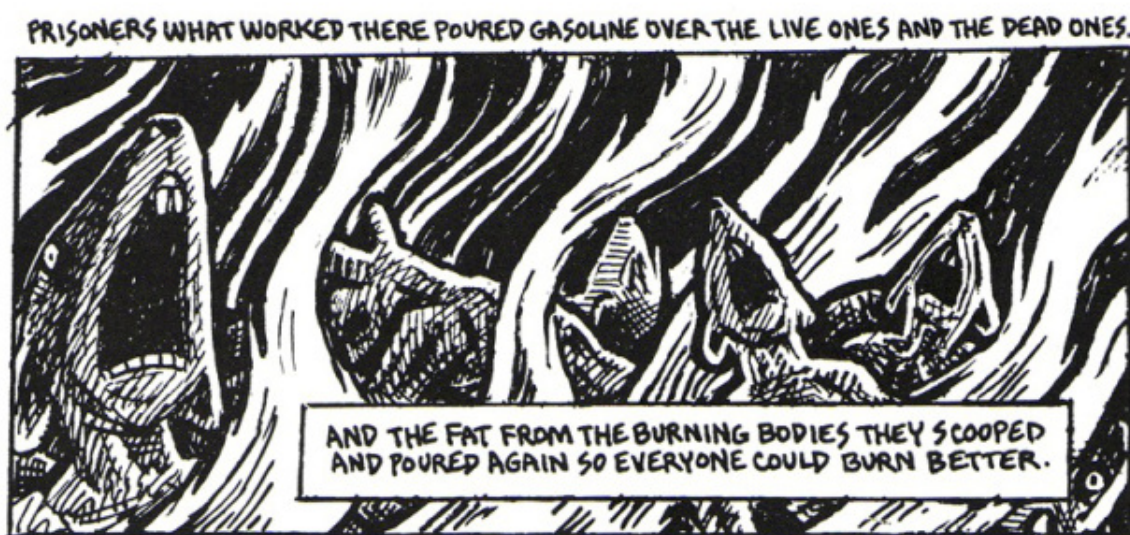


Figure 6: Art Spiegelman, *Maus*, vol. 2, p. 71.

example of violence in the entire text (*Maus II* 71). Through his use of anthropomorphism, Spiegelman abstracts the image even further from its signified object than Nakazawa; and yet, he conveys the meanings, emotions, and feelings of the event effectively, perhaps even more so than a realistic rendering would. The cartoonish icons allow readers to process the emotions and larger implications of such horrific violence, without getting mired in the physical aspects of the violence itself. As Spiegelman himself writes:

“If one draws this kind of stuff with people it comes out wrong. ... To use these ciphers, the cars and mice, is actually a way to allow you past the cipher at the people who are experiencing it. So it’s really a much more direct way of dealing with the material” (qtd. in Tabachnick 158).

Bunjevaca’s art is distinct in that her icons are less abstract, more complex, and bear a closer physical resemblance to their signified objects; however, this does not mean these icons are any less endowed with rhetorical meaning. As Rob Clough writes in *The Comics Journal*, Bunjevaca’s “dense, hyper-real style gives her figures not so much a sense of naturalism as an almost grotesque, heightened sense of each



Figure 7: Nina Bunjevaca, *Fatherland*, p. 25.

character's emotional state;" unlike the more iconic images utilized in other comics, there exists a "hard quality" in Bunjevaca's art that "forces the reader to meet them on

Bunjevac's terms or not at all" (Clough). Bunjevac's detailed, cross-hatched icons create a visual tension evocative of the emotional tension constantly present in her early childhood. This can be seen clearly in a pair of panels (figure 7) in which Nina's mother and grandmother learn of Peter's death for the first time (Bunjevac 25); the panels are dense with line work as well as dense with emotional weight, forcing readers to work even more actively to decode meaning and in so doing experience the tension of the memory. Indeed, while the degree of abstraction within cartoon signs varies, the function of cartoons is always underpinned by the process of closure and active meaning-making.

B. Juxtaposition and Concatenation as Metaphor

As Johnson aptly states, "if the first necessary point in an analysis of how comics say what they say is that the figures and lines on the page all speak, the second is that nothing on the page speaks alone" (sec. 3). While the style in which a sign is rendered can create meaning and critically influence how readers interact with a text, the arrangement of and relationship between signs is just as important. As Roland Barthes suggests, meaning in all complex texts is created on the level of concatenation ("The Photographic Message" 16). This interaction is apparent in comics in two main ways: the interaction between image and word, and the composition of a page when considered as a single visual gesture. Both of these types of sign concatenation can contribute to the literal and metaphorical meaning of autobiographical war comics.

The importance of image-word interaction in comics is acknowledged by many. McCloud asserts that the "showing and telling" afforded by images and words, respectively, are often interdependent in comic texts, working together to convey ideas



Figure 8: Nina Bunjevac, *Fatherland*, p.86.

that neither could transmit alone (155). Similarly, in the classic semiotic text “The Rhetoric of the Image,” Barthes claims that images are prone to multiple meanings by nature, and identifies words as “anchors” which focus viewer attention on specific meanings in texts containing both (156-157). This technique of using words to “anchor” meaning to images and connect otherwise unrelated series of images is employed in all four example texts to some degree. However, no text employs it more readily and to such great effect than *Fatherland*, in which Bunjevac creates multiple pages of “visual montage” by highlighting portions of her family history with snapshot drawings and affording them context with her captions (see fig. 8). On a functional level, this overcomes the problems of having to convey years’ worth of family history and political context concisely and effectively. On the metaphorical level, however, this type of sign concatenation represents, as Elisabeth El Refaie says, “an effective way of conveying to the reader the troubled, fragmented nature of human perceptions and understanding” (“Heterosemiosis” 2). Bunjevac’s understanding of her family history is and always will be an incomplete tapestry; she does not have all the answers for why Peter turned into the man he did or how exactly Balkan’s politics shaped him, but the interaction between text and image presented here suggests that she does not have to, and that her incomplete understanding of the past is a part of the fabric and texture of personal histories.

In addition to the interaction between signs, meaning is also created by the spatial arrangement of signs on a page. Again, the arrangement of symbols such as panels on a page often has the functional task of conveying the most appropriate amount of meaning in the most readable way possible. *Maus*, however, utilizes the

EVERYWHERE WE HAD TO RUN—SO LIKE JOGGERS—AND THEY RAN US TO THE SAUNA...



IN THE SNOW THEY THREW TO US PRISONERS CLOTHINGS.



ONE GUY TRIED TO EXCHANGE.



I WAS A LUCKY ONE. EVERYTHING FITTED ME A LITTLE. ONLY THE SHIRT WAS TORN AND TOO BIG FOR ME...



Figure 9: Art Spiegelman, *Maus*, vol. 2, p.72.

metaphorical power of this spatial juxtaposition when it positions its two parallel narratives—Art’s conversations with Vladek and Vladek’s memories—as being literally parallel on the page. Throughout the text, Vladek’s narration of his memories goes back and forth between being represented in captions and in word bubbles, which represents narrative shifts between the past and the present. This can be seen clearly in figure 9, in which Vladek narrates Art through a series of experiences he had early on in his time in Auschwitz, where at the bottom of the page the Vladek inhabiting the present is foregrounded against a literal backdrop of his memories, gazing down at his identification number tattoo (*Maus II* 26). Just as Vladek’s tattoo acts as an immediate physical recall of past trauma, so too do illustrations of the past exist as perspicuous objects on the page. Furthermore, the shift from caption to speech bubble, from one narrative to another, continues to blur the line between “then” and “now,” further



Figure 10: Keiji Nakazawa, *I Saw It*, p. 12-13.

foregrounding the impact of the past for the reader. As Stephen E. Tabachnick writes, Spiegelman’s “exploitation of the magical power of juxtaposition inherent to sequential art” not only serves to “conflate the

past and present” in thematically relevant ways, but also to “make the Holocaust a permanent part of the contemporary reader’s historical memory” (161).

Nakazawa similarly utilizes the power of juxtaposition in a two-page spread in *I Saw It* (fig. 10). The first page of the spread depicts Nakazawa’s walk to school in the moments before the bomb is dropped; the page of the left depicts the impact of the bomb and the moments afterward. Even without examining the contents of the panels closely, one can see the from the color composition alone that there is a dichotomous split between the two pages, a clear “before” and “after” (12-13). In the sixth panel of the first page, Nakazawa writes, “How could I have dreamed that this plane would drop an atomic bomb on us?” (12); and yet, readers are made aware of the imminent destruction from the moment they look at the spread. On the comic page, the past is more than a memory and the future is more than an assumption in the mind of the reader; rather, past and future are physically present and constantly in the peripheral vision of the viewer. In texts such as *I Saw It*, which concern the traumatic and horrific effects that can result from split-second moments of war, the juxtaposition of time on the page is endowed with especially poignant metaphorical meaning.

C. Authenticity in Human Documentary

The semiotic resources we have so far discussed may function well to convey certain meanings, but nevertheless, they are not usually associated with realism, and therefore are often not seen as correspondent with truth. However, influenced by postmodernism, the concept of “Truth,” as it were, has changed in recent years. As El Refaie writes, there now exists an “almost universal agreement, both among scholars and in the wider community, that there is no such thing as a ‘uniquely’ true version of

events and experiences,” because “people’s interpretations of reality are always shaped by their own cultural values and individual histories” (“Visual Modality” 14). Under this view, there exists no one, true, representation of reality that comics fail to accurately capture; rather, there are only signs with different degrees and styles of modality (i.e. the extent to which a sign claims to represent reality), and authors who utilize those signs to construct their personal histories in different ways. Indeed, instead of obscuring the truth, cartoons foreground the artificiality of all representation and allow authors to use it to their advantage in their displays of an author’s memories and the subjectivity thereof. As El Rafaie explains:

“Autobiographical comics...never claim to offer a direct, mimetic representation of the world, but rather an interpretation of events as they are experienced by the artist, with aspects that are quite obviously and deliberately exaggerated, adapted or invented. Many of the experiences conveyed in graphic memoirs, such as thoughts, dreams and emotions, are in any case not visible and can only be communicated indirectly through facial expressions and gesture or the use of abstract symbolism. As several comics scholars have pointed out, this means that cartooning is, inescapably, a metaphor for the subjectivity of perception” (“Visual Modality” 10).

This metaphor allows comics to function effectively as what William Stott calls “human documentary,” or documentary distinct from “official” records, which offers the method “of [dramatizing] the human consequences of a few facts” (qtd. in Chute 19). The mediating role of the author as documentarian is always highlighted in comic texts, which means that authenticity has less to do with the traditional naturalistic modality of an image, but the perceived integrity of the author. This integrity is often generated within the diegetic space of the narrative; for instance, Satrapi, Nakazawa, Spiegelman, alike create integrity by foregrounding their stance as both author and subject at the outset of their texts, thereby establishing an expectation of truthful representation. The

first panel of *Persepolis* is a drawing of Marjane accompanied by the caption “This is me when I was 10 years old. This was in 1980” (Satrapi 1); the first panel of *Maus I* depicts Art greeting Vladek accompanied by the caption “I went to see my Father in Rego Park. I hadn’t seen him in a long time—we weren’t that close” (*Maus I* 11); and at the end of the frame narrative in *I Saw It*, a drawing of Nakazawa gazing at his own reflection is accompanied by a thought bubble (an even more reflexive symbol than the caption) which reads, “I am Keiji Nakazawa...born in Hiroshima City, March 1939...third son out of five kids” (Nakazawa 2). These introductions signal to readers that the narratives they are about to partake in are autobiographical, and in establishing such integrity, the authors prime readers to accept the subjective and mediated nature of autobiography more readily.

Bunjevac’s work is again distinct in that no such introduction takes place; the comic opens with establishing panels, which establish time and location, and begin on the second page immediately with internal monologue in the caption of the first panel: “She uses her house keys to knock on doors in a peculiar and familiar pattern I immediately recognize” (Bunjevac 2). However, as is the case with *Maus*, these early pages establish a frame narrative in which Nina converses with her mother about both of their memories the day Peter died (Bunjevac 2- 16). As Deborah James explains in her analysis of *Fatherland*, this scene serves to “expand beyond a simple recounting of facts” by “elaborating” Nina’s reality through “multiple strands of personal rememberings” (5-6). In this way, *Fatherland* establishes its integrity as an autobiographical narrative by appealing to the idea of creating history collaboratively and through a process of sharing information. In each text, integrity is created

differently, and yet this integrity always creates an alternative mode of authenticity for their narrative; furthermore, these alternative modes of authenticity can be just as valuable those created with more traditional naturalistic modality. As Douglas Wolk writes in *Reading Comics*, “the cartoonist’s image-world...can even be more meaningful in some ways than an accurate depiction of our image world – [it is] the same sort of relationship that prose fiction has to reportage” (134).

IV. Conclusion

As Lawrence Abbott wrote in 1986, “comic art possesses the potential for the most serious and sophisticated literary and artistic expression, and we can only hope that future artists will bring the art form to full fruition” (qtd. in Tabachnick). Even as he wrote this, *Maus* and *I Saw It* had already begun to shape the cultural landscape within and beyond the world of comics, showing audiences the ability comics possess to portray difficult subjects in complex and nuanced ways. Dozens of autobiographical stories about war and political turmoil in the decades since, and it is no wonder why; the semiotic resources available within the medium are rich and varied, and this paper has explored but a small fraction of them. Indeed, as the medium of comics evolves and the genre of autobiographical war comics grows, there is no doubt that brand new artists and authors seeking to tell their truths will discover brand new ways to do so.

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Blockchain: A Use Case Analysis

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Blockchain: A Use Case Analysis

What if there was a technology that facilitated decentralized peer to peer transactions, globalization, and humanitarianism? It's not the Internet, and it's not a cryptocurrency, rather it is something greater than the sum of the prior. Introduce the blockchain— the revolutionary invention that could change finance, the meaning of trust, and humanity itself. This paper explores some of the use cases of blockchain, as pertaining to the above topics.

In its simplest form, blockchain is a database for recording transactions or events. With this is one caveat, every input into the blockchain is verified through a consensus between its participants. If transactions are confirmed according to the majority, they are put into blocks, which are connected to the previous and subsequent blocks. Thus, a chain of blocks, holding information, is formed.

To understand the role of the blockchain in finance we must look toward the small Pacific island of Yap. Hundreds of years ago the native Yapese utilized what we would call a distributed ledger system. Their economy was structured around Rai stones, two-hundred kilogram 'tokens' for storing wealth and transacting. Since the stones could not easily be moved, everyone kept a mental list, or ledger, of stone ownership.

No one entity, like a bank, was trusted with the power to track transactions. Transactions were made by publicly announcing exchanges so the people of Yap could

confirm and update their ledgers, without the movement of any stones. The result is a change of wealth that is both decentralized and trustless.

Knowing blockchain's roots in a seven-hundred year old culture, how did it come to the forefront of finance? Fast forwarding to 2008, the global economy is on the brink of collapse. The fear in the air is palpable and complex derivatives have wiped out retirement funds across the nation. Though Ben Bernanke, then chairman of the federal reserve, is revered for his diffusion of this crisis, historians may paint him as the second most influential man in finance that year.

Amidst the global financial crisis, *Bitcoin: A Peer-to-Peer Electronic Cash System* was published under the pseudonym Satoshi Nakamoto. This character remains shrouded in mystery, but while banking behemoths such as Lehman Brothers and Bear Stearns collapsed they—or perhaps them—were rewriting history. Facing a world in which trust with financial institutions were at lows not seen since the Great Depression, Nakamoto quietly introduced Bitcoin to a world yearning for fiscal change.

Bitcoin utilizes modern day blockchain technology in which a distributed ledger is stored more securely by a network of computers. Transactions are announced and verified by computers called nodes, rather than by people like on Yap. If all of the nodes on the network do not come to a consensus on the state of the ledger, the transaction will not be added to the blockchain. Therefore, corrupting the blockchain would involve hacking millions of different computers. It also means that no one can go back and corrupt the blockchain.

Implementing the blockchain means lower fees, faster transactions, and controllable growth. By cutting out intermediaries cryptocurrencies are able to keep fees low and move money faster. Likewise, to avoid hyperinflation seen under Weimar Germany or Maduro's Venezuela, cryptocurrencies either have fixed supplies or fixed inflation rates. Though those wielding the Venezuelan Bolivar may rejoice, this concerns economists who believe the deflationary trait of Bitcoin comes with its own set of problems. Chiefly, it removes the ability to adjust the money supply in times of hysteria. In such times people often spend frugally, when this happens retailers lower their prices, making the dollar more valuable and further discouraging spending. This often actualizes into a negative feedback loop. The possibility of deflation spiraling out of control leads many to conclude that Bitcoin is more of an asset class, like gold, rather than a currency.

Although the blockchain foundation of Bitcoin is solid, there is reason to be wary of its volatility. The worth of the speculative asset comes from the work that goes into maintaining the blockchain and minting new coins. The massive amounts of computing power needed to run the network and verify transactions form what is known as a proof of work protocol. In fact, the aforementioned Yapese used a similar system. The difficulty involved in acquiring Rai stones gave them value. Treacherous voyages to nearby islands allowed the natives to access resources that were not available on their barren homeland. Obtaining and carving the stones could take approximately a year; proof of work was both evident and dangerous.

At this point detractors could conclude that Bitcoin is merely an abstract idea, like a fleeting thought. They could be right—but then again—what is intrinsic value? The dollar, yen, and euro all have worth because people collectively agree that they can be used to leverage trade. In reality, all of these currencies are as ‘fictitious’ as Bitcoin. Just pieces of paper. Alfred Mitchell Innes puts this quite eloquently saying, “The eye has never seen, nor the hand touched a dollar”, that is to say that both Bitcoin and the traditional currencies are simply sophisticated IOU’s.

Be that as it may, cryptocurrencies could be massively overvalued. While it is hard to deny the disruptiveness blockchain brings to finance, comparisons to the Dot-com bubble are certainly fair. The Dot-com bubble saw Internet-based companies skyrocket until the Nasdaq composite tumbled at the turn of the millenia. Most notably, Amazon, the online commerce giant, lost over 90% of its stock value (Folger)

The implications a comparable crash could have on blockchain are unforeseeable. Most concerning is the idea that a massive sell-off could cause both Wall Street and Main Street to disregard the technology. While the Internet had no problem shrugging off the Dot-com bubble in the long run, blockchain could suffer collateral damage. Ironically, more money being pumped into these currencies may very well set back the blockchain industry.

Other barriers preventing blockchain from overtaking finance are the controversies often associated with cryptocurrencies. Scams, nefarious use, and hacks all slander the blockchain. The layman has reasonable cause to fear the influx of Bernie Madoff-esque Ponzi schemes, and the tendency of coins to engineer illicit

marketplaces. One marketplace, the Silk Road, notoriously conducted billions in sales with Bitcoin (Leger). At this time, Bitcoins were primarily exchanged on a platform known as Mt.Gox. In 2014, a hack of the now defunct exchange caused prices to plunge nearly 70% as blockchain enthusiasm came to a halt. Consequently, the average citizen is left unsettled and confused by the technology.

Of course, this uneasiness can be quelled by reputable financial institutions. Both Bank of America and Deutsche Bank have recently emphasized their interest in the idea of what some are calling, “blockchain without bitcoin” (Tillier). While they are not bullish on cryptocurrencies themselves, they see potential for blockchain based transactions between traditional fiat currencies. In fact, in an interview with Yahoo Finance, Brian Moynihan from Bank of America boldly emphasized his companies progressive stance. Moynihan disclosed, “We believe in the idea of distributed ledgers, and smart contracts, and all the words you hear about that. We are developing stuff”. This is evidently shown in their collection of 48 blockchain-related patents (Roberts). In contrast, some banks had been more standoffish with regards to adoption.

J.P. Morgan CEO and Bitcoin bear, Jamie Dimon called the currency a fraud as recently as September of 2017. However, he has since expressed regret claiming, “The blockchain is real” (Kim). Specifically, he mentioned the ability to have more established currencies utilizing the tech. He added, “You can have cryptodollars in yen and stuff like that.”

Indeed, up to seven trillion in crypto-securities could one day be traded on the second largest stock exchange in the world. The Nasdaq Stock Exchange, which trails

only the New York Stock Exchange in terms of market capitalization, was the world's first electronic stock market. Continuing to remain at the forefront of innovation, they began utilizing the blockchain as early as 2015 (Bajpai).

Having already infiltrated New York's Financial District, distributed ledgers could soon be attached to every aspect of the international marketplace. A truly global economy could be launched by one of the biggest mover in globalization since its big bang in 1492. Foremost, cryptocurrencies can tear down monetary borders and render foreign currency exchanges obsolete. Through the blockchain, citizens from a plethora of nations will be able to smoothly interact commercially. In this, billions of those sidelined by increasingly worthless currencies will have access to the global marketplace.

While blockchain based applications can be used to form a more unitary currency, akin to 'credits' in galactic economies of Science Fiction worlds, there is even more to be said of its other use cases. Particularly, blockchain can connect hardware like the Internet connected humans. The Internet of Things is a network of electronic devices, appliances, and even vehicles which communicate with one another. The exchange of data between these devices can be further augmented by a more secure, blockchain based, means of communication.

For example, drones can use blockchain technology to communicate with an access point into a private residency. Said access point can prompt the drone for its identity by requesting it to sign a random number. If this number syncs with the number assigned to that drone on the blockchain, the drone will be granted access. Distributors

could then program wallets for transactions between drones and access points. Furthermore, homeowners could program blacklists for denying unsolicited deliveries . As shown, there is potential for increased financial globalization, for both man and devices on the Internet of Things. But with all societal upheavals, the aspect of trust in the newly implemented system must be strong.

When blockchain or one of its many applications is called trustless it does not mean unreliable, instead it refers to the way the blockchain disregards trust. With the use of distributed ledgers, blockchain makes trust in its traditional sense asinine. There is no trust in blockchain protocols because they are immutable. Customarily, and perhaps archaically, trust is a large aspect of our society. We trust the credibility of supply chains, the sanctity of government elections, and even the terms of contracts.

Recording the movement of goods on the blockchain means both consumers and investors can be confident in the validity of a product. Companies can openly display the supply chain of their goods to authenticate them. Rather than relying on easily corruptible third party verification, consumers can rely on the tamperproof blockchain. A blockchain based supply chain means an end to blood diamonds, counterfeiting, and adulterated pharmaceuticals.

A strong sense of trust in blockchain based commerce requires transparency and assurance. Both can be propelled by distributed ledgers. In today's age many consumers flock to socially and economically responsible products, produced by companies they can trust. In fact, over 25% of investors under the age of forty-five,

allocate at least a quarter of their portfolio to companies they consider ethical (Connett). For consumers, blockchain will provide an irrefutable product lineage.

Of course, an irrefutable recording of data can be advantageous in all aspects of life. Notably, governmental and even civil elections can utilize the blockchain to help voters cast their ballots. Due to accusations of Russian collusion in the 2016 presidential election, the legitimacy of the championed race has come into question for the first time since the infamous Bush-Gore recount. With cyber security becoming an increasing concern, the solution is decentralization and inalterability. Some call for a more old-fashioned system, but doing so would only make our elections anachronistic.

With a revamped electoral infrastructure, distributed ledgers could be used to make voting more transparent. In this case, blockchain can track and tally votes in a way that is more open to the public. While many have denied a digital voting movement, such a protocol would be more secure than traditional methods. Votes would be open for all to see, but for none to tamper with. At the same time, this system would make voting more accessible. Due to the lack of security concerns this rejuvenated voting model would possess, voting online or on your mobile phone would be possible.

Most likely, a progressive voting system like the one above would utilize a smart contract. Smart contracts are digital versions of contracts stored on the blockchain. They are both self-executing and self-verifying, meaning they are programmed into blocks to execute themselves when conditions are met. In short, they operate on a “if this, then that” basis. Unlike cryptocurrencies, the rise of smart contracts seems inevitable.

Doctor Vipul Goyal, an associate professor at Carnegie Mellon University, sees smart contracts as the blue chips of blockchain. He maintains that these digitized settlement networks are both faster and cheaper than traditional ones. One such network is the Ethereum network. Among other things, the Ethereum network would allow banks, businesses, and other parties to forgo both profit leeching lawyers and bureaucratic judges. In a world where time is money, and cash is king, the future for ‘dumb contracts’ seems bleak.

In the same fashion, smart contracts could help solve the problem of transparency. As it stands now, it is somewhat difficult to follow where tax dollars go. Sure, project X got Y funding— but did it really? The lack of distributed ledgers and smart contracts in today's world means that civilians must fully trust government officials at all levels; easier said than done. Thankfully, more progressive countries have begun looking into this. With cutting-edge blockchain technology, their citizens will be able to have a trustless and symbiotic relationship with their leaders. In one instance of this, the Canadian National Research Council has built upon blockchain technology to publicly disclose funding and grant information (Kalvapalle). Further augmentation of smart contracts would guarantee funding could only be used for its designated assignment, while the ledgers put in place would allow everyone to see this through. Thanks to the immutable nature of the blockchain, Canadians need not worry about Orwellian alterations to history.

In the same fashion, the Vermont city of South Burlington is experimenting with blockchain based property records (De). A partnership with Propy, a Silicon Valley

based startup, aims to increase security measures while decreasing costs. Prior legal framework in the state eased the transition. Legislation from 2016 made blockchain records admissible in court cases, while a 2017 bill urged state officials and researchers to collaboratively investigate the technology. City clerk Donna Kinville says, "We know the future is changing, and we all have to move along with it." She, along with many others, are ready to explore the blockchain.

To this end, some see the potential for blockchain to restore trust in other industries. Examples of this include those in which gluttonous middle men are considered dishonest to both of their counter parties. As one industry heavily reliant on trust, music has formed a malignant dichotomy between its artists and record labels. Though indie artists have been treated notoriously poorly by juggernaut record labels, this could soon change. Artists, such as Imogen Heap, are developing smart contracts to market their own songs (Dredge). Through this, listeners would be able to purchase or stream music right from the artist.

More importantly, this idea of cutting out the middleman can be applied to healthcare. Due to the line of intermediaries between patients and medical professionals, Americans receive pennies on the dollar in benefits. IBM blockchain solutions proposes a system that would resolve this. In one situation, regarding pre-authorization practices, both shared ledgers and smart contracts would be used to cut administrative costs, among other things. One sole ledgers would allow stakeholders to exchange information, while the smart contracts would hold a patients entitlements and contain the pre-authorization conditions. As demonstrated, there is

vast potential for blockchain to be used in a altruistic way, however this is just the beginning.

The humanitarian effects from blockchain could be tremendous. Stemming from nearly instant liquidity and information sharing, the range of benefits are vast. For one, cryptocurrencies built upon the blockchain can forgo financial embargoes, such as those imposed on Julian Assange of WikiLeaks (MacGregor). Political semantics aside, a fiat banking system, in which one's money can be controlled by the state, is both deplorable and dystopian.

In the same manner, enhanced liquidity means immigrants can send money home easier and for less money. This concept can be further applied to charity. The ability to distribute charitable donations through blockchain was outlined by Michael Casey from MIT Media Lab. At Fordham university's Humanitarian Blockchain Summit, Casey moderated a panel titled *"Transparency Dividend: Can Blockchain Stretch The Humanitarian Dollar Further?"*. At the conference he proposed a future in which blockchain would help donors root out corruption and fraud. The effects such a move would have are multifaceted.

As it stands now, some fundraisers keep up to 90% of donations, and others may even operate at a deficit (Giorgianni). Naturally, people would be more inclined to donate in a world where there would be no issues regarding transparency. Additionally, because banks and other intermediaries could be bypassed, decreased fees would likely complement this influx of charitable donations. Though small in scale, these tactics are currently being used to fight one of the most pressing human atrocities of the

21st century. The Ethereum network, mentioned earlier, has been used to distribute aid to Syrian refugees. The United Nations World Food Programme, in conjunction with participating markets, appropriated cryptocurrency-based vouchers to thousands of those exiled by war (Castillo). After strong trial runs, this program has been extended indefinitely. Benevolence, while less flashy than Bitcoin, is the crux of the pro-blockchain argument.

In closing, blockchain is more than its volatile market and futuristic buzzwords. It is about taking power away from those who wield it unjustly, and distributing it among the people. Blockchain based protocols can do this in nearly all areas of life, particularly finance, trust, and humanitarianism. Nevertheless, this emerging technology remains largely unsubstantiated. Sooner or later, blockchain's day of reckoning will come. Seeing that the early days of the Internet saw once wild predictions fail to come to fruition, it is possible blockchain fizzles out in the short term. With that in mind, one should remember:

It's interesting, when you look at the predictions made during the peak of the boom in the 1990s, about e-commerce, or internet advertising, they were all right- they were just wrong in time (Anderson).

But maybe things are different this time. Maybe the second time's the charm, and perhaps blockchain is right around the corner.

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An Uncertain Future in Education

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When people think of America they picture a land of opportunity, a place where hard work can ensure a better future, where parents have the ability to grant their children a higher quality lifestyle than they once had. These images that glorify America are mostly products of an individual's achievements through their education. Today, a college degree has become a requisite for a middle class lifestyle, yet with college prices continuously increasing, a vast majority of Americans are left in uncertainty of being able to pay for an education. As a result, many families are struggling financially, the quality of education in America is suffering, and, with it, the quality of living. The “American dream” is becoming less and less attainable.

For many years, people have immigrated to America in search of the “American Dream,” which guarantees equality in all forms: freedom, equal treatment under the law and opportunities. Yet, America is failing to provide equal educational opportunities to its residents. The quality of education is vastly different for individuals that belong to higher economic statuses versus those in lower level groups. This inequality is evident in Camden City School Districts where 45% of the students live in poverty and only three students scored at a college ready level on the SAT (Brown; The Associated Press). These differences result from the way public schools are funded, as they receive a large portion of their funding from local real estate taxes. Hence, public schools that are in wealthier areas have more money to fund programs and attract better teachers while poor areas can foster detrimental school environments. The varying quality in schools results in different educational opportunities for children of low-income households compared to their wealthier counterparts. This essentially leads to many children receiving an education that can hinder their future achievements and there is no equality to be found there. If we constantly say that children are the future, we must start investing adequately

to ensure that future; which means investing in education. The implications of an education gap caused by economic status can have serious consequences on a child's future and thus America's future.

The United States has continuously appeared at the bottom when being compared to other countries in regard to education. The Organization for Economic Co-Operation and Development or OECD reported that in 2015, America did not rank within the top ten with other countries in math, reading and science (Kiersz). It even fell in its ranking for math, dropping from the 28th to the 35th (Kiersz). Its low-ranking status is cause for concern as it puts into question our future as an innovative country. The state of a nation's educational system can be a reflection of later success. Thus, it is troubling to see that America's education system is failing a large portion of its residents: low-income families. Political candidates have placed special attention on education because they recognize that it is intertwined with economic prosperity. If America is to stay in the lead, it must have a successful economy and part of that entails having a skilled workforce and innovative individuals. The education gap seriously hinders America's ability to produce a large workforce of individuals who can compete with the other countries. It can also lead to companies looking for these skills outside the U.S. The repercussions of an education gap may seem unimportant and minuscule but in the long-run it threatens the future of many children, the workforce, and the nation.

Political leaders in America have long recognized the importance of the American educational system. The fortieth president, Ronald Reagan, once said, "we must dedicate ourselves to the reform of our educational system for the benefit of all--old and young alike, affluent and poor, majority and minority. Learning is the indispensable investment required for

success” (Reagan). Reagan’s report titled “A Nation at Risk” was a response to America’s low ranking performance among other developed countries. As a result, Reagan called out the nation’s state of complacency when it came to education, explaining that America desperately needed educational reform in order to compete with the world's growing innovative markets. Reagan was not the only president to stress the importance of education. Bill Clinton also aimed to ensure “equitable educational opportunities” with his plan, GOALS 200 (Clinton). Later, The No Child Left Behind Act (NCLB) signed by George W. Bush was passed under the growing worry that the education system was not “internationally competitive” (Strauss). The goal of NCLB was to provide extra resources to schools that met “proficient” levels on standardized tests. Bush was clearly concerned with the education gap when in his speech he said that every child, “regardless of where they live, how they’re raised, the income level of their family, every child deserves to receive a first-class education in America” (Bush). Under the Obama Administration, the NCLB act was replaced by ESSA, Every Student Succeeds Act, which went into effect in the 2017-2018 school year. (Klein). Again, this act demonstrates a growing concern with school quality in poor areas as it makes individual states accountable for allocating their resources to schools with consistently low-performance rates (Klein).

Most recently, Trump's administration has increased the Child and Dependent Tax credit which provides families with more options for affordable child care, such as head-start programs (Long). The Trump Administration has placed a great focus on School Choice, as many claim that it gives families opportunities to send children to quality schools. A part of school choice is voucher programs that in theory should provide low-income families with the option of sending their children to quality schools. However, these vouchers often do not cover the entire tuition,

making its original goals essentially unattainable. U.S Education secretary, Betsy DeVos, has focused a great deal of attention on expanding school choice and has placed special attention on Michigan schools. Although school choice is viewed in a positive light by the Trump Administration, increasingly negative “side-effects” of school choice are becoming evident. A large portion of funds for school choice have been allocated to Michigan, yet it has increased segregation within the public school system (Wilkerson). In Holland, MI, public schools, 70% of “students are eligible for a free or reduced price lunch” which is “more than double the district’s poverty rate when choice began” (Wilkerson). School Choice has caused white students to leave public schools and Holland now reports that 70% of its students live in poverty schools and has caused its downfall from ranking 28th in reading scores to 41st among other states (Wilkerson). Less focus needs to be placed on school choice, which does not aim to improve low-performing public schools. It only further enlarges the rift between different economic statuses and school quality.

Americans have been increasingly worried about the state of the economy and the availability of jobs. This worry is not new but today, America is faced with a scarcely skilled workforce. America was meant to stay as a “preeminent” world economy by engaging in “innovating, design, engineering, financing and marketing” (Roberts). All these ideals require the U.S to produce high skilled jobs such as engineers, scientists, designers, economists and businessmen. How is America supposed to deliver this workforce if low-income children are not receiving an education that enables them to succeed? America is simply not producing these jobs. Paul Roberts, who worked under the Reagan administration as an assistant to the secretary of treasury for economic policy and has written scholarly journals about the economy, cites the

Bureau of Labor Statistics finding that no growth has been seen in these careers (Roberts). The ability for families to attain “upward mobility” is becoming less possible. As Roberts stated, “the highly skilled US workforce is being gradually transformed into the domestic service workforce characteristic of third world countries” (Roberts). Although Roberts’ essay, “Watching Greed Murder the Economy,” discusses the offshoring of jobs in relevance to the economy, the state of the workforce is nonetheless related to education. Producing jobs such as engineers and scientists involves having a substantial public school system for all children. Similarly, Andrew Miner, a Harvard University student who has worked with the Education Policy team, stated that of the 54 percent of jobs available today requiring middlefield skills, only 44 percent of Americans qualify to fill them, causing questions to emerge towards the effectiveness of public schools (Miner). A lack of quality schools is resulting in job shortages in the skilled workforce which can ultimately cause the deterioration of America’s “first-class” economy.

The growing difficulty to fill jobs that require a college degree or higher is becoming a problem for those families who are attempting to break the poverty cycle. The U.S Department of Education cites that “on the graduate level, these groups make up less than 12 percent of graduate enrollment, and 8 percent of graduate degrees” (“Low-Income and Minority Students”). It is no secret that parents want to provide their children with opportunities that were not available to them and for them to have an improved lifestyle. Again, this is a harder task to accomplish for low-income families whose schools simply do not provide their children with the same opportunities as wealthier children. Michael Petrill, resident of the Thomas B. Fordham Institute, makes the important observation that the education system has caught attention because it “threatens the standard of living” stating that it is worrisome that less than 40 percent of

students are ready for college after high school (Petrilli). Without a college degree, most children from working class families stand a high chance of never stepping foot into the middle class.

As established before, the quality of education varies drastically based on the district a child lives in. The ESSA, which went into effect this school year, takes the federal government's involvement in schools to the bare minimum and gives more control to state and local governments. Improving schools should be seen as a benefit and states should take the initiative to improve quality. An essay published by *Education Next* titled, "It Pays to Improve School Quality: States that Boost Student Achievement Could Reap Large Economic Gains", found that "the state differences in student achievement and educational attainment account for 20 to 35 percent of the current variation in per-capita GDP among states" (Hanushek et al). Their findings strongly suggest that a state would benefit economically from having higher student achievement rates which entails having higher quality schools. It is important to take into account that improving education in a specific state does not produce immediate gains for a state's economy (Hanushek et al). Many individuals will argue that if a result is not immediately seen, then is it worth doing at all? Fixing a state's school system will not improve the economy within a year but the long-term results could be substantial. If the school quality for children in low-income households was improved, it would have the potential to raise their economic standings and produce an elevated workforce. The projection by Hanushek, a research associate at the National Bureau of Economic Research shows, that "if each state were to reach [the top state's school performance] the state-specific gains would sum to \$46 trillion"(Hanushek et al). The long-term

results would yield a prosperous economy and equip children with the tools to climb out of poverty and into the middle class.

Many informed individuals will agree that education is the key to success. Yet, many children are starting their educational careers with drastic disadvantages. It is important to note that during the early years of a child's life, their brains are still developing and important neurological connections are being established; the quality of education children receive can be critical to their cognitive development. Studies have found that "a correlation exists between the learning that occurs during the critical stages of child development and the level of IQ" (Al-Othman). They have also found that children who receive a quality education during their early years are better able to perform, adapt at higher rates and are better prepared for university level learning (AL-Othman). Hence, it is clear that early childhood education plays a major role in child development, but many children from low-income households do not have access to these enriching programs. Heather Long, a writer for the Washington Post, claims that inequality is evident by the age of three. This is because low-income families typically cannot afford to send their children to preschool programs and as a result are often left in the care of relatives or day-care centers while affluent parents can afford to send their children to programs that cost around \$30,000 a year (Long). The United States has one of the lowest rates for early childhood attendance among other developed countries. The Organization for Economic Cooperation and Development reports that America falls behind other developed countries in preschool attendance at 55% enrollment (Long). Those that do attend generally come from higher economic backgrounds; The Social Genome Project reports that low-income families have an enrollment of 48% while more affluent children have an enrollment rate of 75% (Isaacs). The

low-enrollment rates of low-income children in preschools is troubling since it can have serious consequences in their future achievements. Eduardo Porter, a writer for *The New York Times* and a former member of the editorial board cites a book, Too Many Children Left Behind, saying that children from low-income households start a year behind other children entering kindergarten (Eduardo). If children are entering kindergarten at different levels because of their economic background then it is clear that a greater focus needs to be placed on providing quality early childhood programs for children of all backgrounds.

We cannot afford to ignore the importance of cognitive development that happens within the early years of a child's life; an investment in these programs is an investment in a child's future. One of the many resources available to improving education quality is technology, as it offers unique advantages, from tracking student performance to tailored learning. Many new computer programs are being used to further learning for young children such as IReady and UPSTART. UPSTART is a program that gets children ready for Kindergarten through individualized programming; it was introduced in Utah as an attempt to solve low attendance rates in preschools. UPSTART's database shows that the 7,000 students that completed the program "generally entered kindergarten at above-average reading level" and that students from low-income families demonstrated the greatest improvement (Sutherland). This particular program has demonstrated great success for narrowing the education gap because it is provided to families who qualify as low-income households free of charge.

Programs such as UPSTART reflect ways that technology becomes a tool in furthering education; still some educators and parents are troubled by the idea of children starting with technology at such an early age. When I was interning at Sequoyah Elementary school with a

class of first graders, I first-handedly experienced the downfall of computer programs. It was the first year that the elementary school was starting out with a program called IReady and it was similar to UPSTART in the sense that children were tracked individually for math and reading skills. What I saw with the first graders was troubling. Most of them were not actively engaged in the program and were simply clicking random answers, playing around on the computer, constantly looking around; they just appeared bored. Their progress on IReady did not accurately reflect their respective levels in math and reading and the teacher was constantly frustrated with the program because students were given math problem that required skills that were not being taught at the time. Students benefited the most when they were in their math groups being taught by the teacher directly. Many downfalls do exist when using these program as a means to improving learning. However, it is important to note that these types of computer programs should not be a substitute for learning. Rather they should be used as a tool. Specifically for toddlers, it can be used 30 minutes a day to work on math and reading skills. Implementing these programs for low-income families can make a significant difference as shown by UPSTART's findings. Making these computer programs available to low-income families for pre-kindergarten usage will be beneficial because they will help children step foot into Kindergarten at the same, if not at a higher level, than their wealthier peers.

Head Start programs such as UPSTART are a great option for early childhood learning, but experts often question their long-term impact. In 2014, the Office of Planning, Research and Evaluation (OPRE) found no long-term impact of head start programs, stating that most of the benefits fade out by the third-grade (Heid). The programs discussed previously can be helpful in having children of all economic backgrounds start at the same level. However, it does not offer a

solution to the different schools children will attend based on their parents' economic status. The solution would be a temporary bandage and the same problems with education quality would still persist.

Where increased funding for head-start programs falls short, CTE programs will ensure that low-income students have the opportunities to succeed. New York, which has been previously been known to have the highest rates of so called “dropout factories,” implemented a CTE program in neighborhoods that are disadvantaged, such as Brooklyn. The schools were Pathways in Technology Early College High School (P-TECH), their goal being to provide a high school diploma and associate's degree to “bridge the skills gap.” During his presidential term, Barack Obama called the schools a “ticket into the middle class” (Miner). Essentially, private investment entails having schools partner with business or institutions that provide paid internships and future jobs. The recent success in CTE programs have caused informed individuals, such as Miner, to praise them as an “opportunity to satisfy labor market demand, establish inclusive opportunit[ies] for students and bolster the nations economic competitiveness” (Miner). The benefit that CTE programs provide is that, “by age twenty, graduates of such programs have academic credentials, technical credentials, and work experience” (Petrilli). CTE programs can offer immediate results because they equip high school students with the necessary training for specific future careers and thus elevates the working class to a middle class status.

CTE programs can be beneficial yet many individuals still have valid concerns regarding private investments. The worry that emerges from merging the private sectors with public schools is its potential to hinder school accountability. This concern is founded since not all

implementations of CTE programs are successful and there is “mixed evidence” of its benefits to students (Anderson). Others express concern over the possibility of a less-rigorous education. However, with the introduction of the Perkins Act in 2006, career training was integrated with academics (Anderson). Additionally in recent years, the CTE framework has been reworked to encompass 640 subject matters that are “transferable across careers, as well as more specialized knowledge and skills aligned with career pathways, which are still broader than any single job” (Anderson). Hence, students leave high school with the skills and knowledge they need to start at well-paying jobs. Kate Kreamer, Deputy Executive Director of the Advance of CTE, and Zimmerman, who has worked in public schools and now holds a Ph.D. in the History of Education, both conclude that CTE programs “have a direct impact on the United States’ ability to build and sustain a skilled workforce” (Anderson). The reworking of CTE programs in that past year proves to be a beneficial solution to help children from low-income families attain higher-paying jobs and ensure a more comfortable living.

In the twenty-first century, America is faced with a growing list of problems. These range from environmental issues to economic concerns and humanitarian debates. So why choose to focus on education? Education is the foundation for a better society. America is faced with hostility towards immigrants, people of color, homosexuals and anyone who may seem “different.” Education provides a powerful tool to produce informed individuals who can create positive discussions and even solve chaotic problems. A child from a poor neighborhood should be given the chance to participate in these discussions. Unfortunately, many children from impoverished households will be excluded from becoming contributing members to society based simply on the neighborhood they grew up in. It is time to address the large disparities

within school quality. If we want to uphold the ideals that have long compromised America, we need to focus our attention on public schools and providing all students with equal educational opportunities. If not, we risk losing economic prosperity, high quality lifestyles and the ability to face the next set of challenges.

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A Traumatic Technological “Awakening” for Skyscraper and Firefighter Technology

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Abstract

This paper will discuss the technological advances made as a result of the 9/11 attack in New York City. It will specifically cover skyscraper and firefighter technology that progressed after the attack. New York City changed the way it runs to better prevent such a severe attack. Architects have since learned about the necessary components of maintaining skyscrapers’ structural integrity during a terrorist attack as large as 9/11 was. The Fire Department of New York (FDNY) and the fire service have developed and improved their technology for responding to and communicating during similar attacks where there is a threat of casualties. The use of robotics in the fire service can allow more efficiency within a day-to-day response as well.

Introduction

“As clear as can be across the North East. . . it’s kind of quiet around the country, we like quiet, it’s quiet, unless it’s too quiet. . .”, Mark McEwen, weatherman for CBS Washington D.C. at 8:31 am, September 11, 2001. His words seem surreal because fifteen minutes later at 8:46, American Airlines Flight 11 struck the North Tower of the World Trade Center in New York City, and thirty two minutes after that report, at 9:03, United Airlines Flight 175 hit the South Tower. By 10:30 both towers had collapsed, and by 5:30 that evening, another building in the World Trade Center Complex had also collapsed. Though the third building had been evacuated, “the collapse force[d] rescue workers to flee for their lives” (The History Channel, 2010). Approximately three-thousand people died in the terrorist attack, and upwards of six thousand were injured, including civilians and first responders (The History Channel, 2010). From that

day, technology was developed and improved to limit the loss of life and property if a similar event were to occur. Both skyscraper and firefighter technology lacked preparation for the catastrophic impact of 9/11. After that day, advancements in building construction and firefighter technology emerged paying tribute to the many that lost their life on that fateful morning. 9/11 ushered in a new era of New York City technology, both on the ground and in the sky.

Improvements to Skyscraper Technology

Nearly every American was impacted by the events of 9/11 in some way, and nearly every New Yorker can tell a story about where they were when they heard about the collapse of the Twin Towers. “Completed in 1973, the towers stood at 110 stories each, accommodating 50,000 workers and 200,000 daily visitors in 10 million square feet of space” (The History Channel, 2010). Since the attack occurred early in the day, not nearly as many people were in the towers, but the National Institute of Standards and Technology (NIST) determined that still approximately 17,400 people were in them at the time of the attack (Murphy 2009). When the planes struck the towers, especially the South Tower, many people became trapped on the upper floors and died in the collapse.

A new building serves as a reminder to of all who died because of 9/11 and commemorates the strength of the city and of our nation. Standing at 1,776 feet, the Freedom Tower, officially called One World Trade Center (the formal title held by the North Tower), is the newest addition to the New York City skyline, is the tallest building in the Western Hemisphere, and is the sixth tallest building in the world. While no

building can be designed to be indestructible to the impact of a 767 Boeing aircraft, the effects of another potential attack were taken into account. The towers’ original plans were analysed and numerous issues were taken into consideration for the new World Trade Center.

The Stairwells

Powerful images such as Richard Drew’s “Falling Man” (2001, Figure 1), depict the action “of up to two hundred jumpers in all”, “which is about eight percent of the total number of fatalities” (Faulkner, 2008, p. 70).



Figure 1. An innocent man caught in a war he is not fighting in. From “Falling Man”, by Richard Drew, 2001, time.com/4453467/911-september-11-falling-man-photo/.

Copyright Date 2001 by Time Magazine.

“For nearly every man and woman on the upper floors of the towers, the lack of intact staircases meant that they could not get out after the planes struck”, which is why so many took the infamous leap of, what the Australian philosophy professor Joanne Faulkner (2008) refers to as, “innocent” “circumstance” (Flynn & Dwyer, 2004; Faulkner,

2008, p. 81). Because the staircases were located in “the center of the building” and were designed with “light drywall” that practically crumbled upon impact, the jumpers made “the specific choice to take their lives into their own hands” because they already knew their fate was sealed (Flynn & Dwyer, 2004; Faulkner, 2008, p. 81). Since the owners, “the Port Authority of New York and New Jersey had decided to use a new version of the city building code. . . , [it was] not require[d to include] as many staircases. [So,] instead of six staircases, including a specially reinforced fire escape, the trade center had three stairs in each tower” (Dwyer, 2005). Consequently, there were less means of egress for occupants, and if the towers were full, thousands of more people would have perished. The “Freedom Tower”, on the other hand, was to proposed to “be equipped with biological and chemical air filters and two sprinkler systems for fire protection. Thick concrete surround[s] all stairwells, elevator shafts, and sprinkler pipes. Stairwells” were designed to “be much wider than before—one set [to] be dedicated solely to use by firefighters—and stairwells” were “designed to keep out smoke” (Krohe, 2006, p. 14). The Freedom Tower was especially designed with widened stairwells since “the 2006 editions of the National Fire Protection Association’s. . . NFPA 101: *Life Safety Code* and NFPA 5000: *Building Construction and Safety Code*, . . . call for a minimum stair width of 56 inches (up from 44 inches) in buildings with 2,000 or more occupants” (Krohe, 2006, p. 14). Under the new codes and designs, more occupants would be able to escape One World Trade Center in an emergency situation.

The Structure

The collapse of the towers was the biggest cause of death. “There were four major structural subsystems in the towers: the exterior walls, the core, the floor system, and the hat truss” (McAllister). “Immediately afterward and even today, there is widespread speculation that the. . . steel columns [in the exterior walls] melted” (Eagar, 2001, p. 8). Steel has a melting point of about 1500 degrees Celcius and the NIST disproves the melting theory because the temperatures in the fires were merely a thousand degrees. When under high temperatures, but not high enough to melt, steel is stressed, or weakened; it begins to warp and expand. “Given the thermal expansion of steel, a 150 degree Celsius temperature difference from one location to another will. . . yield level residual stresses” (Eagar, 2001, p. 10). Since, “the temperature along the 18 meter long joists was certainly not uniform. . . This produced distortions in the slender structural steel, which resulted in buckling failures” (Eagar, 2001, p. 10). The Twin Towers were designed with an open floor plan; each floor consisted of a truss system with concrete poured on top, with the “perimeter columns” supporting most of the structure (NIST, 2016). When the steel weakened, the truss pulled in on the “perimeter columns” and the building “inwardly bowed” and “initiated collapse” (NIST, 2016). Audio and visual recording capture how horrific the collapse was. Cries of the entire city could be heard as a major part of the iconic skyline died (One Media Company).

While the Twin Towers did not collapse because the core was too weak, another design improvement is the “core of the building” (Chao, 2006). It allows the building to sustain damage, without weakening the structure. The Freedom Tower, “at its core”, has “massive three-foot-thick reinforced concrete walls that run the full height

of the building. Besides containing large amounts of specially designed reinforcing bars, these walls are made of high-strength concrete” (Chao, 2006). Associate Professor of Structural Engineering and Applied Mechanics at the University of Texas Arlington Shih-Ho Chao (2006), compares the new tower’s core capability to “earthquake-prone areas” building “ductility”. “Ductility” “allows columns and beams [to remain] strong even when they are stressed and bent” (Chao, 2006). In his experiment “Seismic Behavior of Ultra-High-Performance Fiber- Reinforced Concrete Moment Frame Members” (2006), Chao determined that Ultra-High-Performance Fiber-Reinforced Concrete, UHPFRC, is the best prevents the most damage to a structure in the event of an earthquake or bombing. While generic concrete tends to be brittle, this “concrete mix contains a high content of cement with a very low water [to] binder ratio” (Polydrou, 2014). “The selection of reactive silica sand, silica fume and water-reducing admixtures produce a concrete [that is] up to 5-7 times as strong as normal concrete” (Polydrou, 2014). Since “UHPFRC leads to high energy dissipation, [it] therefore. . . can resist high deformation capacities without brittle failure” (Polydrou, 2014). Additionally, UHPFRC uses less water, so the potential for spalling is reduced. Spalling occurs when the water begins to boil before it has fully evaporated in the concrete, and the International Fire Service Training Association warns in their *Essentials of Firefighting and Fire Department Operations* (2013) that “prolonged heating can cause a failure of the bond between the concrete and the steel reinforcement” (p. 138). Therefore, the high temperatures from a potential bombing incident would have less impact on the capability of the concrete, and would allow more occupants to exit the structure before it

possibly succumbed to its damage. Improvements to the core design of the tower could allow a building to withstand the impact of another terrorist attack.

Preparing for the Future

While the Twin Towers were thought to be near to indestructible, like the “unsinkable” Titanic, but it was not until disaster struck that the truth became evident. Nothing can be built to be indestructible, but improvements to the design of the building, as in the Freedom Tower, can help limit the devastating effects. Post 9/11, there are more concerns about skyscrapers becoming terrorist targets, but changes to the design of skyscrapers can help prepare for these potential attacks.

Civilian Technology

Because of the severe amount of people that were trapped in the Twin Towers, even the early hours of the day, “there was talk of equipping New York office workers with parachutes” according to James Krohe Jr. in his article, “Tomorrow’s Skyscraper” (Krohe, 2006, p. 10). Instead, orthopedic surgeon and inventor Dr. Kevin Stone designed the Rescue Reel with the idea of making a quicker escape for those trapped in high rises. Stone developed his revolutionary invention after watching the jumpers on the live coverage of the attack. The 2009 Popular Science Invention of the Year includes a kevlar rope and harness, and a reel with a stop-brake feature; it only requires an anchor point for use (Svoboda, 2009). The concept is similar to a fishing reel and can “descend” “from 100 stories” in “less than four minutes—about two seconds per story” (Svoboda, 2009). While they are a costly “fifteen hundred dollars” each and would likely never be used, “other costly safety devices—lifeboats, seat belts,

swimming-pool fences, air bags—provoked skepticism before being adopted almost universally” (Owen, 2010). In his interview with the New Yorker’s David Owen (2010), Stone predicts that “‘as building codes evolve,’ . . . ‘they might require that each floor have a bank of these for the. . . [expected] number of people on that floor’—just as codes now require smoke alarms, exit stairs, fire extinguishers, and sprinkler systems”. While his dream is not currently a reality, as buildings are designed to be safer, there is potential for the Rescue Reel to be implemented. Inventions like this could have saved thousands of people on 9/11, and it will be inventions like this that can save civilians in the future.

Post 9/11 Firefighter Technology

9/11 served as a wakeup call to the fire service. A recall of the FDNY sent two hundred units moving toward the World Trade Center, while still managing to protect the rest of the city. Aside from the three hundred forty three firefighters that perished on that day, billions of dollars worth of equipment had to be updated or replaced. Cities and businesses around the nation pitched in to donate new apparatuses to the FDNY. In addition, the FDNY updated much of their equipment to suit the changing needs of the city. Technological advances of the Information Age have allowed the fire service to evolve into the fastest and safest it has ever been.

Improvements to Water Supplying

Most of the FDNY’s fleet was updated shortly following 9/11 because there was not only a massive loss and damage done to the equipment, but also because the FDNY realized they were lacking in certain pieces of lifesaving equipment. Water,

being one of the most important aspects to the firefighting field, was in short supply following the attack. FDNY field team reported to dispatch to, “Be advised, it appears that we have lost water pressure down in lower Manhattan” (Transcripts of Dispatch Records, 2001). “Water main collapses prevented firefighters from flowing water at Ground Zero,” and subsequently, the World Trade Center complex had the first three “steel frame high rise[s,] in history[, to ever] collapse from fire” (Vaccaro, 2011).

While the collapse of the Twin Towers was nearly immediately following the attack, with only about ninety minutes in between the first attack and the second collapse, the collapse of the third building, known as Seven World Trade Center, could have been prevented. The fall was predicted because “given the limited water supply and the first strategic priority, which was to search for survivors in the rubble, FDNY did not fight the fires, which were on the lower floors and burned for hours” (Fire Engineering, 2002). The building was already evacuated and posed no threat to anyone, but the first responders and the victims trapped beneath the rubble, though most firefighters report not being made aware that nearly 43,000 gallons of “diesel fuel” was stored on “ground level” and within the lower levels of the building (Fire Engineering, 2002). Because Port Authority had ignored “the recommendations of the fire department”, the fuel tanks were housed above ground (Fire Engineering, 2002). Fortunately, the area was evacuated before the collapse.

As a result of the collapse and the additional fires burning at Ground Zero, more drafting equipment became a major expense. The drafting equipment allows for water to be drawn from other water sources, such as rivers, lakes, and “other units on scene”

(Vaccaro, 2011). “Every FDNY pumper” purchased “since 9/11” is equipped with “2,000-gpm pumps with five lengths of hard flex suction hose and special intakes” (Vaccaro, 2011). Aside from the drafting equipment, the FDNY has recently acquired two of the biggest and as New York City Fire Commissioner Salvatore J. Cassano highlights, “most technologically advanced fireboats” (Jerrard, 2010). Three Forty Three, which commemorates those who were lost on 9/11, and its sistership, Fire Fighter II, are each worth twenty seven million dollars and feature a variety of groundbreaking features. For example, each has the “capability of pumping 50,000 gallons of water per minute—nearly 30,000 gallons more than their predecessors and the greatest pumping capacity of any fireboat in the world” (Jerrard, 2010).

“[They] have been. . . designed to detect and protect those on board from chemical, biological, radiological and nuclear agents. Each contains a pressurized area that filters the air supply using special charcoal and high-efficiency particulate air (HEPA) filters, enabling firefighters and crewmembers to operate in hostile environments. The fireboats also include a decontamination shower, . . . and a first-aid station” (Jerrard, 2010).

The FDNY’s new fireboats can travel up to “twenty knot[s]”, while other modern fireboats only reach about thirteen (Petrillo, 2014). Each can pump foam or water, and can actually “allow [the] connection of four large-diameter handlines and a large-caliber supply line” (Petrillo, 2014). The fireboats even include a “50-foot. . . tower ladder can be manned or used to hoist equipment” (Petrillo, 2014). After the collapse of three of the cities steel high rises, the FDNY concluded that their water pumping equipment must be updated to prepare for future water shortages.

Communication Network Updates

A lack of communication and an improper network for sharing information drastically affected how first responders acted on 9/11. 57,000 calls went through the 911 operating system throughout the day, in fact many had to try multiple times to reach anyone (Baker & Glanz, 2006). Partly because “cell phone service throughout Manhattan was interrupted. Regular phone service was congested. . .”, so much so that “AT&T shut down its entire phone and communications system in Manhattan” (The Associated Press, 2001). The overwhelming amount of calls to 911 had to be recorded like any other day, but little updates in the status of rescue services made 911 dispatchers unsure of how to proceed. The dispatchers were not totally sure of what was happening; there was uncertainty on if “they facing a plane crash, an explosion, a fire? All three? A lack of knowledge about what was happening shone through in some exchanges” (Baker & Glanz, 2006). Since information did not circulate enough between dispatch and the deployed units, each faced issues on directing others.

Firefighters recall that they did not even “‘know what [was] going on’” (Cachia, 2001, p. 4). “FDNY officers operated in. . . an information vacuum—they lacked reliable intelligence, could not see media reports that people across the nation were seeing, and could not get aerial video coverage or verbal reports from police and other helicopters on the condition of the towers” (Dearstyne, 2007, p. 31). The information should have been relayed through the Office of Emergency Management, but it was impossible for that to happen; the Office of Emergency Management was located in Seven World Trade. Mayor Rudolph Giuliani immediately responded to his position as “Incident Commander” and talked with both the fire and police chiefs, before Fire Chief Peter

Ganci sent the mayor to make sure the police herded everyone north, away from the scene (Dearstyne, 2007, p. 34). When Giuliani went to inform the police of Ganci's orders, the second tower collapsed, compromising the Office of Emergency Management and actually killing Ganci. Giuliani told Steve Forbes, in his interview with Forbes Magazine (2011), that “the original command post was at the Trade Center and the most immediate backup command post was at the Police Department, but the Police Department had lost electricity” (p. 4). The police department quickly reestablished its base, but that one and the next one were compromised by the collapse of the second tower (Forbes, 2011, p. 4). With command centers gone awry, it was difficult for information to circulate, luckily, it had more to do with the proper location being destroyed than the entire destruction of the Office of Emergency Management system. Because of uncertainty regarding computers after Y2K, the Office of Emergency Management system was backed up and was able to be accessed on 9/11 (Forbes, 2011).

Much of the communication on that day consisted of radio transmissions. Radio communication has transformed the fire service to be safer and more efficient than it once was, but unfortunately, the network system is still usually not as efficient.

“Tradition[ally], every police department, fire department, and emergency medical service makes its own decisions about its. . . communications infrastructure. However, this is not an effective way to design and build a functioning communications system [because the] result is a tangle of systems that do not interoperate” (Peha, 2005, p. 1).

New York City on 9/11 was no different. Through reports detail a “lack of coordinated efforts with the Police Department” (Flynn & Dwyer, 2002). In the report by McKinsey

and Company, which was commissioned by the FDNY (2002), they detail that “there were no senior NYPD chiefs at the Incident Command Post established by the Fire Department” (p. 9). Additionally, the FDNY had no information from the NYPD’s helicopter that was circling above. Findings were inconclusive, and it is “believe[d]” that police and fire merely communicated through a “liason” (McKinsey, 2002, p. 9). Inter-agency radio operations on 9/11 are partially to blame for the lack of communication. Since then, “the FDNY and NYPD. . . [have taken] steps towards improving coordination, such as. . . a protocol to post a fire chief in an NYPD helicopter, exchanging liaison officers, and conducting regular meetings of senior NYPD and FDNY personnel” (McKinsey, 2002, p. 21). The city designed an incident command protocol called the “Citywide Incident Command System (CIMS) in April, 2005. CIMS was designed to conform to the National Incident Management System (NIMS)” (Harrington, 2014, p. 33). NIMS is a FEMA standard that provides a flexible structure to the incident command chain that can be applied to any situation, no matter the size of the catastrophe. FEMA’s chain of command encourages interagency communication to perform a more efficient job. New York City’s modernized chain of command helps agencies better communicate with each other no matter the crisis.

Communication difficulties within the FDNY were also at fault. Many of the rescue units sent into the towers originally, could not receive messages from control. The units on the upper floors probably never received the message of the evacuation because “there was no acknowledgment by firefighters”, and when the first tower fell, many units in the remaining tower mostly likely did not know (McKinsey, 2002, p. 7).

“The portable radios used by the FDNY on 9/11 do not work reliably in high-rise buildings without having their signals amplified and rebroadcast by a repeater system. The World Trade Center had such a system, but chief officers deemed it inoperable early in the response” (McKinsey, 2002, p. 7). With the failure of those channels, they were forced to change to a tactical channel, which was known to only sometimes work in high rises. Later in operations, when more people arrived on scene, it was noted that “messages were lost because too many people used the system, causing congestion, . . . and the loss of effective radio communications contributed to the agency's inability to measure its response” (Flynn & Dwyer, 2002). The department recall of off-duty firefighters led to confusion among the masses. Since the last department recall had not occurred for nearly thirty years, the protocol was unknown. Instead many firefighters arrived on scene by themselves without informing their superiors or just reported to firehouses near the scene. The accountability system could not work, since firefighters were not checking in with their usual fire companies, instead they grabbed equipment off the nearest rigs and went to work. The usual system of communication failed the FDNY technologically and procedurally. After 9/11 the FDNY looked to train their firefighters more on accountability procedures, while improving their radio communications system. More recently they have been able to do both. The new radio communications system, the Electronic Fireground Accountability System, links data from “firefighters’ radios with the FDNY’s Electronic Riding List, a list entered each day by company officers, identifying who has which radio and their assigned position. . . [because] each radio has a unique internal code” (Jarrard, 2011). With the

improvements to this concept, “when a mayday call comes in, the . . . screen shows the caller’s name, engine number and assigned position at the incident. The incident commander can then contact other members of the company who know where” the firefighter should be (Jarrard, 2011). New technology allows the FDNY to communicate and track its firefighters better than it ever has before.

Communication is one of the major sources of error on 9/11. While emergency services were unable to communicate with other agencies, including dispatch, they were also unable to communicate with one another. Improvements have been made with operational communication tactics in the fire service, along with technological improvements. Radio communications have been updated, and a new system is in place to be able to preserve the life of more firefighters if another drastic incident were to occur.

Robots in Firefighter Technology

Though the FDNY did their best with equipment provided, even bringing in newer resources, they were still limited in how they could respond. Since then, technology has advanced allowing robots to enter the world of firefighting. Robotics is advancing the fire service, making it safer for both rescuers and civilians.

The search and rescue robot, the Packbot by iRobot, “made its operational debut on 9/11” (Singer, 2009). The Packbot was still in its developing stages “when engineers from iRobot drove down to New York City to help in the rescue and recovery efforts at Ground Zero” (Singer, 2009). Since the Packbot can be operated wirelessly, the operator is able to work a distance from it without risking harm to any human life. One

team of rescuers were able to “recover the remains of six victims” (National Science Foundation, 2016). The robot’s “mechanized prowlers had tethers with a range of 100 feet, far out-stripping the fire department’s seven-foot camera wands” (National Science Foundation, 2016). Considering the robots are worth upwards of forty thousand dollars each, they were not directly used by the fire department, but were still under management of the fire service and Federal Emergency Management Agency, or FEMA (National Science Foundation, 2016). Though Packbots did not play a major role in recovery, their benefits and potential were recognized by the government and have since been implemented into the military.

More recently the value of robotics in firefighting has been noticed. Dr. Brian Lattimer, an Associate Professor of Mechanical Engineering at Virginia Tech, describes in his “Robots in Firefighting” (2013) the advances already made. “There are two general types of robotic systems that have been developed for firefighting: fixed systems and mobile systems” (Lattimer, 2013). In places like, “aircraft landing areas, warehouse storage, and tunnels, . . . where there is a significant fire hazard and the fire needs to be extinguished rapidly”, fixed systems are used (Lattimer, 2013). “UV” and “infrared sensors” are used to “target” the source of ignition and suppress the incident before its condition worsens (Lattimer, 2013). But for wildland fires, mobile units are becoming more common.

“Howe and Howe Technologies offer a suite of firefighting and emergency robots; the “Guardian” with its robotic arm helps to move debris, the “Terra Maxa” clears the way with its plough, and the “Thermite” has a multidirectional nozzle that sprays as much as 600 gallons of water every minute. These robots are delivered to the scene on the back a huge truck called the “Bulldog,” which is the only non-robotic component of the package and also acts as the Thermite’s water source” (Plackett, 2012).

Howe and Howe’s designs are advancing the field of robotic fire suppression.

Howe and Howe is not the first to create fire suppression robots though. The United States Navy has also developed Octavia; a robot designed to teach sailors to handle and work with robots (Ackerman, 2017). Octavia has minimal capabilities in comparison to Howe and Howe’s fleet. “Once she’s in front of the fire, she sprays her nozzle full of flame-retardant fluid at the blaze. [Because], she lacks heat sensors”, Octavia tends to use too much fluid (Ackerman, 2017). The biggest issue with Octavia’s design is that it cannot climb stairs or leave the lab. While Octavia’s functionality is very limited, Howe and Howe includes “sensors on the[ir] robots” (Lattimer, 2013). “Includ[ing] visual cameras, infrared cameras, gas concentration sensors, and rangefinders to assist in avoiding obstacles” allow them to be more functional than Octavia (Lattimer, 2013). Likewise, the Dutch company Geoborn designed a “remote controlled, unmanned, firefighting robot” (Geoborn, 2016). Their robot, the Micro Turbine Cabs Robot (2018, Figure 2), includes a mast that holds thermal and visual cameras, and a boom that connects to the mast, but also to a master stream nozzle.



Figure 2. MTCR Being Tested. From “MCTR TEST”, by Geoborn, n.d.

mtcr.nl/Foto-Video/Foto-s/. Copyright Date 2018 by Geoborn.

The MTCR can be connected to a hydrant to pump water and foam, it can measure the air quality, and it can even plough debris, all while maneuvering around the site (Geoborn, 2016). The strides taken in improving the quality of service can lessen the effects devastating fire.

Within the past couple years, more cities, including New York, are adding drones to their firefighting arsenal. New York Times author Rick Rojas (2016) reports that they, “will be sent out to major fires and emergencies, fire officials said, delivering high-definition images in real time to commanders as they decide how to respond”. To use the drone is a bit more complicated with the limits on drones within the airspace, but the FDNY “reached an agreement with the Federal Aviation Administration (FAA) to be able to use the drones in those restricted area” (Rojas, 2016). Within fifteen minutes the use of the drone is approved by the FAA, and it is up in the air. While their drones can mostly just move up and down, New York City firefighter Michael Wall said it allows “‘more situational awareness of what’s going on at the scene,’ and that ‘It’s another view’” (Rojas, 2016). The move for advancement is definitely linked to 9/11 because “fire officials realized the shortcomings commanders faced in trying to take stock of a chaotic scene” (Rojas, 2016).

Robotics allows firefighters to have more situational awareness. It frees up more firefighters at the scene, allowing the job to be completed in a faster amount of time,

which could preserve more life and property. 9/11 helped teach the value of robotics in the fire service and have paved a way for innovation.

Impact of 9/11 on the Fire Service

9/11 taught the FDNY a lot about how it could better operate. In order to operate more effectively, technology was and continues to be updated. By keeping the fire departments modernized, casualties in another event can be minimized. 9/11 killed more firefighters in one day than any other day in the American fire service history. Updates are necessary to protect New York’s Bravest, as well as firefighters everywhere.

Conclusion

9/11 taught New York City, and the rest of the world, about the preparation necessary for a terrorist attack. The technological advances that were made because of this attack’s impact could drastically improve the outcome of a similar event. The updates in skyscraper technology and civilian high rise technology would help prevent another collapse and would help protect occupants. Many brave firefighters gave their life, while trying to rescue others from the World Trade Center, but the use of modern technology would have enabled them to rescue more people and even save themselves. Updates in water supplying, communication, and the additional use of robotics could protect firefighters from the ruinous nature of their job. Looking past 9/11, other cities have come up ill prepared for disastrous fires and attacks. The 2015 Paris attacks showed the city how to improve its response to acts of terrorism. The 2017 Grenfell Tower fire in London showed the city how needed to improve the codes of

their modern high rise building construction. Events like these serve as teachable moments. The lack of improvements after 9/11 in other major cities prove that nobody expects the worst to occur, but to be prepared anyway. These moments show the errors of our past and how to improve upon them; only when we modernize our response are we able to rewrite our future.

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A View of Horror Movies Based on Aristotelian Thought

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A View of Horror Movies Based on Aristotelian Thought

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Horror movies are very popular today. In fact, according to *The New York Times*, 2017 has “outpaced all other” years in terms of box office returns for horror films. But is this a positive development? There are several key parts in *The Poetics* in which Aristotle mentions the attributes of good productions of all kinds. These parameters for a good production, placed in the context of Aristotle’s *Nicomachean Ethics*, can be applied to more modern genres, such as horror movies. Examined in the context of Aristotelian thought, horror movies do not meet the standards for good entertainment and should be discouraged as they are not beneficial to us.

It is crucial to differentiate between films that produce fear and horror and simply horror films. If one looks intently at Aristotle’s concept of tragedy, there is an acceptable and encouraged amount of fear. In this essay, when the words “horror film” are used, we are referring to films that are explicitly “designed to frighten and panic, cause dread and alarm” (Dirks 1). This may exclude movies colloquially accepted as horror films.

To prove the excerpts from his *Poetics* that I will use are, in fact, applicable to other genres of entertainment, I will turn to Aristotle’s *Nicomachean Ethics*. Aristotle claims in his *Nicomachean Ethics* that every action of every human is aimed towards an end. This end, we believe, will make us happy, and to get there, we must practice virtue (Aristotle, *Nicomachean Ethics* 1094). By virtue, Aristotle means the habitual actions aimed to achieve our happiness. This is in contrast with vice, by which we habitually act thinking we are working towards happiness, but are not. He calls our ultimate end the good: “and for this reason the good has rightly been declared to be that to which all things aim” (Aristotle, *Nicomachean Ethics* 1094).

Therefore, we can infer that in his comments on the way in which poetry is made he had “the good” in mind. Furthermore, Jean Vanier, in his book *Made For Happiness*, explains that Aristotle notes that the ultimate fulfillment of man must have to do with things particular to himself, since it is only the actualization of all of our potential which could make us happy. He then discerns that happiness must be attained by living according to reason (6-7).

First, I will reference some excerpts from Aristotle’s poetics and explain why they apply to all productions. The first important comment he makes is:

Poetry in general seems to have sprung from two causes, each of them lying deep in our nature. First, the instinct of imitation is implanted in man from childhood, one difference between him and other animals being that he is the most imitative of living creatures, and through imitation learns his earliest lessons; and no less universal is the pleasure felt in things imitated. We have evidence of this in the facts of experience. Objects which in themselves we view with pain, we delight to contemplate when reproduced with minute fidelity: such as the forms of the most ignoble animals and of dead bodies. The cause of this again is, that to learn gives the liveliest pleasure, not only to philosophers but to men in general; whose capacity, however, of learning is more limited. Thus the reason why men enjoy seeing a likeness is, that in contemplating it they find themselves learning or inferring, and saying perhaps, 'Ah, that is he.' (Aristotle, *Poetics* IV)

Here Aristotle establishes that imitation is innate, and that with the imitation comes pleasure, because we can learn.

Aristotle’s general conclusion that we should live according to reason explains why and how he would have us learn by imitation. According to Aristotle, every action is to an end. He also says that leisure is good (Aristotle, *Nicomachean Ethics* 1170) He explains by comparison:

leisure is to the mind what sleep is to the body. But even in leisure, we need to progress towards the good. In order for our leisure to be beneficial (render good, latin: *bene* --good, *facere* -- to do), we need to relax properly. It is not possible to completely relax in an alien environment; there is too much to process. Even if watching a show or movie that isn't reflective of reality gives us pleasure, we are still working for it. To properly, or fully, relax we should not exert energy. This can only be done with true-to-life realistic productions.

In addition to realistic representation, Aristotle would disagree with passing time pointlessly. Since every action is ordered to an end, to commit a pointless action would be to commit an action absent of the good. St. Thomas Aquinas, a prominent Aristotelian scholar, expanded on Aristotle's works to say that evil is by nature the absence of good. (Aquinas Q. 49) By this logic, we cannot participate in leisure that teaches us nothing or advances us in no way. We must, rather, seek to learn something from every pastime. In this case, imitation makes watching an artistic production beneficial.

Before moving on, it is crucial that we describe precisely what is meant by a horror film. Although the definition may not satisfy all the films which we associate with horror, at the very least, we can know what is being considered. There are some cases that stray from the general characteristics, but we can still make general judgements that apply to most cases. According to the Cambridge English dictionary, a horror film is "a film in which very frightening or unnatural things happen, for example dead people coming to life and people being murdered." And according to filmsite.org, "[h]orror films are unsettling films designed to frighten and panic, cause dread and alarm, and to invoke our hidden worst fears often in a terrifying, shocking finale, while captivating and entertaining us at the same time in a cathartic experience." All the other definitions I found are very similar, so I think it is fair to say that horror films are films by

which the viewers are meant to be shocked, scared, or unsettled, through the use of modern cinematic technology and unnatural occurrences.

Yet, there is little in horror films to extrapolate that is useful for human imitation. *Scream*, directed by Wes Craven, is one of the most popular horror movies. The plot mainly consists of the suspenseful and gruesome murder of a girl and her boyfriend. This is not relaxing to most people. It may provide an escape and make one feel that there is control in life, and work and family are comparatively not all that stressful. But while the movie is being watched, there is no true relaxation for the viewer; there is only intensity and stress. Perhaps this is a refreshing way for some to spend their weekend evenings, but Aristotle claims that fear has a proper place in reality, and it is not to exhilarate someone who is bored or overworked.

In the third book of *Nicomachean Ethics*, Aristotle dictates that every action has an end in agreement. He describes courage; the courageous man is not without fear. Here he not only indicates that we can classify being afraid with an end but also that the nature of courage is to stand in the face of fear. Fear, a natural reaction to great danger, is not to be used for excitement, because the end that matches fear is the solving of danger either through fighting or fleeing. Also, when Aristotle characterizes the courageous man as one who is afraid and fighting regardless, he, to a certain extent, shames those who would laugh and enjoy fear. Most moviegoers are protected by courageous men and women giving their lives for our freedom.

Moreover, Aristotle's *Politics* shows that he thought freedom was simply the ability to live rightly (this work is a study of political society, one's duties, and how to bring about the greatest good). That, to him, was a truly free society. With this in mind, what can we imitate in *Scream*, or what can we relate to? The psychotic murderer is not relatable. Next, the victims are in a scenario in which very little is relatable. In some productions, we can imitate the general

good that is insinuated through the plot and the actions of the characters, but here that is not possible unless what we take from the movie is not to go around terrifying and murdering people. Actually, the killer is successful, so the film does not explicitly dissuade this model, except through abject terror. In the case of immoral or unstable people, movies like *Scream* may even encourage cruel behavior. A similar lack of immitatable people/ideas can be found in other horror movies, such as *Saw*, directed by James Wan.

Elsewhere Aristotle discusses the general role and purpose of a poet:

It is, moreover, evident from what has been said, that it is not the function of the poet to relate what has happened, but what may happen - what is possible according to the law of probability or necessity. The poet and the historian differ not by writing in verse or in prose. The work of Herodotus might be put into verse, and it would still be a species of history, with meter no less than without it. The true difference is that one relates what has happened, the other what may happen. Poetry, therefore, is a more philosophical and a higher thing than history: for poetry tends to express the universal, history the particular.

(Aristotle, *Poetics* IX)

In this section of his *Poetics*, Aristotle speaks specifically of the role of the poet in displaying what may happen and in displaying human universality.

It is evident that Aristotle was not talking merely about tragedies or comedies, but it is still important to understand why it is good to appeal universally to humanity. In order to produce a film that can teach us through imitation, it needs to appeal to a universal aspect of human beings. First, the people involved with the work need to make a living, even though Aristotle does not address this directly. Secondly, the viewers should be able to understand and

extract general knowledge from the production. Note that Aristotle does not say that this art form is bad if esoteric. He was talking about it in the context of a general audience. Another reason to appeal generally is because if one did not, then it would potentially lead people to make erroneous assumptions about human nature. This may seem far-fetched at first, but if one considers how thrilled most people are with improving graphics, cgi, and sound, then it is apparent that more than often we invest our emotions in movies.

Next, horror films may appeal universally, but perhaps not in a good way. For instance, *The Shining*, directed by Stanley Kubrick, depicts caretakers snowed in at a hotel over the winter. Slowly the son realizes the place is cursed and the father goes crazy. It ends in a murderous rampage that ends the life of the father and friend of the son. It universally appeals as horrible, revolting, and inconceivable, but it feels real because of the music, acting, and other effects. With the belief that it does appeal universally, we must find out if it is a universal appeal that is good. First, the universal appeal is to express something likely or possible. Not only is the *Shining* scenario not likely or possible, but many people cannot relate to the situation. The few who can relate take up a very small minority. And since it is so unlikely to happen, hardly anything can be taught through it. In *Babadook*, directed by Jennifer Kent, a monster enters the house of a mother and son through a children's book. This is equally unlikely and also does not appeal universally.

Aristotle further describes by what means catharsis should be aroused: "Fear and pity may be aroused by spectacular means; but they may also result from the inner structure of the piece, which is the better way, and indicates a superior poet. For the plot ought to be so constructed that, even without the aid of the eye, he who hears the tale told will thrill with horror

and melt to pity at what takes Place” (Aristotle, *Poetics* XIV). Although he is talking specifically of the catharsis of tragedy, there are also more universal implications made here.

Discussing proper catharsis is very tricky because it is very easy to make ill-informed assumptions about it. According to Aristotle, each genre has its own type of catharsis. There is one for comedy and another for tragedy. But it is important to mention how particular he is with the catharsis of tragedy. In part 13 of his *Poetics* he dictates that the catharsis in tragedy should be from some error of the main character, but not from his evil intent. He wants to display the unpredictability of life. From this, the viewer’s catharsis would be pity and fear, which could also help us cope with mishaps in our own life. He is encouraging the expression of universal human truth again. Ultimately, he designates catharsis as the result of an inner realization. If compared to his work in ethics, this is very useful, for we learn with pleasure in leisure; pleasure is a concomitant of the good.

Another reason Aristotle would dislike horror films is the way in which many are made and produce their general effects. He says that the catharsis is better reached through the inner structure of the piece and should be attained through merely hearing the plot. On this count, there is much criticism of the way in which horror movies, such as *It Follows*, directed by David Robert Mitchell, effect most of the catharsis. A study done by Peter Kaye at Kingston University shows that the music in horror films intensifies the fear quite a bit. Other factors that cause fear in horror films are the unusual viewpoints and choppy footage. To prove this point, let’s go over the storyline of the horror movie *It Follows*. A girl sleeps with a strange man and starts being haunted by an evil spirit. It seems like a remarkably simple plot for a movie; it shows how much it needs to depend on special effects. On the other hand, if you tell the story of *Oedipus Rex*, a work Aristotle lauds in section fourteen of his *Poetics*, we still feel at least some of its cathartic

effect. A king hears a prophecy that he will be overthrown by his son, so he ties his infant son up to die. Another royal family adopts the son. When he grows up, he ends up killing a man who, although he doesn't realize it, is his father in a petty traveling dispute, and unwittingly marries his mother, the head of his father's kingdom. Oedipus then learns the whole truth. Part of the reason that we feel catharsis is because *Oedipus Rex* is a much more plausible story than *It Follows*. This, to Aristotle, is far superior because we can actually relate to the storyline and learn about general human frailty. In other words, there is much more of an innate reason to feel the things we feel. In a horror movie, there are many special effects that cause shock and fear, which means the viewer feels a certain way towards things which normally would not garner a similar reaction. If we go back to Aristotle's philosophy we can see he disagrees with this. His philosophy is strongly based on the natural law. We can see explicit proof of this in book seven of his *Nicomachean Ethics*, where he argues that the justice is the same everywhere by saying "fire . . . burns both here and in Persia" (Aristotle, *Nicomachean Ethics* 1134). With this knowledge and how he says in his *Poetics* that it is ideal to still have an effect from the story, we can draw the conclusion that a movie that motivates us to feel in a way we normally would not when hearing the story itself is not natural. It only makes sense that horror movies would be contrary to Aristotle and the natural law because the very definition we use characterizes horror movies as unnatural.

Aristotle mentions soon after that the way in which characters should act: "Thirdly, character must be true to life: for this is a distinct thing from goodness and propriety, as here described. The fourth point is consistency: for though the subject of the imitation, who suggested the type, be inconsistent, still he must be consistently inconsistent" (Aristotle, *Poetics* XV).

Again, he is speaking specifically of tragedies, but his emphasis is on the best way to produce any effect, not an effect particular to tragedy.

Here, Aristotle again turns to realistic representation. Considering its frequent discussion, we cannot take this with a grain of salt. It seems that he would have the characters consistently inconsistent just as he sees most of humanity; nobody is perfect. This, to him, as he mentions soon after the quote, enhances the believability and relatability of the product, which applies to more than just tragedy. It is crucial that all productions of all genres are this way so that from them catharsis can be drawn as something innate and beneficial.

Finally, this last quote deals with consistency to be true to life. Horror movies are consistently not true to life or consistent with any part of life, which is what makes them so unnatural. As far as causing fear, this is not just all right, but very effective. However, the difference from reality is detrimental to the moral quality of the film. In this case there is much to be said against desensitization. Although desensitization is often poorly documented and hard to prove, there are still principles which Aristotle upholds that describe and critique the exhilaration such as the one we get from horror films. There are many articles and forums where people discuss the fact that they are not triggered by horror movies anymore. For example, Reddit, Movie Pilot, and Michigan Daily all exhibit articles and forums about it. This calls to mind, again, the displacement of emotions and actions from their proper place and proper ends. Although many people claiming desensitization blame the unrealistic qualities, we must ask: what does scare them? The fact of the matter is that Aristotle thinks fear is only properly triggered by a grave threat or danger. And though in a highly advanced society we seem to have little to fear, that is not the case for all of humanity. There are many people throughout the world suffering at the hands of violence, hunger, and poverty. This may not seem to immediately

concern us when talking of great danger, but just as Aristotle notes that fire burns the same everywhere, he also believe that we have intrinsic value. With his Doctrine of Potentiality and Actuality, it can immediately be seen that under the thumb of hunger and poverty humans remain in a state of actuality in opposition to their full potential, which Aristotle believed to be living in accordance to reason (Aristotle, *Metaphysics* XII). This he concludes because reason is what is uniquely human, and full human potential is reached by the full use of what is human. Furthermore, since we all share this value and share the natural law, suffering people are grave threats to our general ability to participate in a proper political society reaching our full potential. Since this threat should cause fear, it makes little to no sense to be fearful of unreal unnatural things when there are real scary things of which we should be afraid.

Ultimately, a careful study of Aristotle indicates that horror films do not meet his criteria for worthy theater. It would be especially difficult to reconcile horror films as a genre with Aristotle's thought in his *Poetics*. There is little to imitate in these films. The main themes in most of these movies separate fear and courage, which Aristotle claims are intertwined. Also, the scenarios in horror movies are impossible or highly unlikely. This makes them practically vapid; they teach little about humanity and can help us with nothing in real life. Next, there is no real meaning to horror film; in fact, most of the scare is in the presentation. The emptiness of meaning in these films is directly contrary to living according to reason. If these films cannot help us, then they are impediments to the actualization of our potential. Lastly, the aspects of horror films that are not lifelike divert attention that should be concentrated on reality. For these reasons, horror movies are detrimental to us and should be discouraged.

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Polyamory

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Abstract

This paper examines the way ethical polyamorous and non-monogamous relationships are perceived in the monogamous-oriented American society. It is not intended to persuade readers to adopt a polyamorous lifestyle. Rather, it discusses some problematic societal attitudes derived from monogamy, which can lead to discrimination and stigmatization polyamorists may face. Additionally, this paper clarifies the differences between polygamy and polyamory, as well as explaining polyamorous configurations and common terminology. Lastly, it analyzes the way polyamory challenges the sociological construct of marriage and familial structures.

Polyamory

It is obvious that monogamy – lifelong emotional and or sexual commitment between two people – is prevalent in American society. Despite popular belief, polyamory is not a new concept. It can be argued that we are naturally inclined to be non-exclusive and egalitarian when it comes to sexual relationships. However, as societies expanded and evolved, economic stability became connected to sex and relationships. Over time, the concept of patriarchal societies consisting of men having multiple wives caught western religious leaders and politicians' attention. Thus, sexually exclusive monogamy was regarded as achieving the highest level of social evolution. This is one reason why multipartner relationships still seems unfathomable in western cultures that value monogamy. Nonetheless, ethical polyamorous relationships can be just as meaningful and rewarding as monogamous ones.

Etymology

Since there is not a singular definition of polyamory, the most comprehensible definition can be found by analyzing its etymology. Polyamory is derived from Greek and Latin roots. The prefix *poly* comes from Greek, meaning “many” or “more than one,” and *amor* is the Latin word for “love” (Maxwell, 2006). Polyamory intends to mean “many loves” and is most often used as an umbrella term to describe romantic, loving, and generally (but not always) sexual relationships with multiple people.

The first use of “polyamorous” can be traced back to 1921 when Italian Futurist Filippo Tommaso Marinetti used *poliamorosa* in his novel, *L'alcova d'acciaio* (Marinetti, 1921, pp. 283). However, “polyamory” did not appear in any dictionary until 2006 when the *Macmillan English Dictionary* featured an informative essay about polyamory in its

“Word of the Week” segment for Valentine’s Day (Maxwell, 2006). The *Oxford English Dictionary* followed suit seven months later in their September 2006 revision (“September 2006 Update”). Additionally, the *Merriam-Webster Dictionary* denotes the first known use of polyamory was in 1992 (“Polyamory”), although there is evidence of usage dating back to the 1960s (Maxwell, 2006).

Ideologies

It is important to note that polyamory is not synonymous with swinging; monogamous spouses opening their marriage to engage in unromantic, sexual relationships with others. The overall ideology of ethical polyamory emphasizes open and honest communication. Polyamory highly values an individual’s freedom while involved in intimate relationships. One of the biggest concerns and criticisms surrounding polyamory is the fear of infidelity. However, it is of the utmost importance that all persons explicitly express consent to the relationship – or relationships – and are aware of all parties involved. Without everyone’s consent, the relationship cannot be ethical. That is not to say polyamorous people are never unfaithful, but boundaries and lines of communication are established to help prevent these anxieties.

Another criticism towards polyamory claims it is just an excuse to be promiscuous and have as many lovers as one wishes. The majority of polyamorists would disagree with this notion. Although it is true that polyamorous people may engage with multiple sexual partners at once, sexual intimacy is not the sole purpose of adopting a polyamorous lifestyle. Polyamory should not be viewed as the desire to have many lovers, but instead as the desire to experience many kinds of love within a relationship(s) (Wilkinson, 2010).

Polyamory vs. Polygamy

Polyamory is often confused with polygamy, and it is necessary to be aware of the dissimilarities. While both words are accurately implying a companionship between multiple people, traditional polygamy primarily practices polygyny. This means that one husband is actively involved in sexual and romantic relations with multiple wives. Polyandry follows the same concept, the difference being one wife is sexually and romantically involved with multiple husbands. Polygamy can be compared to a closed marriage, and partners are forbidden to interact with any person(s) outside of their group, lest they risk the repercussions of infidelity. Conversely, most polyamorous relationships are essentially open relationships, with each person having the option to seek others outside of their group, if desired.

A significant difference between polygamy and polyamory is the ability to voice one's feelings and concerns regarding their place in the relationship. For the most part, the only person that holds this power in a polygamous situation is the singular husband or wife. Polyamory, on the other hand, encourages all parties to express themselves candidly without fear of being reprimanded or judged. Furthermore, polyamory does not ostracize people based on their sexual orientation, and even "allows for same-sex sexual activity whereas traditional polygamous relationships are founded upon heterosexual interactions" (DeLamater and Plante, 2015, pp. 229).

Configurations and Terminology

Polyamorous relationship constellations include open couple relations, triads, quads, and polyfidelitous multipartnerships (Klesse, 2015). Open couple relations consist of a couple that commit to each other but continue to develop relationships with

outside parties (e.g. Alex and Jamie are in an open partnership. Alex is also dating Sam, while Jamie is seeing Max). A triad is a relationship amongst three people and quads would contain four. This list is by no means exhaustive since the complexity of non-monogamous relationships and various configurations cannot be simply summarized.

Although there is an ongoing conflict in the polyamorous community about the hierarchal construction and configuration of relationships, there is generally a commonality when it comes to the distinction between primary and secondary partners. A primary partner – often shortened to primary – would reflect the “cultural conception of a spouse” (DeLamater and Plante, 2015, pp. 226). An individual with a primary partner may live together, share financial responsibilities, consult one another on important decisions, and would be socially exclusive as a couple. Additionally, a polyamorous person may legally marry their primary and even have children if they wish. Secondary partners – or secondary – can be categorized as a less serious commitment, such as a boyfriend, girlfriend, or datemate (a gender-neutral term).

Secondary partnerships generally do not lead to cohabitation, but that decision is up to each individual. Both parties tend to keep finances separate and are often “accorded less social power and consideration” than a primary partner (DeLamater and Plante, 2015, pp. 226). The lesser used term tertiary would describe a partner that is even more casual than a secondary. However, many polyamorous people reject categorizing primary, secondary, and tertiary partners based on emotional importance. This is known as non-hierarchical polyamory, which considers all members as equally important.

Polyfidelity

Polyfidelity is a type of non-hierarchically structured polyamorous relationship that consists of an intimate partnership between multiple people where all parties are treated equally and only commit to those involved. The term was coined in the 1970s by a non-monogamous, utopian, equalitarian community located in San Francisco called Kerista Village. The village was founded by Brother Jud who left his “fairly straight lifestyle in search of meaningful communal living,” and Even Eve (Pines and Aronson, 1981, pp. 373). After graduating from high school, Even Eve responded to a notice Brother Jud put in a Free University catalogue, and the two became the first members of Kerista Village. However, Even Eve and Brother Jud were not a couple, and there were always at least two other people with them. Eventually, Kerista Village became home to nine women, six men, and two children. All 15 members reported feeling “a high degree of love and tenderness” for each other, (Pines and Aronson, 1981, pp. 374). Furthermore, Keristans reported there were only minimal amounts of sexual jealousy within the family.

Polyfidelitous relationships may be loosely compared to monogamous relationships because they are both closed, with the respect that polyfidelitous relationships always contain more than two people. Additionally, those in polyfidelitous partnerships may have the option to add new people, but it requires group consensus in order for the dynamic of the relationship to function appropriately. In polyfidelitous families, the responsibilities of raising children are shared between multiple parents.

Challenging the Sociological Construct of Monogamous Marriage and Familial Structure

While studying a particular culture, sociologists use what is known as the sociological imagination. Renown sociologist C. Wright Mills described the sociological imagination as “an awareness of the relationship between a person’s behaviour and experience and the wider culture that shaped [their] choices and perceptions” (OpenStax, 2016, pp. 6). In the United States, the decision to get married is majorly influenced by an individual’s feelings. However, our society’s views about marriage is also relevant in determining what is and is not considered acceptable (OpenStax, 2016, pp. 6).

Sociology defines marriage as a “legally recognized social contract between two people” (Openstax, 2016, pp. 309). More than two million Americans are married every year, and 97% of adults over 70 have been married (McKee and Taverner, 2013, pp. 72). The National Marriage Coalition describes marriage as “more than a private emotional relationship. It is also a social good” (“Coalition for Marriage”). Yet, the reality is most monogamous relationships do not adhere to societal expectations. For example, pre-marital sex is now commonplace, despite ongoing controversial views. The divorce rate amongst married couples is approximately 40-50% (“Marriage and Divorce”), and remarriage is typically expected to occur. Additionally, from 2006-2010, the National Survey of Family Growth (NSFG) reported that approximately 48% of heterosexual women between 15-44 years stated they had cohabited with a male partner before marriage (Copen et al, 2013). Unmarried, cohabitating heterosexual partners represent 10% of couples in America, and some may decide not to marry at all (OpenStax, 2016, pp. 308). This number would undoubtedly increase if monogamous lesbian, gay, bisexual, transgender, queer, (LGBTQ+) and other non-heterosexual

individuals were included in the data. Nonetheless, monogamy is so intricately woven into the way our society functions that it does not just represent love; it is partially responsible for upholding what we conceptualize goodness and society to mean (Wilkinson, 2010).

In order to better understand polyamory, it is imperative to remind oneself that monogamy is not universal. When examining monogamy on a macro-level, Americans may be shocked to learn that 78% of cultures are accepting of non-monogamous relationships (OpenStax, 2016, pp. 310). Romantic partnerships and families are socially constructed based on a specific culture's views and beliefs. Functionalism views society as having "interrelated parts" that meet biological and social needs of those within in a society. In this instance, a functionalist perspective of family would resemble a social institution, which are "patterns of beliefs and behaviours" one exhibits while attaining these social needs, such as education, religion, and healthcare (OpenStax, 2016, pp. 23). Therefore, families are viewed as "groups that perform vital roles for society" (pp. 309). This is true both internally for the family itself and externally for all of society.

It is to be expected that familial roles, structures, and relationships will differ amongst various cultures. For example, the original American Dream ideology for a "normal" 20th century modern American household would consist of a mother, father, and two children. The mother would take on the role of a housewife, and the father assumes the role of a provider to ensure the family is financially stable. Although these roles in a nuclear family were deemed to be the norm for decades, the functions that a familial institution fulfils has changed drastically throughout the years.

The myth of universality has defined what is “normal and natural” in our society and has “influenced our thinking to regard deviations from the nuclear family as sick or perverse or immoral.” Our society still regards the way families were structured in the 1940s and 1950s as the standard American household (Skolnick and Skolnick, 2011, pp. 156-157). Modern families that do not adhere to these societal expectations are considered “non-traditional” and deviant. Since non-monogamous relationships differ from the norm, they may appear to violate the socially constructed mores surrounding romantic companionships. From a young age, it is engrained into us that, one day, we will get married to our partner and raise a family of our own. Since there is an emphasis on the importance of monogamous relationships and protecting the “sanctity of marriage,” multipartnerships are deemed unethical. This belief causes discrimination towards polyamorous people for their seemingly unconventional lifestyle.

According to a recent survey, more than one-quarter of people involved in polyamorous relationships have “experienced discrimination based on their relationship status in the past 10 years” (Moors et al, 2017). More often than not, polyamorists are often stigmatized as promiscuous, irresponsible, and even narcissistic (Smith et al, 2004). These discriminations can affect an individual’s looking glass self by imagining how others will negatively perceive and judge them based on their polyamorous identity. The fear of being judged can prevent polyamorous people from being “out” or open about their non-monogamous lifestyle. Additionally, this fear can be so severe that polyamorists may socially isolate themselves in regions where non-monogamy is openly practiced. In some cases, they may even be ostracized from their own communities.

Examining symbolic interactionism may also give us more insight as to why non-monogamous people are stigmatized. Since our society is couple-centric and focuses on building a family that is socially acceptable, monogamous marriage acts as a symbol of achievement and represents a successful life. By being non-monogamous, the symbolic importance of marriage is seemingly threatened, which can cause distress in a society that highly values monogamy. Additionally, monogamy itself symbolizes commitment. Committing to one person is believed to indicate how loyal, reliable, and trustworthy a person is inside and outside of the relationship. Yet, polyamorous people face a paradox; although they do not commit to *one* person, it does not indicate they are unable to commit in general. In fact, most non-monogamists can commit to several relationships at once, which should be a positive characteristic.

Unfortunately, there are still many misconceptions surrounding polyamory that can lead to prejudice treatment. Examining polyamory on a micro-level may help with overcoming some of these misconceptions. Since family is a subjective concept, there are essentially endless formations that could be classified as such. Polyfidelitous and other non-monogamous families are still providing a sense of belonging to a group of people, as well as meeting the social, emotional, and physical needs of each other. Regardless of how many individuals are involved, polyamorists are still fulfilling the familial roles that are necessary in maintaining a balanced society.

Conclusion

The way we define families will continue to evolve as often as societies do. In our society, polyamory is rapidly becoming more socially prevalent than before. Although it is still a challenge to find accurate data that is specific to polyamory, an

estimated 4-5% of Americans are involved in some variation of ethical non-monogamous relationships (including swinging) (Sheff, 2016). As a polyamorist myself, navigating through a monogamous society feels daunting at times. Fortunately, the polyamorous partners I have been involved with have expanded my understanding of what loving relationships should entail. For some, commitment to one person may be satisfactory, but this is not fulfilling for everyone. I do not believe there is anything inherently wrong with monogamy, nor do my partners. However, by challenging the norms surrounding monogamy, we can attempt to redefine the way families are structured and become more inclusive. We must remember that family life in the United States is shaped by macro and micro forces and extends far beyond what constitutes as socially acceptable.

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Scars on the City: Long-Term Consequences of Divisive Urban Planning

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Scars on the City: Long-Term Consequences of Divisive Urban Planning

In 2008, for the first time in history, the world population was split evenly between urban and rural areas. The Population Research Bureau indicates the percentage of urban residents has nearly doubled since 1950 and more than tripled from 1900, when 14% and 30% of people, respectively, lived in an urban area. City dwellers likely take for granted the benefits of urbanization: greater economic opportunity, enhanced connectivity, and a world shaped by people from many walks of life. However, in some cities, diversity has created hardships for members of particular groups. If it seems like cities have been designed to work against these populations, it's because they were.

Historically segregatory urban planning in cities worldwide has perpetuated spatial and social divides that are still present today. Though core issues may have been resolved on the surface level, effects of decades-old decisions made amidst conflict still linger. Communities severed from the rest of the population by programs, policies, and engineered perceptions retain the animosity and suffering of years past; festering wounds turned to scars on the cityscape that refuse to heal.

Baltimore, Maryland has been pulled in several different directions due to its unique location: a port and railroad town on the Mason-Dixon line infamously divided by race and rife with poverty. Baltimore was initially designed to facilitate socioeconomic diversity within neighborhoods rather than separating haves from have-nots. In Industrial Age communities, nearly everyone had to walk to work, requiring housing to accommodate various income levels in close proximity (Scott). Rather than construct

Manhattan-style tenements, known for their inhumane living conditions, Baltimore builders opted for mixed-use blocks of row houses capitalizing on physical space and economic class structure without sacrificing livability. Upper-class two- and three-story row houses were built on main roads, facing into the street (Scott). Blocks were divided by back streets or alleys lined with shorter, narrower row houses for working-class residents. Consequently, residents of many economic classes could share neighborhood amenities and workplaces (Scott).

This model briefly suited Baltimore well. Immigrants throughout the early 19th century seeking work often settled into alley houses until they secured a steady job and purchased a more permanent row house (Power, “Apartheid Baltimore Style”; Scott). As in other cities, immigrants clustered for security and familiarity, creating enclaves like Little Italy in Baltimore’s Fells Point or its Irish community around Union Square (Scott). After the Civil War, Baltimore experienced an influx of Southern blacks seeking social and economic independence. They followed the same pattern, starting in alley houses and hoping to work their way up (Power, “Apartheid Baltimore Style”). Baltimore was not yet markedly segregated; blacks resided in each of the city’s wards without an enclave of good *or* bad reputation (Power, “Apartheid Baltimore Style”).

However, due to prejudices and decades of oppression, many black residents had little capital, formal education, or non-agricultural training and lacked economic mobility. Whereas European immigrants could pool money to share larger row houses, black families trying to pay alley house rent with lower wages crowded multiple families into one building. Overcrowded back-alley streets fell into disrepair (Power, “Apartheid

Baltimore Style”). Baltimore’s first sizable slum, known as “Pigtown,” was described in 1892:

Open drains, great lots filled with high weeds, ashes and garbage accumulated in the alleyways, cellars filled with filthy black water . . . villainous looking negroes who loiter and sleep around the street corners . . . foul streets, foul people, in foul tenements filled with foul air. (Power, “Apartheid Baltimore Style”)

White alley house residents considered these conditions unacceptable and moved elsewhere. Though black families in the slums were technically able to relocate, and newly vacant houses seem a plausible solution to overcrowding, neither was feasible due to minimal economic opportunities available to blacks (Power, “Apartheid Baltimore Style”). Should they move to a different alley house, rent would be just as high and require them to again stuff multiple working-class families into a single-family home. Instead, they became packed with newcomers, and cycles of spreading slums and white flight persisted into the 20th century (Power, “Apartheid Baltimore Style”).

In the early 1900s, Baltimore experienced a wave of social reform. Industrialized society was rife with illiteracy, disease, crime, and poverty, especially in slums. According to the mayor, “these wretched abodes are menacing to both health and morals” (Power, “Apartheid Baltimore Style”). Rather than resolve social ills, reformers campaigned to quarantine them through slum clearance. The 1907 *Housing Conditions in Baltimore* report proposed condemning the worst alley houses, prohibiting basements as sleeping quarters, and banning the erection of new alley houses (Kemp). Though these measures might improve individual household conditions, reduced density without

new or affordable housing would not be feasible long-term. The city took no action following the report, and findings only fueled white flight (Power, “Apartheid Baltimore Style”).

Middle-class blacks on the periphery of slums were aware of the nearby squalor and sought to distance themselves. The largest slum spread six or seven blocks between 1903 and 1910, inching closer to white neighborhoods (Power, “Apartheid Baltimore Style”). In 1910, there was great upheaval when a black lawyer and his family moved into an all-white neighborhood, crossing the unofficial “color line.” Following petitions by furious white homeowners, the city enacted a segregated housing ordinance, summarized by the *Baltimore Sun*:

No negro can move into a block in which more than half of the residents are white . . . no white person can move into a block in which more than half of the residents are colored. . . a violator of the law is punishable by a fine of not more than \$100 or imprisonment of from 30 days to 1 year, or both. (Baltimore Sun, 18 December 1910)

The ordinance, followed by edits, passed in December 1910. All-black and all-white blocks were required to remain so, and mixed blocks remained unregulated, with the same rules applied to schools and churches for a particular race (Power, “Apartheid Baltimore Style”). This worsened slum conditions by preventing spread into additional blocks, enabling landlords to charge more for shoddier properties since black tenants had nowhere else to move. Mixed-race, middle-class blocks were vacated by white homeowners as slum residents flooded every block available to them. As news

spread of Baltimore's "constitutional" segregation, cities throughout the South adopted similar ordinances (Power, "Apartheid Baltimore Style"). However, when one version was found unconstitutional by the Supreme Court in 1916 for violating free trade in the housing market, Baltimore's ordinance was also rendered unconstitutional (Rothstein).

The removal of their segregation ordinance daunted white homeowners and lawmakers, who soon coordinated a plan instituting de facto segregation. The city's real estate board, building inspectors, and health department conspired to prevent residences in white neighborhoods from being occupied by blacks (Power, "Apartheid Baltimore Style"; Power, "Meade v. Dennistone"). Over time, the city bought up the "worst infected blocks" of slums surrounded by white neighborhoods, displacing black residents, then cleared the land for a park for remaining white residents (Baltimore Sun, 10 August 1917).

With rising car ownership and desire to escape city life, white families continued flocking to suburbs, yet middle-class black families were unable to do the same (Power, "Meade v. Dennistone"). City officials and housing developers could not exclude blacks from suburban neighborhoods— however, private agreements were not yet subject to constitutional scrutiny. Homeowners' associations formed mutual covenant prohibiting their current property from ever being occupied by blacks (Power, "Meade v. Dennistone"). Should a black family move in, neighbors could sue the seller for violation of the contract. Though Baltimore's "color line" had been pushed outside the original slum boundaries, many were determined to keep it from spreading outside city limits.

Gradually, the national government also began contributing to Baltimore's unofficial segregation. The government-sponsored Home Owners Loan Corporation created color-coded maps of major cities showing which areas were most secure for mortgage loans. Baltimore's inner city was washed with red, indicating poor credit risks due to "undesirable racial conditions," whereas white suburbs were marked in green and blue, seals of approval for reliable mortgage repayments (Rothstein, Badger). These recommendations were not only followed by local and private banks, but by the Federal Housing Authority (Power, "Apartheid Baltimore Style"). In combination with conspiracies between real estate and inspector industries, this confined blacks to the inner city and made homeownership difficult, leaving many as tenants in overpriced, poorly kept housing.

However, some realtors broke the protocol of only selling to white buyers by "blockbusting" for personal economic gain. Selling to a black buyer in a white area would often cause neighbors to move away, fearing plummeting property values. With multiple houses in an undesirable area selling simultaneously, realtors could purchase them cheaply and sell or rent them to black residents at a significant upcharge (Power, "Apartheid Baltimore Style"). Those able to purchase homes, blockbusted or otherwise, often paid using non-amortized installment plans rather than mortgages. Missing a single payment was grounds for eviction, and the system prevented them from selling for a return on their investment (Rothstein; Power, "Apartheid Baltimore Style"). As a result, many homeowners neglected maintenance or took on extra tenants to make sure they could make rent, causing deterioration of the property (Rothstein).

Meanwhile, government projects continued to displace black residents for public works projects. Between 1951-1971, 80-90% of the 25,000 people displaced for such projects were black (Power, “Apartheid Baltimore Style”). The government provided public housing, but only enough for 15,000 people, nowhere near adequate replacement level. Additionally, the housing was in neighborhoods equally as segregated and low-income as the original communities, preventing access to amenities and opportunities in wealthier areas (Power, “Apartheid Baltimore Style”; “Thompson v. HUD”). In many instances, black families with public housing vouchers in the greater Baltimore area were relocated to the inner city. In fact, over two-thirds of its public housing recipients live in census tracts that are 70-100% black (“Thompson v. HUD”). A series of federal civil rights lawsuits against the Department of Housing and Urban Development (HUD) from 1996-2003 alleged “the city and housing authority, with HUD approval, acted in concert over many decades to create a segregated system of public housing, with project siting decisions driven by community opposition in white neighborhoods” (“Thompson v. HUD”). The court decision found HUD at fault for violating the Fair Housing Act and Title 8, because refraining from further discrimination is not enough when it comes to a city and greater society marred by systemic discrimination. In cities like Baltimore, HUD “had the practical power and leverage to accomplish desegregation through a course of action that Local Defendants could not implement on their own” and did not do so (“Thompson v. HUD”).

Improvements have been made in some areas, but Baltimore remains deeply divided by race. Researchers at Virginia Commonwealth University concluded in 2012

that communities redlined in the 1930s still have lower homeownership and college attainment, higher poverty and segregation, and worse health (Evans, et al.). Recently, the city's racial tension and divide have become nationally infamous after the death of Freddie Gray, a black man who died under suspicious circumstances while in police custody. Baltimore became an epicenter of the Black Lives Matter movement, protesting police brutality against black individuals and institutionalized racism (Badger). Though it seems American society should have come a long way over the past several decades, black neighborhoods appear just as suspect as hotspots of addiction, violence, and poverty as they were in the early 1900s. This perception prevents integration, which exacerbates issues in black communities, fueling vicious cycles of racial discrimination.

Like the United States, South Africa has an extensive history of racial discrimination. Apartheid, the government's system of separation by race, formally ended in 1991, yet echoes of segregation are present today. First annexed in 1807, South Africa officially came under British control in 1910. British colonists did not wait for official ownership of the land before separating themselves from indigenous Africans. After discovering diamonds and gold, emerging mining companies built segregated, single-sex residential compounds for laborers, the first model of urban segregation in South Africa (Mabin and Smit). British "reconstruction" of Johannesburg was successful, but only beneficial for colonists. Measures like laying foundations for electric tramways were implemented with the same vigor as redevelopment of "insanitary areas" inhabited by native populations (Mabin and Smit). Residents of these

areas were relocated to the first “native location” at Klipspruit, approximately ten miles from Johannesburg. Unlike in its other colonies, no housing provisions were established for the native population-- for instance, colonial Singapore was organized into ethnic subdivisions by the Raffles Plan (Mabin and Smit). Urban South Africa was conceived as white European space, with indigenous groups left to fend for themselves on peripheries of fledgling cities (Mabin and Smit).

In 1920, a report was released recommending urban segregation with municipal development of native villages, encouragement of homeownership, and a predecessor to the passbook system (Mabin and Smit). Instead, the government regarded African natives as temporary residents of urban land, forming the Urban Areas Act of 1923, which distinguished urban planning for “native locations” from that for the rest of the country (Mabin and Smit). Following WWII, another committee was assembled to compile information on urban issues, with racial zoning measures as key features in nearly all its plans for reconstruction (Mabin and Smit). By 1946, administrators learned of census results showing all cities had majority-black populations with higher growth rates than the white population. The party in power offered no alternative other than carefully planned, compulsory segregation, which ushered in formal apartheid (Mabin and Smit).

This regulated segregation became the Group Areas Act, passed in 1950. People of different races, as defined under the Population Registration Act-- white, Indian, African, or colored (i.e. mixed race)-- were required to live in separate areas, and urban planning enforced racial zoning within cities (Turok). Conceptual maps were

developed for each city, with “buffer strips” at least 100m wide separating areas for each race to minimize contact (Turok). Since cities were not arranged in this manner beforehand, implementing these policies required the forced removal of at least one million black South Africans (Mabin and Smit; Turok).

In addition to segregated zoning, black urbanization was soon restricted by law. Africans had no property rights within cities, and were required to live in rudimentary state-run “townships,” the new term for “native locations,” on the outskirts of major cities (Turok). Urban activity was still controlled by the state within these townships. Black business initiatives and township retailing were restricted to increase patronage of white central business districts (Turok). No chain retailers or supermarkets were permitted in townships, only convenience stores of 1500 ft² maximum. Townships were food and job deserts, often located 10-20 miles from the central city without access to safe, reliable mass public transit (Turok). Those who commuted for work spent one to three hours each way and up to 20% of their wages on travel; others dedicating excessive time and money trekking into the city for basic purchases (Turok).

Additionally, due to lack of effective political representation, salubrious public projects were often near white urban areas, and unfavorable, hazardous, or environmentally questionable facilities were located near black townships (Turok). In the 1970s, political dynamics shifted when separate local authorities were created for each racial group. Allegedly meant to promote black political participation, this only gave the pretense of control. Since local councils were self-financed through local tax revenues, low-income townships could not provide adequate services (Turok). Though logistically

and financially unprepared, councils became responsible for utility infrastructure, waste removal, public health, land use, etc. (Turok). As a result, these services continued to spiral downhill as local authorities scrambled to provide for their community.

The services eventually provided to these townships were certainly not up to par. In fiscal year 1992-93, authorities in Witwatersrand (Johannesburg's metropolitan area) spent only 368 rands per capita on public services in majority-black Soweto, but 2,806 rands per capita in majority-white Johannesburg (Turok). Utilities are more costly in townships, due to additional infrastructure required far from the main grid, and lack of cross-subsidization from businesses in affluent white areas. Among those without water piped directly into their homes, 98% live in majority-black areas (Turok). Water usage in Soweto is only 53 kiloliters per person annually, roughly a third of the 151 kiloliters in Johannesburg (Turok).

In conjunction with one another, tax-funded local councils and restrictions (both official and unofficial) on local business served to fuel cycles of poverty in townships around Johannesburg. With limited economic opportunity elsewhere, black residents had little choice but to work and shop in the city (Turok). Though they equally contribute to the prosperity of these white-majority cities, the generated income, sales, and business taxes are funneled back into urban neighborhoods, which already receive plenty of funds from their wealthy residents. An estimated 300,000 individuals from Soweto alone held jobs in Johannesburg and accounted for "70-80 percent of all purchases in the City's CBD [central business district]," spending 1.4 billion of their total 2 billion rand income in the city (Turok).

Racially-controlled zoning also distorted land markets, widening the gap in living standards. As more tax revenue was funneled away from townships, the government was able to fund projects and amenities making the city an even more attractive place to live, justifying increased housing costs and further prohibiting blacks from moving out of townships (Turok). Yet, there persists an inverse relationship between wealth and population density. Areas like Alexandra and Soweto are overcrowded, making land expensive and difficult to obtain. With money to spare and no slums on its periphery, Johannesburg experienced significant sprawl due to the abundance of relatively affordable land available for development, creating a low-density environment (Turok). Additionally, those relocated to townships were not compensated for the homes they left behind. Though some buyers were turned off by negative connotations of the former residents, many were attracted by rock-bottom real estate prices. The land was soon cleared and redeveloped for other purposes, leaving new residents of townships with few options if they were to return (Turok).

The South African government abolished apartheid in the early 1990's, but the conditions created since its installment made it difficult, if not impossible to reach a just social equilibrium. Inadequate medical care in former townships exacerbated the HIV/AIDS epidemic; meager school funding led to lower-quality education, decreasing the odds of acquiring a college degree and higher-paying jobs (Myre; Serino). As of 2016, "a black person is four times more likely to be unemployed than a white person, and the average income for a white family is six times greater than for a black family" (Serino). The current commute for downtown workers is not that different than it was

under apartheid. Whereas the city received a roomy, modern subway train in preparation for the World Cup, public transport into the city remains inadequate for the volume of riders, who perch outside the carriages, gripping onto handles and holding on tight (Mngxitama).

Projects meant to be reparations for apartheid-era injustices, such as the Reconstruction and Development Programme, are practically a joke. The RDP houses intended as public housing replacements for townships “are such that at the slightest pressure from the elements, they often come crumbling down. The shoddy workmanship and the inferior building materials are evident in every cracked wall” (Myre). They are as tiny as township shanties and just as isolated, yet government contractors are paid millions of rands for their slow construction. Police brutality at the hands of white law enforcement officers is rampant, not unlike conditions leading to protests in Baltimore (Mngxitama). For those unaware of the systemic racism still present in South African society, persistent poverty and low quality of life in former townships reinforces ideas of black inferiority, giving privileged white citizens the impression that this is the inherent, unchangeable nature of their fellow citizens.

Whereas community members of Baltimore and Johannesburg seek to eradicate their historical division, urban planning in Belfast has created a city wishing to *remain* separate. Northern Ireland’s capital is the infamous home of tense, violent ethno-nationalist conflict beginning in the late 1960s over the region’s constitutional status within the United Kingdom, known as “the Troubles.” Factions were aligned with

Northern Ireland's two religious groups: Protestant unionists or loyalists, wishing to remain with the UK, and Catholic nationalists or republicans, who wanted to join the rest of Ireland. Northern Ireland's Catholic minority had experienced more formalized discrimination in regards to housing, jobs, and political representation since the state's establishment in 1921 (Cunningham). Resultantly, a push for social equality was tied to the concurrent nationalist movement.

As the fight between unionists and nationalists wore on, paramilitary groups committed acts of domestic terrorism including car bombs, plastic explosives, and shootings, as disordered attempts to promote their ideology. Between 1968 and 1998, approximately 3500 people had been killed, including 1800 civilians. Multiple agreements were made between Britain and Northern Ireland over this 30 year period, with varied results. Most historians place the end of the Troubles in 1998 with the Good Friday Agreement, which created a shared-power government by the Northern Ireland Assembly and Council of Ireland.

The Troubles may have ended politically and historically, but the sharp divide between Catholics and Protestants persists throughout Northern Ireland, especially in Belfast. Though this conflict heightened separation and resistance to integration, the two groups had kept themselves apart for hundreds of years prior. Maps drawn as early as 1685 indicate religiously segregated communities in Belfast, with the Protestant majority and Catholic minority keeping out of each other's way until the outbreak of the Troubles (Abdelmonem and McKinney). Following the first riots in August 1969 and subsequent violent episodes, extensive efforts were made to maintain and deepen

separation between Protestants and Catholics, rather than resolve issues presented by harsh majority-minority dynamics (Cunningham).

In the early years, over 60,000 residents across Northern Ireland were forced to leave their homes due to violent unrest. Between 1969 and 1973, there were approximately 29,000 Catholic households and 88,000 Protestant households in Belfast. Of Belfast's 1820 relocations, 1505 were Catholic and 315 Protestant--displacing over 5% all Catholic households, and only 0.4% of Protestant households (Cunningham). Most of those who relocated were often moving from mixed, albeit tense, neighborhoods, to communities dominated by the same faith. As the majority group, Protestant families had far more options, whereas Catholics were constrained to traditional territories in North and West Belfast (Cunningham). Increasing numbers of Catholic households were crammed into these unofficial enclaves, exacerbating overcrowding and housing shortages that were already a grievance. Due to growing Catholic density in these neighborhoods, remaining Protestants often relocated to Protestant-dominant areas or nearby suburbs (Cunningham). In a short period, the two communities had protested their social segregation by further isolating themselves from one another.

In 1971, the unionist-dominated government created a committee which submitted a secret, classified report to the prime minister entitled "Future Policy on Areas of Confrontation" (Cunningham, Garbutt). It states that conflict between Protestants and Catholics "may not be eradicable even if some conscious central policy were designed to promote integration," and recommended using urban planning to

manipulate the city's geo-demographics, keeping warring factions separate for public safety (Garbutt). Such suggestions included the strategic placement of highways to form a 'cordon sanitaire' between the Catholic areas and the Protestant remainder, and mentions of what became Peaceline walls, creating borders between Catholic and Protestant neighborhoods (Cunningham). The report's somber solution proposed "increasing, rather than discouraging segregation through the creation of natural barriers" (Cunningham, Garbutt).

The Peaceline walls, iconic symbols of Catholic-Protestant division, are distributed throughout cities in Northern Ireland as deemed necessary by authorities. One hundred and eight walls have been erected since construction of the first wall in 1969 at Shankill and Falls Roads, following brutality against protesters (Gaffikin et al.). Most of these walls, historically and currently, have been in the capital city. The first few were hastily constructed of corrugated iron and followed to "within a few inches," the line unofficially drawn between the two communities nearly one hundred years ago (Gaffikin et al.). Soon, the walls were strengthened with mass shuttered concrete and metal cladding. However, this single-layered wall was not considered strong enough to protect those on one side from an attack by the other. The updated walls featured double barriers with a narrow strip of landscaping between them, occasionally decorated with trellises or picket fences for aesthetics (Gaffikin, et al.). By solidifying and beautifying these divisive barriers, those affected by them perceive the other side as an increasingly greater threat, hence the structural reinforcement, and the conflict as inevitably permanent, hence the attempts to improve their appearance (Gaffikin, et al.).

Other segregatory measures taken following the secret report included delaying or halting provisions for additional housing for Catholics, lest expansion beyond traditional boundaries prompted further confrontation (Cunningham). Throughout the late 1960's and early 1970's, Catholic neighborhoods were cleared for additional road infrastructure, such as the Bridge End Flyover which displaced approximately 2,000 individuals (Cunningham). Catholic residents were displaced by public works projects or local animosity, but not provided with housing in areas unofficially designated as their own. Staunching growth of Catholic communities also limited their economic growth, access to jobs, and local investment opportunities, further marginalizing these areas and the Catholic population itself.

Measures to resolve and reconcile the divide between Catholics and Protestants in Belfast have experienced limited success due to the deeply ingrained conflict. During the 1980s, Northern Ireland's housing market was stimulated by a government program boosting construction and development industries (Cunningham). However, Catholic neighborhoods did not experience its positive effects-- most available land is in Protestant areas, but most demand for additional housing and development comes from the Catholic community (Cunningham). Low-density Protestant zones have little need for further development, and Catholic residents are reluctant to place themselves in areas where they perceived as a threat.

Even the city's architecture and environment serve as reminders of lasting division. Blast walls have become a familiar feature lining streets and public spaces, like transportation hubs, to shield pedestrians from car bombings like those during the

Troubles (Gaffikin et al.). Prominent buildings, such as the local BBC Broadcasting House, feature narrow windows, upward sloping exterior window sills, and practically empty ground floors to minimize damage and injury from similar acts of domestic terrorism. Much like the solidification and beautification of Peaceline walls, these preemptively defensive designs paint the opposing group as a threat to be guarded against (Gaffikin et al.). Additionally, many hardline unionist or nationalist neighborhoods tend to bedeck their communities with flags, kerbs painted in symbolic colors, and public murals (Gaffikin et al.). These antagonistic assertions of identity demarcate sectarian boundaries and act as spatial deterrents for the opposite group (Albert 182). Such spatial deterrents create an environment of social exclusion and limit perceived access to key public services. Research estimates indicate additional spending due to the divide is about £1.5 billion (\$2 billion) per year (Abdelmonem and McKinney). These funds go towards providing equally accessible services (schools, transportation, healthcare facilities, etc.) to both groups, which in some areas, comes down to providing separate facilities.

Recent attempts at promoting integration in Belfast focus on shared public spaces. For example, several parks have been developed in inter-community areas to encourage both Protestant and Catholic community members to neutrally coexist, or even interact with one another. Belfast lacks a major urban gathering space, like New York's Central Park, so use of these spaces for integration is reliant on scattered neighborhood parks (Gaffikin et al.). However, researchers have determined that despite their intended use for integration, park-goers perceive territorial behaviors within

parks as well. By asking participants to draw boundaries on park maps indicating areas where they did not feel safe, empowered, or confident, they determined how these unofficial borders were created by the public consciousness.

According to the research report, “edges of the area [participants] consider safe to visit are identical and extend to the same natural or physical boundaries” (Abdelmonem and McKinney). Participants from Waterworks Park, with a Catholic community on one side and Protestant on the other, marked a boundary crossing from one park entrance to the bridge by the soccer field. The small, L-shaped strip bordering the soccer field and next to one entrance is Protestant turf, while the remainder is accessible to Catholic park-goers (Abdelmonem and McKinney). In other parks, participants indicated other natural or manmade boundary-markers like trees, a lake, or playground equipment, to designate areas for each community (Abdelmonem and McKinney).

The most successfully integrated parks tended to feature more entrances, facilitating usage of areas on all sides by people from all sides; numerous pedestrian paths, creating perception of safe travel; and well-distributed recreational facilities, which avoids communicating that all park activities are intended for those on one side (Abdelmonem and McKinney). Perhaps, contrary to former government opinion, the best way to avoid conflict between Belfast’s Protestants and Catholics is not to enforce and promote harsh spatial separation, which only perpetuates conflict. Rather, they should be allowed to come together of their own accord in safe, neutral public spaces,

which might lead to increased residential, economic, social, and political integration overall as tensions between them subside.

The cities discussed -- Baltimore, Johannesburg, and Belfast -- are by no means the only divided cities in the modern world. Dozens of cities with similar stories could have been included, but the message should be clear. Just as the decisions made in these five cities' pasts have carried over into the present, those of today will remain with us in the future, regardless of new social, political, and economic understandings. With rising xenophobia and intolerance, it is especially imperative to consider the weighty consequences of segregating and dividing communities. In an ever-globalizing world of exponentially increasing migration and diversity, to succumb to tribalism now would be devastating, on both micro and macro scales. The actions we take today will have consequences, whether positive or negative, that ripple further beyond ourselves and the present than we might imagine.

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