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Examining Race in the Biopolitical State: The Flawed Eugenic Worldview Paradigm in the Age of Genomics

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by

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TABLE OF CONTENTS

DEDICATIONS ii

ACKNOWLEDGMENTS iii

PREFACE iv

INTRODUCTION 1

CHAPTER 1: Racial Type, Hierarchy and Essentialism: the Eugenic Worldview and Biopolitical Rationale 10
- Introduction 10
- "Biopower" as a Theoretical Framework 13
- Myths of Superiority 24
- The Beginning of Scientific Racism 32
- Conclusion 42

CHAPTER 2: Charting the Eugenic Apparatus from the Nineteenth to the Twenty-First Century United States 46
- Introduction 46
- Foucault's "Apparatus" as an Extension of Biopower 50
- The Eugenic Apparatus 54
  - Federal Government, Urgent Need, and Strategic Objective 54
  - Quasi-governmental Institution: The National Academy of Sciences 58
  - Quasi-governmental Institution: The National Research Council 60
  - Philanthropic Institutions: The Carnegie Corporation, the Rockefeller Foundation and the Pioneer Fund 74
- Conclusion 85

CHAPTER 3: The Biomedical Industrial Complex as Part of the Eugenic Apparatus 88
- Introduction 88
- Historical Background of Genetics and the Genomic Age 90
- Race as a Discursive System within the Eugenic Apparatus 94
- The Advent of Neo-eugenics 102
- Pharmacogenomics and Gene Editing: BiDil and CRISPR as Case Studies 107
- Conclusion 121

CONCLUSION 123

BIBLIOGRAPHY 130
- Books: 130
- Articles: 135
- Documentaries: 141
- Lectures: 141

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PREFACE

On the question of racial discrimination, the Addis Ababa Conference taught, to those who will learn, this further lesson:

that until the philosophy which holds one race superior and another inferior is finally and permanently discredited and abandoned;

that until there are no longer first class and second class citizens of any nation;

that until the colour of a man's skin is of no more significance than the colour of his eyes;

that until the basic human rights are equally guaranteed to all, without regard to race;

that until that day, the dream of lasting peace and world citizenship and the rule of international morality will remain but fleeting illusions, to be pursued but never attained.

And until the ignoble and unhappy regimes that hold our brothers in Angola, in Mozambique and in South Africa in sub-human bondage have been toppled and destroyed;

until bigotry and prejudice and malicious and inhuman self interest have been replaced by understanding and tolerance and good will;

until all Africans stand and speak as free beings, equal in the eyes of all men, as they are in the eyes of Heaven;

until that day, the African continent will not know peace. We Africans will fight, if necessary, and we know that we shall win, as we are confident in the victory of good over evil.

Emperor Haile Selassie I
Speech at the League of Nations in 1936

Power is the ability
to define reality and
to have others respond
to that definition as if
it were their own.
—Wade Nobles
Title unknown

I propose to take our countrymen's
claims of American exceptionalism
seriously, which is to say I propose
subjecting our country to an exceptional
moral standard. This is difficult because
there exists, all around us, an apparatus
urging us to accept American innocence
at face value and not to inquire too much.
—Ta-Nehisi Coates
Between the World and Me

INTRODUCTION

Like most children growing up in the United States in the 1980s, I was fascinated by the super-powered beings depicted in the books and graphic novels that I read and the movies and cartoons that I watched. In particular, stories about the X-Men, human beings who through spontaneous mutations occurring within their individual DNA obtained incredible power, warmed my imagination long before I knew what genes really were or how they actually functioned. Simply the idea that something inside of us could transform relative weakness into relative strength offered greater possibilities for the future, and was sufficient to pique my interest in the unknown and untapped expanse of human potential.

But the innocent musing of a child, naively presumed to be his own secret desire for human evolution, has also long been the desire of men and the collectivities that they represented. In the West, from the fourth century BC to the twenty-first century CE, from ancient Greece to

modern Europe and the United States, the direction of human evolution has been contemplated in earnest. And while I was captivated by the cosmopolitan wonder of human potential, where people of different cultures collaborated and were able to defend themselves against evil, these states were preoccupied with something altogether different. They were obsessed with preserving a mythical identity through a human norm which they themselves had defined as being the best and most fit. Conveniently, this designation accorded with values that they themselves held dear and, unfortunately, their idea of human potential did not encompass all of humanity in its wonderful complexity, but only a narrowly and fictitiously defined apex around which all other socio-political variants were to be ordered. As we move further into the twenty-first century, when revolutions in gene editing technology and its various applications bring these states closer to the capability to chart their own evolutionary paths, the scrutiny of state policy and their underlying rationales becomes more urgent.

The danger is that gene editing technology is advancing at a time when what it means to be human in the US is still clouded by racialized ideology. More specifically, social value continues to be linked with skin color, which has been historically equated with biological race. In this line of reasoning, each so-called race has its determined character and place. Furthermore, what it is to be human is reduced to concrete differences and fixed natures neatly positioned in a permanent pecking order. It is a view which not only undergirds discriminatory policy formation in all spheres of American life, but also alienates us from a humanity that is dynamic, diverse, and adaptable. It makes us strangers to the attributes that have not only allowed us to survive as a species, but also occupy every part of the globe. To reject these attributes in a favor of a static, narrow, and rigid caricature of humanity, as proposed by race ideology, is to remove us from the natural world where to be alive is to adapt and to remain static is to die. Ultimately, the Western

desire to be free from nature's strictures engenders an ideology which seeks to create a human identity outside of nature itself. In the context of this proffered racialized identity, we have to ask what self-directed evolution will mean in the future.

To be sure, this future is distant barring some incredible breakthrough, but what we normally consider to be the racialized context within which it will develop has immediate consequences for "minoritized" groups within the United States.[1] As Flynn et al. note, barriers to inclusion exist in the form of racial rules related to wealth, income, education, criminal justice, and health. Omi and Winant view race as a fundamental organizing principle that orders politics, economies and culture. A number of authors, though, have noted important links between racism and eugenics in a way that should make us reconsider the role of race and how it produces its outcomes.

For example, Mae Ngai offers that when it came to immigration law in the 1920s, "scientific racism clarified and justified fears about immigration that were broadly based" as "the language of eugenics dominated the political discourse."[2] The resulting Johnson-Reed Immigration Act of 1924 "established for the first time *numerical limits* on immigration and a *global* racial and national hierarchy that favored some immigrants over others."[3] By 1954, Joseph Swing, the commissioner general of the INS, would commence "Operation Wetback" to deport, in his words, the "alarming, ever-increasing, flood tide" of undocumented migrants which constituted "an actual invasion of the United States."[4] Although it was sixty years ago, it appears that Swing, with impressive foresight, had the makings of a nationalist president in 2018.

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1. Throughout this project, minoritized groups (those designated as minorities via state power) are used interchangeably with the terms "non-normative" "bio-deviant" "racialized" etc. These groups are contrasted against the "normative groups" "norm" "bio-norm" (those wielding state power).
2. Mae M. Ngai. *Impossible Subjects: Illegal Aliens and the Making of Modern America* (New Jersey 2014), 24.
3. *Ibid.*, 3.
4. *Ibid.*, 155.

Within the borders of the US, sterilization became an important mechanism for controlling the population. As Dorothy Roberts contends, "[w]hile mainstream geneticists" condemned eugenic logic, sterilization programs premised upon that very logic "*expanded* after World War II and continued until 1974."[5] In 1941, between 70,000 and 100,000 Americans were sterilized, and this number continued to increase thereafter. By 1970, one-third of Puerto Rican women and one-fourth of Native-American women were also involuntarily sterilized, causing the genocide of whole tribes.[6] And by 1974, the lawsuit *Relf v. Weinberger* revealed that the Department of Health, Education and Welfare provided federal funding throughout the South for the sterilization of 100,000 to 150,000 women annually, half of whom were black.[7]

The eugenic influence is no less palpable in relation to segregation or mass incarceration. Residential segregation in the United States involved a number of powerful people, including Herbert Hoover, who "applauded many of the same British and American eugenicist theorists that inspired Hitler and Verwoerd," and Frederick Babcock.[8] Before becoming president in 1929, Hoover in his role as US Secretary of Commerce fashioned the Standard Zoning Enabling Act, which allowed states to create housing zones which, as noted by Fredrick Olmstead Jr., were "coincident with racial divisions."[9] Undoubtedly, legalized separation also paved the way for inequitable property valuations, which departed from traditional market models to consider the "racial dynamics of the neighborhood."[10] Babcock, who wrote *The Appraisal of Real Estate* (1924), a text enshrining the principles of racialized property evaluations, would become the

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5. Roberts. *Fatal Invention: How Science, Politics, and Big business Re-create Race in the Twenty-first Century* (New York 2011), 47.
6. Dorothy E. Roberts. *Killing the Black Body: Race, Reproduction and the Meaning of Liberty* (New York 1997), 94-95.
7. *Ibid.*, 93. Notably, in 1983, at a time when blacks constituted only twelve percent of the population, they accounted for forty-three percent of women sterilized in federally funded programs (Washington 2006).
8. Carl H. Nightingale. *Segregation: A Global History of Divided Cities* (Chicago 2012), 344.
9. *Ibid.*, 323.
10. *Ibid.*, 345.

chief appraiser at the newly minted Federal Housing Authority (FHA).. There he would "determine what sorts of mortgages the federal government ought to insure."[11] Between 1934 and 1962, these racialized appraisals led to $120 billion of federally guaranteed lending, with only two percent going to non-white families.[12]

This pattern of federal funding based on race has deprived segregated black neighborhoods of needed resources and dovetailed with the eugenic strategy of the early twentieth century to regulate bodies ostensibly "predisposed…to…criminality."[13] The idea of inherent criminality, premised upon essentialist logic, foreclosed the equitable distribution of resources, since these resources could not possibly change the nature of criminals or the conditions they supposedly created for themselves. As Nikhil Pal Singh catalogues, throughout the decades, influential men like Edward Banfield, James Q. Wilson, Richard Herrnstein, and Charles Murray "reintroduced arguments about the criminogenic poor and flirted with eugenic discourse."[14] Constant surveillance and disproportionate incarceration ensued as a result, regardless of crime rates. Indeed, from the time that slavery officially ended, African-Americans have been increasingly surrounded by a police state. As Ta-Nehisi Coates documents, "by 1900, the black incarceration rate in the North was about 600 per 100,000—slightly lower than the national incarceration rate today."[15]

Given this wide array of outcomes linking race and eugenics, which disproportionately affect minoritized groups it is worthwhile to consider the nature of this connection. In these examples, the authors refer to eugenics as a "discourse," or "logic" or a "theory." Indeed, they

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11. Nightingale. *Segregation*, 345.
12. David A. Ansell. *The Death Gap: How Inequality Kills* (Chicago 2017), 29.
13. Nikolas Rose. *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century* (Princeton 2007), 226.
14. Nikhil Pal Singh. *Race and America's Long War* (Oakland 2017), 66-67.
15. Ta-Nehisi Coates. "50 years After the Moynihan Report, Examining the Black Family in the Age of Mass Incarceration." *The Atlantic*, October 2015 (national edition), 63.

are referencing the philosophy of Francis Galton, who coined the term "eugenics" in 1883. For Galton, eugenics was the "science of improving stock" with the intention that one gives "the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable."[16] The notion of prevailing over others predicated upon one's quality of blood, as Galton describes, is timeless, occurring long before his articulation. And even though we have been told that eugenic theory and practice have been thoroughly rejected by the scientific community since the 1940s, it is interesting to observe that the outcomes these authors describe are uncannily aligned with the eugenic vision and persist to this day.

To my thinking, this alignment between eugenics and life-sustaining outcomes for a particular type raises a number of questions. Does a eugenic philosophy still exist in the modern state? If so, what is its function and how did it emerge and consolidate? How are its ideals reproduced over time? How might these ideals impact science as a discipline, where breakthroughs in gene editing are currently taking place? And by what framework might answers to these questions be uncovered? In this project I argue, that not only does a eugenic philosophy still exist, but that it is more appropriately thought of as a eugenic worldview embodying three key presumptions. The first is that natural divisions between human beings exist and that race in the modern state is the archetypical expression of this division. The second presumption is that each type can be organized into a natural hierarchy. And the third is that each divided type embodies essential unalterable qualities. As the organizing logic of the modern state, operating to make some live while letting others die, this eugenic worldview emerged and consolidated within the European states of the sixteenth, seventeenth and eighteenth centuries. Further, I propose that within these states, the ideals of the eugenic worldview reproduce themselves through a eugenic apparatus—essentially a collection of

16. Francis Galton. *Inquiries into Human Faculty and its Development*. 3rd ed. (London 1883), 17n.

diverse institutions and discursive formations—which executes the strategic objectives of the state. Finally, I posit that science has been integral to the development of the eugenic worldview and its apparatuses, and today it informs, and is central to, the biomedical industrial complex as a critical part of the eugenic apparatus. I make these observations through Michel Foucault's concepts of biopower and the apparatus. As an analytical framework, I believe that Foucault's notion of biopower is an underutilized resource for examining eugenics and race in the biopolitical state.

In the first chapter, I examine Foucault's concept of biopower and how it consolidated the eugenic worldview. I outline the key elements of this worldview, and offer an explanation as to how this worldview came to be, and how it came to be transmitted culturally and politically in the modern state through a nexus between the myth of whiteness and scientific racism. In the second chapter, I outline Foucault's concept of the apparatus and its constituent elements, which I borrow from to craft the "eugenic" apparatus. I explain how this eugenic apparatus functions to disseminate and reproduce the ideological elements of the eugenic worldview and how as a constellation of diverse elements, with no per se central organizing body, it executes the directives of the eugenic worldview. In the third and final chapter, I use the concepts of biopower and the eugenic apparatus to examine what I define to be the biomedical industrial complex. In my view, it is an integral part of the eugenic apparatus from which advances in scientific technology like gene editing tools will increase the life chances of some, while leaving more and more people to die.

If it appears that I am averse to science and technology, let me clarify by expressing that I am, in all actuality, excited about the potential of new scientific discoveries to improve the quality of human life, CRISPR in particular. It was, in fact, my curiosity about this new gene

editing technology that inspired the questions raised in this project. I am just painfully aware of how technology has always been used to create widening and more enduring inequities in important outcomes. I am aware that the larger context within which scientific discoveries are made has its own objectives and is following a particular logic that places value on human beings in self-serving ways. In 2018, perhaps this logic is difficult to discern. Maybe we associate racist expression and its outcomes with overt acts of hatred. We do not understand that there are unwritten laws, interpreted in lockstep with this perverse logic, that demean us with their enforcement. But, as Flynn et al. remind us, "[m]ost of the more contemporary rules that disproportionately impact people of color are less explicitly discriminatory."[17] The apparatus, which I think is central to hegemonic processes, is so effective that it makes most people believe there is no such thing as structural racism. Indeed, as of 2007, "two-thirds of the general population, including 71 percent of whites and even 53 percent of black Americans, believed that black Americans who have not gotten ahead in life are mainly responsible for their own situation."[18] But despite their beliefs the rules are there nonetheless and have real consequences.

As Ansell points out, in America "[f]or every 100 white women in the prime of their lives, there are 99 white men," but by contrast "for every 100 black women ages 25 to 54, there are only 83 black men."[19] This death gap, Ansell further explains, is largely due to heart disease and cancer. Adding up the missing numbers of black men nationwide, the number of premature deaths totals 1.5 million.[20] It is not that I do not love science, I do love science. I just hate the idea of being minoritized or of dying prematurely because I am a "black man" in America.

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17. Andrea Flynn et al. *The Hidden Rules of Race: Barriers to an Inclusive Economy* (New York 2017), 3.
18. *Ibid.*, 2
19. Ansell. *The Death Gap*, 90.
20. *Ibid.*

The challenge I pose, then, is not to science itself, but to the worldview that presumes the power to define our realities, and then require that we accept these definitions as valid. In such a world, oppression is normalized and to assert one's right to live on par with the cherished normative groups of the state is to invite charges of treason, radicalism, or conspiratorial thinking. But at its heart the challenge represents none of these. It is simply an assessment of outcomes for minoritized groups in housing, education, health care, mass incarceration and mortality rates. It is analyzing the statistics to determine correlations to these outcomes in hopes of discovering the underlying causal factors, and noting that as a society we have always come to two underlying explanations: either the minoritized are deficient in some way, or the system within which they exist is broken. As a society, we are partial to the former but I would suggest the latter. The system is clearly broken because of the flawed eugenic worldview guiding its evaluations. Accordingly, it is a worldview that not only distorts the identities of its victims, but also the identity of the normative groups who rely on its judgments. This is not greatness. It is cowardice, the antithesis of how one achieves the exceptionalism that Coates describes and hopes can be reclaimed. It is a hope that I also share.

Race is a pervasive element in
the cognitive patterning of
Western thought and experience.
It has been so fundamental,
so intrinsic to our perceptual
and explanatory framework
that we almost never question
its meaning or its reality.
—Audrey Smedley
Race in North America

Race applied to human beings is a political
division: it is a system of governing people
that classifies them into a social hierarchy
based on invented biological demarcations.
—Dorothy E. Roberts
Fatal Invention

CHAPTER 1: Racial Type, Hierarchy and Essentialism: the Eugenic Worldview and Biopolitical Rationale

Introduction

In 2018, the paradox of two Americas still exists. The American state, defined by its professed ideals of freedom and equality for all, is constantly juxtaposed to an American state defined by a pervasive racial hierarchy. In the state envisioned to be buoyed by equality, the neo-Nazis, Klansmen, and Alt-right groups, the Dylann Roofs, the James Alex Fields, the Ronell Lee Tidwells, and the Michael Drejkas—the overtly white supremacist contingent—are all viewed as aberrations. They are openly and almost universally condemned and are made to carry the heavy burden of representing what it means to be racist. According to this logic, racism is anomalous to the state.

To peer behind the socio-political veil, however, is to be confronted with a different state, one where segregation, mass incarceration, unemployment, high death rates, and decreased access to higher education and wealth all disproportionately affect African-Americans. Such

diversified and widespread outcomes reflect more than just the actions of socially isolated hate groups. By recognizing these outcomes' systemic nature, the pattern of racial hierarchy, which determines access to citizenship, can only be seen as integral to the functioning of the state. Yet, the systemic function of race is conveniently overlooked by those who have benefitted most from its existence. They artfully propose that desegregation threatens the rights of white Americans to live in communities of their choice; that mass incarceration and high unemployment result from the innate criminality and laziness of black people; that the limited access of black students to higher education is due to limited effort and intelligence; that higher death rates and lower wealth accumulation are due to poor eating and spending habits, and so on through the familiar list of responses proffered as challenges to systemic change. Without fail, each of these narratives articulated by the deniers of systemic racism presumes inadequacy on the part of the disproportionately affected.

Why does this tension linger? It seems that whether we view these outcomes as anomalous or systemic is determined by how we recognize racism. In the anomalous view, racism is largely defined by its most overt manifestations. It is an intuitive and emotional assessment of what racism is and with whom it should be associated—racism is evil, comes from evil, and thus can only be associated with evil regimes, persons and movements, i.e. the Nazis under Adolf Hitler and their eugenics programs. In the systemic view, however, assessing racism requires a more nuanced approach. Here racism is identified by the disproportionality of its social outcomes, which are clearly exhibited along racially defined lines. As a system, it can be shown to operate in accord with eugenic mandates to provide better life chances for the "best" of the state's citizens. As such, racism's functioning is not limited to individual acts of hatred

but is more substantially supported by the prevailing and insistent amoral logic of government, resulting in varied machinations which are as covert as they are elusive.

For those of us who are interested in clarifying the paradox as it appears in American public discourse, the first task is to identify a conceptual framework for analyzing racialized systems and how they function to produce outcomes consistent with eugenic goals. With this framework, we can expect to better understand the worldview which informs the racialized system. And we can hope to ascertain the disparate historical sources from which the presumptions that support racialized narratives and differential valuations spring. In this chapter, I argue that Michel Foucault's concept of biopower presents this effective framework for analyzing what I identify to be a eugenic worldview, the ideological anchor of racialized systems, operating throughout the history of the United States into the present. By worldview, I refer to a culturally based perceptual framework for interpreting phenomena. This eugenic worldview, as expressed within the United States, has as its core components three interrelated presumptions: that racial types based on clearly distinct biological differences exist; that hierarchical value and worth can be assigned to the so-called racial types; and that each type has a fixed, essentialized nature. I further posit that in the United States, this eugenic worldview is transmitted and reinforced culturally and politically by a marriage between myths of superiority, particularly the myth of whiteness, and scientific racism beginning in the sixteenth century.[1] In order to work our way through the obfuscations intrinsic to racist discourses, and to avoid charges of conspiracy theorizing, it is clarifying to identify the core elements of eugenic philosophy to see how they function to engender racism. To identify eugenics by its notorious representations alone is to

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1. Note that although the focus of this project is how the eugenic worldview operates within the United States, which creates a division through racial type, this division can also reference ethnicity, religion, class, etc. I consider these alternative divisions, which have largely preceded and paved the way for the use of race as the archetypical division, throughout this chapter, particularly in the *Myth of Superiority* segment.

place it solely within the purview of racism, which limits its scope and hinders a more critical analysis of its operations. Examining the stability of the eugenic worldview amidst the variability of divisions, whether classed, religious, ethnicized, or in our case study, racialized, is crucial to understanding its role within the biopolitical space. The eugenic worldview has worked, in ways that are both enduring and flexible, to produce the outcomes in America with which we are, unfortunately, all too familiar.

"Biopower" as a Theoretical Framework

Michel Foucault's articulation of biopower, the manner in which states regulate populations within their jurisdictions, emerges from his desire to understand the "specific type of political rationality the state produced."[2] According to his analysis, this rationality comprises both the *reason of state*, i.e. the "principles capable of guiding an actual government," and the *theory of police*, i.e. the "general form of the instruments" needed to effect state guidance.[3] Thus situated, political rationality responds to a set of problems which every modern state must resolve. These problems evolved as power, formerly vested in the sovereigns of the European Middle Ages, became vested in the state governments of the Enlightenment in the seventeenth and eighteenth centuries. The need to manage population growth and early industrialization prompted the development of new means of regulating individual and collective bodies. The concern of emerging modern states was not simply the "appearance" of individuals within the population, but also the nature of the overall population in terms of the "birth rate, the mortality rate, longevity, and so on."[4] Thus, for Foucault, the modern state employed a particular rationale,

2. Michel Foucault and Noam Chomsky. *The Chomsky-Foucault Debate* (New York 2006), 193.
3. *Ibid.*, 194-196.
4. Michel Foucault. *Society Must Be Defended: Lectures at the College de France, 1975-1976* (New York 2003), 243.

comprised of both principles and the means for applying those principles, with which it discerned how human bodies under its jurisdiction, individually and collectively, were to be managed, controlled, and modified.

This new rationale for presiding over life itself, however, does not merely replace sovereign power. As Foucault suggests, there is a complementary relationship between sovereign power and biopower even as the targets, rationales and techniques that define them differ. The sovereign's primary interest in control over territory, for example, is subsumed in the modern age by a "complex of men and things [of which] property and territory are merely one of its variables."[5] Similarly, the sovereign focus on "man-as-living-being," on the individual body, becomes enmeshed within the modern view of "man-as-species," as a "multiplicity of men," or as "a global mass."[6] It is this growing focus on humanity as a species body that has ushered in biopower, "power's hold over life," as a crucial reality of state government.

The emergence of biopower, the shift in focus from regulation of the individual to the collective management of the population, carries with it a theme that is central to my project: the right of life and death as exercised by state powers to promote eugenic outcomes. Under what circumstances was this right exercised? On whom was it most likely to be exercised, and for what purpose? In the case of sovereignty, during the European Middle Ages, the rulers held the power to "take life or let live."[7] In this case, "sovereign power's effect on life is exercised only when the sovereign can kill," since the sovereign cannot literally grant life to its subjects.[8] Those vulnerable to the sovereign exercise of this right were those who were perceived to threaten the

5. Michel Foucault. ed. Burchell et al. *The Foucault Effect* (Chicago 1991), 209.
6. Foucault. *Society Must Be Defended*, 242.
7. *Ibid.*, 241.
8. *Ibid.*, 240.

"sovereign's very existence," whether they were subjects or "external enemies who sought to overthrow him or contest his rights."[9] Accordingly, even those subjects loyal to the sovereign, and expected to defend the sovereign's rights, were themselves exposed to death.

With the advent of biopower in the mid-eighteenth century, by contrast, the right to "take life and let live" gradually became the right to "make live and to let die."[10] This more pervasive power over life and death seeks the regulation of the population as a whole, distinct from the regulation of discrete biological units. In making live, this power is employed by the modern state to, among other things, increase overall life expectancies and to ensure more births and fewer deaths. Intervention at this level requires constant evaluation of the population through "forecasts, statistical estimates, and overall measures."[11] Ultimately, the evaluative and regulatory mechanisms of biopower preoccupy themselves with the establishment of an "equilibrium, [the maintenance of] an average, [or] a sort of homeostasis, and compensate for variations within this general population and its aleatory field."[12]

To put it differently, this equilibrium (maintained average or homeostasis) seeks to establish a balance between the norm and non-normative "elements" within the population. Thus, the mechanisms of biopower do not simply evaluate elements (population groups) without purpose. The desired norm for a given population is actively maintained through the concentration and exercise of power at the expense of the non-norm. As the dominant culture, the apex of the population, this norm controls access to material resources and the use of legitimate violence. It engages violence to prevent potential uncertainty and randomness in access to resources that are associated with the "aleatory field." Thus, this population

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9. Michel Foucault. ed. Paul Rabinow. *Foucault Reader* (New York 1984), 258.
10. Foucault. *Society Must Be Defended*, 241.
11. *Ibid.*, 246.
12. *Ibid.*

equilibrium primarily relates to the stable relative proportion of all existing racial elements. A "satisfactory" homeostatic relationship is one in which a selected norm is preserved at the expense of designated deviations from the norm. The establishment of this equilibrium, which prioritizes what I would call a biological norm or bio-norm, falls squarely within "the power of regularization" and the power of "making live and letting die."[13]

In Foucault's analysis, this is the point at which racism is established within the biopolitical state:

> What in fact is racism? It is primarily a way of introducing a break into the domain of life that is under power's control: the break between what must live and what must die. The appearance within the biological continuum of the human race of races, the distinction among races, the hierarchy of races, the fact that certain races are described as good and that others, in contrast, are described as inferior: all this is a way of fragmenting the field of the biological that power controls.[14]

What Foucault suggests here is that within the development of modern western states, the creation and regulation of a bio-norm necessitates a break which distinguishes the norm from what is not the norm; it distinguishes what is "good" from what is "inferior." Thus, through its technologies and statistical analyses, which allow assessments of the population to be made, biopower determines value within and across different population segments. Far from implying a conspiracy among hidden and powerful distinct actors, these value judgments derive from culturally based presuppositions that are rarely if ever challenged in a sustained or effective manner. In this way, these programmed ways of thinking lead to predictable interpretations

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13. Foucault. *Society Must Be Defended*, 247.
14. *Ibid.*, 254, 255.

related to self and other. They form the basis of the state's political rationale. And according to this rationale, biopower decides what constitutes good qualities, and compensates for inferior qualities within the "aleatory," or random, field from which these variables are produced. From this assessment, the biopolitical state develops initiatives to make the biological norm "live" while allowing deviations, or bio-deviants, from the norm to "die." In this regard, biopower preserves or enhances the lives of some while allowing the lives of others to become expendable.

In the United States, the lives being preserved or enhanced have primarily been those of white Anglo-Saxon Protestants, while the lives of the state's black citizens have been among those that are most expendable. Thus, whiteness is established as a biological norm preserved by the state, which necessarily implies that which is deviant from that biological norm. Moreover, under the concept of biopower, which presupposes a deviant element which is legitimately subject to the discipline or coercive power of the state, what is created is more than a polarized binary of black/white, slave/master, or immigrant/citizen; the nodes at the extremes represent clear reference points for social orientation. In this sense, the degree to which elements within the aleatory field approximate blackness determines the degree to which they will be disciplined or subject to corrective state power.

Several authors have recognized the analytical value of biopower in framing race and racialized systems. For Michael Omi and Howard Winant, the concept is useful "because it allows us to see the normalization and comprehensiveness of race and racism in the modern world."[15] Indeed, it is by recognizing racism as a system that its popular construction as an aberration becomes untenable. In Foucault's terms, arguments suggesting that racism is an anomaly are "scapegoat theories," which present racialized expressions as nothing more than

15. Michael Omi and Howard Winant. *Racial Formation in the United States* (New York 2015), 144.

spontaneous responses to socio-economic crises.[16] Giorgio Agamben, meanwhile, seconds Foucault's notion that "racism is an embedded feature of modern liberal-democratic governance" and plays a key role in "legitimating the murderous function of the State."[17] Finally, Nikhil Pal Singh also cites Foucault's assessment that racism is "a way of establishing a biological-type caesura within a population that appears to be a biological domain."[18] Influenced by Foucault's construction, Singh writes that racism as a proxy for war "constitutes a traumatic line of division in a population that comes to share a single sphere of political representation."[19]

More importantly, this idea of dividing lines within the population resonates with more astute activist definitions of racism, which also outline its systemic nature. In 1967, for example, during the height of the Civil Rights movement, Stokeley Carmichael and Charles Hamilton defined racism as "the predication of decisions and policies on considerations of race for the purpose of subordinating a racial group and maintaining control over that group."[20] In 1995, Joe Feagin and Herman Vera stated that: "[w]hite racism can be viewed as the socially organized set of attitudes, ideas, and practices that deny African Americans and other people of color the dignity, opportunities, freedoms, and rewards that this nation offers white Americans."[21] And in 2017, Andrea Flynn, Susan Holmberg, Dorian Warren and Felicia Wong perceived racism as "unequal racial outcomes" perpetuated by a set of "rules and structures."[22] These contemporary activist definitions point out that the "break" introduced by racism does not exist simply for the sake of making a division, but to use that division as a reference point from which to subordinate, to deny, and to produce unfavorable outcomes for those outside of the norm.

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16. Omi and Winant. *Racial Formation*, 144.
17. Nikhil Pal Singh. *Race and America's Long War* (Oakland 2017), 104-105.
18. Foucault. *Society Must Be Defended*, 255.
19. Singh. *Race and America's Long War*, 23.
20. Stokeley Carmichael and Charles V. Hamilton. *Black Power: The Politics of Liberation in America* (New York 1967), 3-4.
21. Joe Feagin and Herman Vera. *White Racism: The Basics* (New York 1995), 7.
22. Andrea Flynn et al. *The Hidden Rules of Race: Barriers to an Inclusive Economy* (New York 2017), 9.

Beyond these insights into how racism is expressed in the modern state, Foucault's approach is useful because it offers a more nuanced way to examine the roots of modern societal inequity in several important ways. First, we see that, within Foucault's considerations, "we are far removed from the ordinary racism that takes the traditional form of mutual contempt or hatred between the races."[23] While such acts of hatred represent a danger to those outside of the norm, their prominence in the discourse on race obscures the structural danger orchestrated by a state organizing around a racialized political rationality. Second, Foucault's approach provides an oft-overlooked insight into the worldview supporting the racialized political rationality of the modern state. By subtle implication, the concept of biopower, and its focus on bodily regulation, draws our analytical attention to a specific cultural framework. This framework explains why and where the break that is race must be made. The designation of racial types, imbued with immutable qualities, only serves as a pretext to hierarchical ranking, with superiority accorded to the norm. Thus organized, to the norm accrues the right to survive at the expense of supposedly inferior elements.

Significantly, Foucault repeatedly alludes to this self-designated superiority and attendant right in traditionally eugenic terms, as well as revealing its import to the state's racist political rationale. Thus, he points out that "racism is bound up with the workings of a state that is obliged to use race, the elimination of races and the purification of the race, to exercise its sovereign power."[24] This power is exercised by eliminating the "enemy race…[so that] the race to which we belong will become all the purer."[25] In the state's rationality, according to Foucault, survival is dependent upon "the elimination of the biological threat to[,] and the improvement

23. Foucault. *Society Must Be Defended*, 258.
24. *Ibid.*
25. *Ibid.*, 257.

of[,] the species or race."[26] Consider this final quintessentially eugenic quote, which Foucault articulates from the imagined perspective of the biopolitical state:

> The more inferior species die out, the more abnormal individuals are eliminated, the fewer degenerates there will be in the species as a whole, and the more I—as species rather than individual—can live, the stronger I will be, the more vigorous I will be. I will be able to proliferate.[27]

This passage clearly invokes the motives of the eugenics movement of the early twentieth century in America and, in particular, the thinking of Francis Galton, who first coined the phrase "eugenics" in the nineteenth century. Indeed, as we have already noted in his *Inquiries into Human Faculty and its Development*, Galton describes eugenics as "the science of improving stock."[28] He advises us that, as a science, eugenics is "by no means confined to judicious mating, but which, especially in the case of man, takes cognisance of all influences that tend in however remote a degree to give the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable than they otherwise would have had."[29]

This familiar definition of eugenics, which became popularized long after the implementation of racialized systems, gives the impression that eugenics is an extension of racism. In this view, eugenics then becomes an aberration to be credited to the cruel and self-absorbed, or as a dot, albeit a significant one, on the racialized landscape. But in returning to Foucault's passage in which he questions and defines racism, the elements which support eugenic thought, and which actually precede and merge so well with Galton's expression, are subtly delineated and shown to be the actual source of racism as a system, and not the reverse.

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26. Foucault. *Society Must Be Defended*, 256.
27. *Ibid.*, 255.
28. Francis Galton. *Inquiries into Human Faculty and its Development*. 3rd ed. (London 1883), 17n.
29. *Ibid.*

For Foucault, the act of "fragmenting" the human species into normative and non-normative groups, i.e. the implementation of racism, presupposes a "distinction among races, the hierarchy of races [and the notion] that certain races are…good and that others…are…inferior."[30]

What Foucault articulates here are the three key relatively unchallenged presumptions which undergird the American rationale of biopower and the system of racism, and which comprise what I understand to be the eugenic worldview. Rooted in culturally formulated myth, this particular expression of the worldview presumes that human racial types exist, that clear biological distinctions can be made between people because of some phenotypic trait or group of traits. This presumption forms the pretext for the remaining two elements, which mutually reinforce each other. Hierarchical ranking of these fundamentally distinguishable racial types only gains intellectual purchase if some types can be designated as intrinsically "good" while others can be designated as "inferior." This essentialism places the categorized racial types within rankings that are permanent, inherent to the particular racial type, and thus relatively impervious to alteration.

It is important here to note that the eugenic worldview as I define it finds important points of both correspondence and disjuncture with the "racial worldview" of Audrey Smedley. In *Race in North America*, which "represents an anthropological perspective on history," she conducts an analytical study to explain the existence of race as a worldview. She defines worldview as a "culturally structured, systematic way of looking at, perceiving, and interpreting various world realities," and specifically makes visible the racial worldview composed of five ideological ingredients.[31] These ingredients, she suggests, are derived from deeply imbedded presuppositions in English cultural history and newer ideas developed during colonial

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30. Foucault. *Society Must Be Defended*, 255.
31. Audrey Smedley. *Race in North America: Origin and Evolution of a Worldview* (Boulder 1999), 19.

expansion.[32] It is worth considering these ingredients and the role they play in Smedley's analysis before considering their similarities to, and differences from, the elements of the eugenic worldview.

The racial worldview consists of: (1) the "universal classification of human groups as exclusive and discrete biological entities"; (2) an "ethos that required ranking of these groups vis-à-vis one another; (3) the "belief that the outer physical character of different human populations were but surface manifestations of inner realities"; (4) "the notion that all of these qualities were inheritable" and; (5) the idea that "each exclusive group…was created unique and distinct by nature or God, so that the imputed differences, believed fixed and unalterable, could never be bridged or transcended."[33] Immediately, we can discern key correspondences with our eugenic worldview. Smedley's first ingredient corresponds to Foucault's "break" or "appearance within the biological continuum of the human race of races," and what I designate as the first element of the eugenic worldview: the presumption that human types, and in the case of the United States racial types, based on distinct biological differences exist. Smedley's second component corresponds to Foucault's "hierarchy of races" and to the second element of the eugenic worldview: the presumption that hierarchical value and worth can be assigned to the human or so-called racial types. And finally, Smedley's third and fourth components, if subsumed within her final component, would in totality be equivalent to Foucault's final element that "certain races…are…good and that others…are…inferior," and to the final element of the eugenic worldview: the presumption that each racial type has a fixed, essentialized nature. Both worldviews, as defined by their underlying components, contain unproven and unchallenged premises, which ultimately result in racialized systemic responses. Both Smedley's and my own

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32. Smedley. *Race in North America*, 28.
33. *Ibid.*

analyses focus on the operation of these systemic responses in the context of North American empire. And, in both cases, worldview is seen as a means for identifying a dominant racial group to which power and access to resources must accrue. There are, however, important distinctions to be made.

For Smedley, the racial worldview begins in North America in the eighteenth century and permits the categorization of all inhabitants by the nineteenth century. By the beginning of the twentieth century, she argues, the worldview is firmly established and produces the eugenics movement, which Smedley describes as the "handmaiden of hereditarian theories."[34] Also in the twentieth century, Nazi Germany and South Africa, among others, appear to import race from the United States as a "cosmological ordering system."[35] By contrast, I imagine the eugenic worldview to have a much wider scope, and consider the eurocentric paradigms which have fostered their development. Although the ultimate focus of this senior project is the United States and how racism developed within its cultural borders, it is only by examining the larger context within which racism develops that its purpose can be better understood. In the logic presented here, racism represents only the most recent and most tangible expression of "norm" versus "non-norm" construction along the continuum of eugenic thought and practice. I suggest that the eugenic framework and its constituent elements have existed in Eurocentric thought long before the founding of the United States and operated to create norms and non-norms of various types. Thus, while racism cannot exist outside of a eugenic framework, eugenic frameworks, which seek to make norms live at the expense of non-norms, can employ an array of "breaks" of an essentialized and hierarchical nature. By acknowledging that the break need not be based on race, we gain access to a host of similarly functioning breaks existing throughout the western

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34. Smedley. *Race in North America*, 28.
35. *Ibid.*, 28-30.

world. It is with this formulation, rooted in Foucaultian analysis, that I examine the development of the eugenic worldview, which has come to dominate the political rationality of the modern state.

Myths of Superiority

In the western world, the eugenic worldview can be traced to the fourth century BC, to Plato's thought experiment in which he advocated for the creation of a guardian class. The members of this guardian class, whom he proposed to be the best of all citizens, were destined to rule his imagined just city. They were followed in the social hierarchy by the auxiliary class, the assistants to the guardians, followed by the craftsmen and the farmers. The hierarchy was premised upon the belief that each stratum was inherently different from the other, with each having its own distinct qualities. Each quality was enshrined within the myth, or noble lie, which recounted that

> [t]hey were the whole time deep within the earth being given form and feature, and…[w]hen the process was complete, they were all delivered up to the surface by their mother earth…[and that] god differentiated those qualified to rule by mixing in gold at their birth…their auxiliaries he compounded with silver, and the craftsmen and farmers with iron and brass. So endowed, each…usually beget his own kind.[36]

Plato's noble lie is the archetype for what I would call an "equilibrium myth." This myth not only addresses the biopolitical question of who the norm should be, but also establishes the norm and its proper relationship to non-normative groups within the population. Distinct from traditional individual hero myths, it encompasses the criteria by which an exaggerated or

36. Plato: *The Republic* trans. Richard Sterling and William Scott (New York 1985), 113.

idealized conception of the "norm" as a collective is fashioned. While they arise from the conscious thought of their originators, these criteria, intricately linked to the unchallenged presumptions of the eugenic worldview, over time operate through the larger population on an intuitive level. That is, there is an intuitive understanding of who the norm is and what characteristics are associated with it. By drawing distinctions between groups socially arranged into an accepted and essentialized hierarchy, the criteria-laden myth fulfills several important functions. Most significantly, the myth projects an imagined sense of self as the apex of a particular population and its relationship to subordinates within that population. Plato's noble lie as an equilibrium myth projects the guardians as the apex of the Greek self. It is this imagined self that is desired as the norm, the standard to which the society should aspire. And although Plato's classes do not align with modern conceptions of race, the myth still serves as a eugenic impetus to make more guardians live at the expense of the lower classes. Through myth, this worldview engendered the belief that it was not only possible, but necessary to breed the best citizens through selective sexual breeding. Thus, according to Plato, "the best of the men must mate with the best of the women" and the "[i]nferior should mate with inferior as seldom as possible."[37]

This attempted balancing of the "best" against the "inferior" in equilibrium is the objective of traditional eugenics as defined by Galton more than two thousand years later. With a combination of the Greek "*eu*," meaning "good or well," the word "*genesis*," meaning "to come into being, be born," and the suffix "-ics," Galton defined eugenics as being good in stock, hereditarily endowed with noble qualities.[38] Like Plato long before, Galton believed that selective breeding of the fittest humans could advance human society. He even imagined

37. Plato: *The Republic*, 151.
38. Alexandra Minna Stern. *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America*. 2nd ed. (Oakland 2016), 11.

keeping a "record of the best traits in the best families [in his] golden book," which would be used to match sexual partners in order to preserve the race's noble qualities.[39] And like Plato long before, Galton's desired norm was supported by an imagined superior sense of self. The noble qualities to be preserved coincidentally accorded with his own perceived qualities and those of his race and class. Indeed, although separated by time and geography, the outlooks of Plato and Galton concerning the need for biopolitical regulation could not be much more aligned.

Moreover, in conjunction with the eugenic worldview, myths supporting superiority find ample expression throughout the nations of the western world. As Wallerstein clarifies, nations themselves are myths "in the sense that they are social creations" established by the state.[40] It is the state which invents "a history, a long chronology, and a presumed set of defining characteristics."[41] These characteristics not only distinguish citizens from non-citizens, but also superior from inferior citizens within the nation itself. Both of these distinctions are consistent with the exercise of biopower's "break" within the continuum. During the Middle Ages, the divinely ordained sovereign power embodied this superiority, and its defining characteristics were symbolized by blood. Foucault in particular recounts that blood was "an important element in the mechanisms of power."[42] Early biopolitical interventions were justified by a "mythical concern with protecting the purity of blood and ensuring the triumph of the race."[43] Among the sovereigns themselves, it was blood that determined the "value of descent lines."[44] Thus, we find marriages of this period between the royal families and aristocratic classes of Germany, Russia, England, Spain, etc., intended to preserve the superiority of the monarchies.

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39. Siddhartha Mukherjee. *The Gene: An Intimate History* (New York 2016), 73.
40. Immanuel Wallerstein. *World-Systems Analysis: An Introduction* (London 2004), 54.
41. *Ibid.*
42. Foucault. *Foucault Reader*, 268.
43. *Ibid.*, 271.
44. *Ibid.*, 268.

This association of blood with superiority persisted regardless of the national myth being proffered or the characteristics being defined. For instance, in fifteenth century Catholic Spain, where Christianity constituted the norm's defining characteristic vis-à-vis the Muslim and Jewish populations, "certificates of *Limpieza de Sangre*," or certificates of "purity of blood," were prerequisites to social mobility. These certificates, which could only be obtained through the church (for a fee of course), certified that an individual was pure from "any admixture of Jew or Moor."[45] It is here that we find the interesting conflation of heredity, symbolized by blood, and social status, which is in turn dependent on religious affiliation. Although spiritual cleanliness can only be obtained by adherence to religious orthodoxy, the Spanish Church through the power of the state "seemed to define Jewishness and Moorishness as almost biological traits," using blood as an idiom.[46]

In the sixteenth century, the English make a similar break premised upon blood in their separation from the Roman Catholic Church. Their imagined Anglo-Saxon selves rested in Protestantism and had mythical ties to the ancient Germans, whom they portrayed as heroic and freedom-loving. Thus, the myth of Anglo-Saxonism, which included the creation of "free institutions and equitable laws," existed "to rationalize the existence of a pure [Protestant Church]…and to justify Henry VIII's break with the Roman Catholic Church."[47] Derived from the blood of freedom-loving German tribes, the freedom associated with Protestant identity would eventually emerge to challenge the oppression of the Church.

France was not immune to the potent lure of the superiority-through-blood mythos either. By the eighteenth century, the presence of Germanic blood as a prerequisite to superiority found great expression in the writings of Count Henri de Boulainvilliers. A French nobleman, he

45. Smedley. *Race in North America*, 66.
46. *Ibid.*, 67.
47. *Ibid.*, 62.

proposed the narrative that the noble classes of France were derived from the Germanic Franks.[48] Foucault notes the French nobility's significant reference to blood as a mythical substance through which valued traits were supposedly inherited. Boulainvilliers, he says, was "singing the praises of noble blood, saying that it was the bearer of physical qualities, courage, *vertu*, energy."[49] Their own nobility was substantiated by the "superiority of Germanic blood," from which they descended.[50] Known as Nordics, these French noblemen, supposedly descended from the Germans, sought to distinguish themselves from other Frenchmen, i.e. the Alpine or Mediterranean types. While these types were adequate as Frenchmen, the Nordics were "tall [and] blond" and "were the originators of all civilization."[51] Given these characteristics, there could be no doubt as to who should be the aspired-to-norm. Their capable and effective leadership as determined by blood was needed in a rapidly transforming Europe.

It was of no small import that an emerging capitalism empowered a growing bourgeois class throughout Europe to challenge the power of the sovereigns and, indeed, contest their divine claim to superior blood. For Wallerstein, the French Revolution of 1789 became an important turning point as it "reoriented the concept of sovereignty, from the monarch or the legislature to the people."[52] This constituted a radical change in power relationships within the state, as it now became the purview of the citizens to decide "who [fell] within the category of the people" and consequently who did not.[53] In England, the decision of who would be "the people" was determined by the capitalist values of "individualism, absolute private property, and

48. Smedley. *Race in North America*, 187.
49. Michel Foucault. *Power/Knowledge: Selected Interviews & Other Writings: 1972-1977*. ed. Colin Gordon (New York 1980), 223.
50. *Ibid.*, 222.
51. Smedley. *Race in North America*, 254.
52. Wallerstein. *World-Systems Analysis*, 51.
53. *Ibid.*

the unrestrained accumulation of wealth."[54] The degree to which one could exemplify these values is the degree to which one's social status was elevated. This transfer in political and social power is concomitantly symbolized by the creation of new myths. During this period, the familiar pattern of myth creation is augmented through the spread of movies and literature, reaching greater numbers of people. And yes, these myths once again centered on blood.

The most popular and potent symbolic expression of the new blood myth was the vampire. Symbolically, the vampire represented the supposed superior noble class and their waning political influence. At the same time, vampire narratives presented new standard bearers in the personages of the bourgeoisie. In this case, the bourgeoisie is articulated as the emerging norm. Le Gaufey, a contemporary of Foucault, points out that in the vampire literature of the period "[t]he vampire is always an aristocrat, and the saviour a bourgeois."[55] This sentiment arose, says Foucault, from the eighteenth century belief "that debauched aristocrats abducted little children to slaughter them and regenerate themselves by bathing in their blood."[56] Considering the omnipresence of blood as a social and political signifier, the belief that Foucault highlights should be considered in the context of reordered status. The need of the former superior class to obtain new blood—to "regenerate themselves," as Foucault describes—strongly suggests a prior or impending loss of social and political power. Blood, it is alluded, is the mechanism through which this power is gained or lost. The implication is that the degeneration of the debauched might be forestalled by accessing the youth of their victims through their youthful blood, and perhaps the more hopeful among the aristocrats likewise believed that their evil qualities might even be replaced by innocence. Only a theory of essentalism, a key element of the eugenic and racial worldviews, could account for this logic.

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54. Smedley. *Race in North America*, 47.
55. Foucault. *Power/Knowledge*, 223.
56. *Ibid.*

The most famous example of the vampire narrative as Foucault and others have described it is Bram Stoker's *Dracula* (1897). There is great care on the part of Stoker, a man well apprised of the political, intellectual, and scientific developments of his time, to craft the vampire as an aristocratic figure. The wealth of the castle-dwelling vampire, who describes himself as a "Transylvanian [noble]," is an obvious marker.[57] In a more subtle parallel with the noble classes of Europe who claimed descent from Germanic warriors, Dracula also describes descent from a warrior race, claiming that within his veins flowed "the blood of many brave races who fought as the lion fights, for lordship."[58] Even the belief that debauched aristocrats were abducting children finds its way into the novel through the woman who screams at the windows of Castle Dracula: "Monster, give me my child!"[59] Given these striking parallels, the struggle between the aristocratic vampire and the Anglo-Saxon bourgeois, culminating in the vampire's eventual defeat, comes to symbolize the changing of the socio-political guard across Europe.

Joseph Valente, Professor of English at the University of Illinois, outlines an interpretation of *Dracula* that points to the novel's links with the eugenic worldview. As Valente proposes, not only does the novel feature issues of social change and class distinctions during the Victorian age, it also centers the "racial or ethnic anxieties predominant in the 'civilized' world powers such as England and among the ruling elites."[60] In the novel, the Anglo-Saxon bourgeois is responsible for protecting the ethnic purity of England from the degeneracy that is the vampire. This fear of degeneracy directly reflects the period's English fear of Irish immigration. To solidify his interpretation, Valente highlights the numerous and carefully crafted connections which indicate the author's intentions. Specifically, Stoker infuses the novel with symbolic links

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57. Bram Stoker. *Dracula*. intro. Joseph Valente (New York 2003), 34.
58. *Ibid.*, 40.
59. *Ibid.*, 59.
60. *Ibid.*, xvii.

between the fictional vampire and the supposed Irish degenerate element migrating into England during the late nineteenth and early twentieth century. For example, Dracula migrates to the East End of London in a coffin aboard a ship. In this narrative, he is linked to the large migration of Irish immigrants who, during the period, arrived in London aboard vessels literally called "*coffin* [*ships*]"; and, correspondingly, these largely poor immigrants primarily settled in the East End. Most notable is the revelation that the name "Dracula itself is a pun on the Gaelic phrase *droch fhola*, meaning bad blood."[61] There are numerous similar connections between Dracula and the flesh-and-blood Irish immigrants, but their shared association with bad blood is the center of Anglo-Saxon bourgeois fear. In the novel, as representative of real world thinking, blood is

> [t]he metaphorical bearer of ethnic traits, the metaphorical conduit of their transmission, the metaphorical site of their intermingling and reconfiguration; in short, this metaphor framed the race-based or eugenic notion of genetics that reigned from the Victorian age to the rise of Nazism.[62]

With its power to confer class and racial status, blood was to be protected at all costs from the Count, the symbolic embodiment of class and racial defilement. The unchecked breeding of vampires/Irishmen would undermine the breeding of Anglo-Saxon elites. This expression of the zero-sum concept, in which some gain only when others lose, is characteristic of biopower's equilibrium. Pursuant to this eugenic sentiment, the degenerate elements represent a form of breeding that is proliferate, and as Valente puts it, favors "the undead at the expense of another, the living."[63]

All of the elements of the eugenic worldview are present. There is a Foucaultian "break" between the Anglo-Saxon norm and the vampire/Irish non-norm; there is a hierarchy which

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61. Stoker. *Dracula*, xix and xx.
62. *Ibid.*, xvii.
63. *Ibid.*, xviii.

informs the legitimate transfusion of blood, with "aristocratic blood [being] the purest,"[64] the blood of the "manly bourgeois [being] powerful and therapeutic," and "the blood of (Irish) serving girls as [being] so suspect that it must be refused even at the risk of the patient's life";[65] and there is essentialism as the norm and non-norm have specific unalterable characteristics.[66] Stoker, through his vampire narrative, captures the new bourgeois blood myth of the period. According to this newly imagined self, individualism, the "ability" to have access to absolute private property, and unrestrained accumulation of wealth are values characteristic of civilized states and their people. The development of this blood myth follows the pattern of all myths in support of biopolitical rationales. It defines essentialized superiority and inferiority and determines to whom power and access to national resources should be imparted. It becomes part of an intuitive understanding of appropriate social arrangements. Blood, as the source of essentialized characteristics for centuries, becomes the de facto symbol of heredity. Genes had not yet been recognized or understood to exist. But as scientific knowledge developed, new myths were adopted, particularly in the United States. Here, the myth of superiority in support of a new biopolitical rationale was the myth of whiteness.

The Beginning of Scientific Racism

Until the eighteenth century, superiority premised upon blood, and the various characteristics it was imagined to confer, was sufficient to justify colonialist expansion. Throughout this period, the loosely organized collection of superiority motifs sufficed to inform the biopolitical imperatives of the newly emerging Western states. In America, however, a new

64. While aristocratic blood is the "purest" and Dracula is portrayed as an aristocrat, it should not be interpreted that the vampire is therefore pure of blood. Indeed, as an undead whose very name means "bad blood" and who also represents the supposed degenerate Irish element, Dracula is the "debauched" aristocrat. Significantly, he needs the "therapeutic" blood of the bourgeois to survive.
65. That is, it would be better to become the undead than to be of the class of an Irish serving girl.
66. Stoker. *Dracula*, xxiii-xxiv.

and more specific political rationale premised upon a myth of whiteness was emerging. Smedley supports the view of scholars like Reginald Horsman and L.P. Curtis, who both agree that the shift from "Anglo-Saxon ethnic superiority" to the "philosophy of racial superiority" occurred during the mid to late eighteenth century.[67] Eventually, the myth of superiority rooted in whiteness would emerge in North America as the predominant organizing schema under the eugenic worldview. But unlike the previous myths, which were satisfied with tracing the quality of being to blood lineage, the new myth of white racial superiority provided a nexus between these presumptions and empirical reasoning through science. Ultimately, the "folk idea" of superiority was embraced and given legitimacy by the scientific community.[68]

It is important to note that science had by then become the most influential system of knowledge acquisition in the Western world. It is during this period that biopower focuses the eugenic worldview through scientific articulations. Prior to the eighteenth century, knowledge was primarily obtained through the church, until the Enlightenment thinkers developed what they perceived to be an objective approach to understanding the physical world. Smedley notes that this period is well known for the emergence of "naturalistic explanations, confrontations between science and theology, and advances in empirical research and experimentation that are at the heart of modern science."[69] Science, offers Wallerstein, represented "the acme of intellectual work, the *summum bonum*," and the technological advances it made possible fueled material accumulation, and thus "moral progress," in the thinking of the newly emerging capitalist class.[70]

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67. Smedley. *Race in North America*, 186.
68. *Ibid.*, 27.
69. *Ibid.*, 152.
70. Wallerstein. *World-Systems Analysis*, 63.

"Only political leaders who based their immediate programs on scientific knowledge were reliable guides to future welfare."[71]

This reliance on scientific examination should not, however, be misconstrued to suggest that science operated independently of unsubstantiated myth. Indeed, several "theologically based assumptions and propositions survived undiluted in early scientific thought."[72] The concept of the Great Chain of Being articulated by Saint Thomas Aquinas, for example, was a particularly important theological myth which informed scientific reasoning. According to this concept, which finds its roots in the philosophical writings of the ancient Greeks, all things "in the universe—from stones to angels—[were arranged] in a grand hierarchy established by God."[73] Consistent with key elements of the eugenic worldview, the Great Chain of Being permitted the permanent ranking of all living things along a "natural unilinear scale."[74] On this basis, societies and cultures could also be graded "along a variety of dimensions from savagery to civilization."[75] As Arthur Lovejoy notes, any assessment of the biological sciences of the eighteenth century would be inadequate without considering the fact that "for most men of science throughout that period, the theorems implicit in the conception of the Chain of Being continued to constitute essential presuppositions in the framing of scientific hypotheses."[76]

Another biblically grounded myth which survived into the scientific era is the Creation Story. God creates man in his own image, provides him with a mate, and charges him to be fruitful, multiply, and subdue the earth. Adam and Eve fall from grace by eating of the "tree of the knowledge of good and evil" and become conscious of their nakedness. Of course, the "man"

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71. Wallerstein. *World-Systems Analysis*, 63.
72. Smedley. *Race in North America*, 153.
73. Dorothy E. Roberts. *Fatal Invention: How Science, Politics, and Big Business Re-create Race in the Twenty-first Century* (New York 2011), 29.
74. Smedley. *Race in North America*, 174.
75. *Ibid.*, 175.
76. Arthur Lovejoy. *The Great Chain of Being* (Cambridge 1936), 227.

created in God's image was white; his fall is precipitated by his weakness for his mate; and nakedness at the earliest developmental stage could only be synonymous with ignorance and savagery. These components of the Creation Story allowed Europeans to imagine themselves as divine patriarchal conquerors and conversely naked peoples as savages who had not yet been civilized. During the colonial expansions of the sixteenth and seventeenth centuries and beyond, this philosophy prompted the English contempt of the Irish and Native American peoples.[77] Africans would fare no better. Emerging Enlightenment thinkers and scientists culturally immersed in the long history of eurocentric Christian doctrine could not easily divest themselves of these thinking patterns. These patterns, informed by myth, became the unchallenged presumptions from which the scientific racists crafted their theories of superiority.

So where did this scientific inquiry begin? Historians have suggested that this search began with Thomas Jefferson in the 1780s. Years before he would become the nation's third president, Jefferson announced his suspicions that blacks and Native Americans were inferior to whites even if "all the facts were not available."[78] Although African-Americans were enslaved and the Native Americans were marginalized, he was aware of no scientific data or conclusions that would actually justify their exploitation. Accordingly, the search began in earnest. Jefferson's suspicions most likely rested on the earlier formulations of Carl Linnaeus, who in the mid-eighteenth century created the "formal definition of human races in modern taxonomic terms."[79] These formal definitions align with a key element of the eugenic worldview, which presumes that there are indeed separate races.

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77. Smedley. *Race in North America*, 154.
78. George M. Frederickson. *The Black Image in the White Mind: The Debate on Afro-American Characteristics and Destiny, 1817-1914* (New York 1971), 1.
79. Stephen Jay Gould. *The Mismeasure of Man*: *The definitive refutation to the argument of The Bell Curve*, rev. ed. (1981; repr., New York: WW Norton and Company 1996), 66.

One has to question why it was necessary to make such distinctions and to consider the criteria used for making them. The formulations of Linnaeus and others suggest that it is not mere curiosity that is guiding the inquiry. Indeed, the apparently objective cataloging of difference rapidly gives way to assessments of difference steeped in cultural bias, consistent with a eugenic worldview. Thus, given the conclusion, i.e. the superiority of whites and the inferiority of non-whites, it is far more reasonable to suppose that the inquiries of Jefferson and others resulted from their need to justify, confirm and convince themselves, and their natural subordinates, of their superiority, and consequently the legitimacy of the existing order. As Foucault describes, to fragment, to create caesuras "is the first function of racism."[80] We should briefly examine the route through which these justifications through scientific exploration have occurred, beginning with the classificatory schemes of Linnaeus and Blumenbach.

In his *Systema Naturae*, a twelve-edition catalogue of living things which laid the modern groundwork for biological classification, Linnaeus divided human beings, *Homo sapiens*, into four types. Each type was associated with one of the four known regions of the world: *Homo sapiens americanus*, *Homo sapiens europaeus*, *Homo sapiens asiaticus*, and *Homo sapien afer*, each linked to America, Europe, Asia, and Africa respectively. Influenced by the idea of a natural hierarchy, he arranged the four human types according to his own culturally based preference. Thus, *H. sapiens europaeus* was at the pinnacle. Linnaeus deemed that this type, ruled by law and covered with tight clothing, was vigorous, muscular, had flowing blond hair, blue eyes, and was very smart and inventive. Below this group was *H. sapiens americanus*. Ruled by custom, they were ill-tempered, impassive, had thick straight black hair, wide nostrils, and harsh faces with no beards. Stubborn, contented and free, they painted themselves with red lines. On the next step of the hierarchy was *H. sapiens asiaticus*. These people were ruled by

80. Foucault. *Society Must Be Defended*, 255.

opinion, were stern and melancholy with black hair and dark eyes. Strict, haughty and greedy, they wore loose garments. At the bottom of the hierarchy was, of course, *H. sapiens afer*. Ruled by caprice, this type was sluggish and lazy, with black kinky hair, silky skin, flat noses and thick lips. Covered by grease, they were crafty, slow, and careless.[81]

One can easily discern Linnaeus' bias not just through the arbitrary ranking, but through the descriptions themselves. One can also note the clear reference to clothing, an important consideration as we have seen in classifying individuals as civilized as opposed to savages. Moreover, Linnaeus draws lines of equivalence between the physical and moral characteristics of each supposed racial group, in line with Smedley's "inner" moral qualities which coincide with "outer" physical characteristics. *H. sapiens europaeus*, with its flattering physical descriptions, is the most intelligent and civil, while *H. sapiens afer*, with its flat nose and thick lips, ugly from the perspective of Linnaeus, was moody and lazy. Belying this correspondence is an essentialist understanding of human beings that renders them fixed and unchangeable. As holdovers from the Great Chain of Being and the Creation Story, both the taxonomic system of classifying human beings and the bias associated with its hierarchical ranking became longstanding models for later classifications. In fact, this model was later expanded upon by Linnaeus' student Johann Friedrich Blumenbach, who similarly ranked whites at the top of the racial ladder and blacks at the bottom.

As the most referenced classification system for scientists and anthropologists since the eighteenth century, Blumenbach's system retained the four original human types (Caucasian, American, Mongolian, Ethiopian), but added a fifth variety (Malay).[82] Gould argues that by incorporating the Malay (to represent inhabitants of the Pacific islands and aborigines of

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81. Roberts. *Fatal Invention*, 29-30.
82. Smedley. *Race in North America*, 163.

Australia), Blumenbach can be more properly credited with creating the hierarchical classificatory scheme than Linnaeus. While Linnaeus certainly held racialized views, his primary method for organizing racial types was based on geography.[83] Blumenbach, however, by adding a fifth category, created a "racial geometry" more consistent with hierarchical formulation. As he surmised, Caucasians were the original racial type from which the remaining four descended in two paralleling linear branches. In one branch, the American Indian was located between the Caucasian and the Oriental. In the other branch, the Malay was situated between the Caucasian and the African. The addition of the Malay "therefore completed the geometric transformation from an unranked geographic model to the conventional hierarchy of implied worth."[84] Blumenbach's conclusions and arrangements suggest a strong a priori belief in hierarchy, racial division, and essentialism, and thus I would assert that his geometric articulation is intuitively linked to the elements of the eugenic worldview. Without these presuppositions, his configuration has no solid rationale. As cited by Gould, however, he claimed to be "compelled to give up [Linnaeus' divisions]" after active investigation demonstrated that five varieties of man was "more consonant to nature."[85] By nature, we can only assume Blumenbach is referring to the social nature of the times, since no such natural-world observation existed that would support his racial geometry, or at least he does not allude to any in particular. Despite this lack of a clear natural reference, this geometry resonated with the scientific community, who sought to fill in the blanks in the outline that Blumenbach provided. Thus, through the end of the eighteenth century and the early decades of the nineteenth century, conjecture about the inferiority of blacks would express itself via "objective" observation of their physical and corresponding innate characteristics and abilities as compared to other races.

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83. Gould. *The Mismeasure of Man*, 405.
84. *Ibid.*, 412.
85. *Ibid.*, 406.

These physical observations would most notably center on the human head, particularly the craniological measures of Samuel George Morton, the Philadelphia scientist and physician who amassed over a thousand human skulls before his death in 1851. In his *Crania Americana* (1839) and *Crania Aegyptiaca* (1844), he presented his findings on the cranial capacities of whites, Native Americans, and blacks, which aligned (not surprisingly) with the hierarchical schemes of Linnaeus and Blumenbach, and were reprinted repeatedly throughout the nineteenth century "as irrefutable 'hard' data on the mental worth of human races."[86] For the scientific community considering Morton's work, the underlying premise was that the larger the skull, the larger the brain, and therefore the greater the intellectual and moral capacity.[87] Thus, the data demonstrating that whites had the larger skulls, followed by Native Americans and then blacks, ostensibly legitimized white superiority empirically.

This new "scientific ethnology," which Morton originated, was incorporated into a powerful new model in which science, through the popularization of empirical data and its meaning provided influential support for political initiatives. Certainly, his writings lent powerful support to the pro-slavery contingent in the South at a time when the Abolitionist movement challenged the morality of keeping human beings, however lowly these human beings were, as slaves. Morton's theory of polygenism, the belief that each racial type had its own independent origin and that Africans constituted a separate and inferior race, became the fertile

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86. Gould. *The Mismeasure of Man*, 85.

87. Gould's assessment that Morton's cranial measurements were skewed due to preconceived bias and that he sought to prove that brain size was correlated to intelligence has been the subject of controversy. In a June 2011 PLOS Biology article entitled *The Mismeasure of Science: Stephen Jay Gould versus Samuel George Morton on Skulls and Bias*, anthropologists at the University of Pennsylvania reported that after physically remeasuring Morton's skulls that there was no evidence of mismeasurement due to bias and that it was "doubtful that Morton equated cranial capacity and intelligence." But even assuming an affirmation of Morton's data, the larger question concerns by what "objective" measure might Morton have assigned skulls to different racial groups in the first place, especially since he did not collect the skulls himself and would have had to rely on the assessment of individuals providing the skulls. Regarding whether Morton equated skull size and thus brain size with intelligence, there is very reasonable evidence to suggest that this was so. According to Bakan, phrenology (a science at the time which correlated brain size to mental faculties), was introduced into the United States in the 1830s by, none other than, George Combe, who greatly influenced Morton (Bakan 1966).

ground through which the new scientific paradigm would sow its seed. This newly seeded ground would be cultivated by George Gliddon, the Egyptologist who provided the Egyptian skulls for Morton's *Crania Aegyptiaca*, Dr. Josiah Nott of Mobile, Alabama, who was Morton's own student, and Louis Agassiz, the famed Swiss biologist who provided valuable support to Morton's theory of polygenism through comparisons between humans and plant and animal kingdoms. Given Agassiz' belief that species of plant and animal differed due to separate creations "dictated by the environmental demands of differing regions of the earth," he would likewise believe that the divisions of human beings also originated in different regions.[88] Together, these men sought to convince educated Americans "that the Negro was not a *blood* brother to the whites" [emphasis mine].[89] In 1854, Nott and Gliddon published *Types of Mankind*, which Smedley argues "was perhaps the single most important book to set the issue of race into a peculiarly scientific context for the general public."[90] Dedicated to Morton, and including a chapter by Agassiz, it was a compilation of anthropological data on species variation that was used to support "proslavery arguments by scholars and laypeople alike."[91] With its veneer of empirical objectivity backed by scientific research, the text was a powerful tool for the South against the Abolitionists. Indeed, when Morton died in 1851, the *Charleston Medical Journal* offered in a biographical memoir that "we of the South should consider him as our benefactor, for aiding most materially in giving to the negro his true position as an inferior race."[92]

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88. It was Morton who converted Agassiz to the doctrine of polygenism (Baker 1998; Smedley 1999).
89. Frederickson. *The Black Image*, 75.
90. Smedley. *Race in North America*, 234.
91. Lee D. Baker. *From Savage to Negro: Anthropology and the Construction of Race, 1896-1954* (Berkeley 1998), 15.
92. William Stanton. *The Leopard's Spots: Scientific Attitudes toward Race in America, 1815-1859* (Chicago 1960), 144.

Unfortunately, Morton's legacy of using science to support racial policy did not end in the South. As a Harvard professor, Agassiz taught "virtually all of the prominent U.S. professors of natural history during the second half of the nineteenth century."[93] Among these prominent students was Nathaniel Southgate Shaler, also an influential Harvard professor, who was credited with instructing more than seven thousand students. Although trained by Agassiz to be a geographer/geologist, he wrote prolifically about the problems that Africans posed to American society and was known as the Harvard professor who made science accessible to the general public. In "The Negro Problem" (1884), an article Shaler published in a widely circulated magazine called the *Atlantic Monthly*, he "offered a scientific rationale to support dis[en]franchisement and segregation."[94] Collaborations of this type, where knowledge is used to resolve biopolitical questions, are the province of Foucault's "theory of police" which in his thinking evolves to become part of the apparatus. In addition, Shaler "articulated the racial plank of Social Darwinism" in a manner which softened the North's outlook on Southern race relations, "provided the scientific stamp of approval for McKinley's overtures to White Supremacy, the Republican party's abandonment of African American interests, widespread dis[en]franchisement, and Jim Crow segregation."[95] Perhaps Shaler's greatest influence politically was through his student Theodore Roosevelt. In his 1913 letter to Charles Davenport, the father of the American eugenics movement, Roosevelt would proclaim that one day Americans would realize that "the prime duty of the good citizen of the right type is to leave his or her blood behind him in the world, and that we have no business permitting the perpetuation of citizens of the wrong type."[96]

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93. Baker. *From Savage to Negro*, 16.
94. *Ibid.*, 47.
95. *Ibid.*, 48.
96. *Ibid.*, 93.

Conclusion

These are only a few examples of the powerful intersection between racial science and racial policy, the likes of which Jefferson might appreciate. Under the scrutinizing gaze of biopower, these intersections represent the centralization of the eugenic worldview as the governing and organizing rationale of the modern American state. The beginnings of scientific racism, contextualized by the need to rationalize the equilibrium myth, provided a solid conceptual platform from which myriad hypotheses throughout the nineteenth, twentieth, and now twenty-first centuries would find legitimate expression. Seemingly predicated on an unassailable scientific logic, the theories of scientific racists sought to prove racial distinctions, superiority, and essentialism in a way that made them appear to be common sense understandings. To use biblical language, Morton's method, born of phrenology and polygenism, begat the appropriate presentation of scientific truth, and the presentation of scientific truth begat new fields of analysis from which sprang Social Darwinism, the eugenics movement, and their various methods of assessing the human spectrum within the biopolitical domain. These methods founded on the unfounded presumptions of the eugenic worldview continue to be stabilized through various methods into the present. Specifically, the stabilizing methods include strategies for perpetuating the eugenic worldview, a subject to be explored in the following chapter.

The careful historical observer will note the particular utility of scientific knowledge in stabilizing and supporting racial policy narratives and their effects. As Walters observes, "Black advancement in society is defined as a threat to White national interests in the competitive context of the 'zero-sum' concept. If Blacks are empowered, then White interests suffer."[97] At

97. Ronald W. Walters. *White Nationalism Black Interests: Conservative Public Policy and the Black Community* (Detroit 2003), 3.

every instance, the attempt to deprive the "norm" of a material resource, to the benefit of the non-norm, is met with challenge. Initially, this challenge primarily came in the form of state violence, but with the development of scientific inquiry and new techniques of evaluation, a far less disruptive alternative has presented itself. Science, popularized through various institutions, became the most effective way of rationalizing the repression of the non-norm. As already noted, the abolitionist challenge to slavery in the 1830s was met with the scientific ethnology of Morton, et al. Their findings would spur the pro-slavery South and provide evidence for Chief Justice Roger B. Taney's decision in *Dred Scott v. Sandford* (1857). The Civil War would soon follow. But then, the Civil War and Reconstruction period (1863-1877), which ended slavery, was accompanied by a slew of scientific studies under the National Academy of Sciences (NAS) and the National Research Council (NRC) which I consider in the following chapter. Reconstruction ended with the withdrawal of Northern troops from the South, ushering in the Jim Crow era (1877-1954). During this period, every racialized finding observed during the various committees of the NAS-NRC found nationwide expression in policy narratives and legislative actions. In the south, these were primarily aimed at delegitimizing black citizenship. In the north, subjugation would be directed most effectively toward residential segregation. Across the nation, equal access to the franchise, equal protection, and due process for African-Americans were constantly undermined. The Civil Rights movements of the 1950s and 1960s, and its various programs meant to challenge these abuses and promote racial equality were met with the grim determination of men like Arthur Jensen who in the 1970s proposed that intellectually blacks were genetically inferior. The same charge would be suggested by Herrnstein and Murray in the *Bell Curve* (1994) following heated debates regarding affirmative action. This cycle of

repression, advancement, and retrenchment is largely framed by scientific discourse premised upon the eugenic worldview.

It should also be noted that the eugenic outcomes produced did not solely rely on the action of the federal government or on any particular hatred toward African-Americans. Certainly, the government played a central role in regulating and organizing the political and social hierarchy through resource allocation, legislation and judicial intervention, but it was also supported in these efforts by non-governmental institutions, including the NAS, the NRC, universities like Harvard etc. Moreover, Morton, the father of scientific ethnology, was not known early in his scientific career for any antipathy toward blacks. Blumenbach, the orchestrator of racial taxonomic hierarchies was, according to Gould, "the least racist, most egalitarian, and most genial of all Enlightenment writers on the subject of human diversity."[98] Thus, autocratic government is not a prerequisite to eugenic expression, nor is hatred a prerequisite to racialized biopolitical logic.

The necessary prerequisites are the elements of the eugenic worldview, which order the thinking patterns of government officials, scientists and heads of universities, and a network of institutions through which these thinking patterns are preserved. This network, which Foucault initially imagined being the "theory of police," or the "instruments" needed to effect state guidance, for him would later become part of the functioning of the apparatus. In this apparatus, the operating norms of scientific exploration function, as do all diffuse elements within the apparatus, in service to predetermined state goals regarding the biological norms the state intends to maintain. And while it is clear that a scientific rationale was sought, it is important to recognize the interrelated connections between the diffuse disciplines within the network and how they are all organized around the state regulation of human bodies. Through the apparatus,

98. Gould. *The Mismeasure of Man*, 405.

the influence of the eugenic worldview, including the eugenics movement in the United States, can be illustrated by its widespread reference and application in literary, social, political, and scientific disciplines. Ultimately, science provides the logic for political and social action reflected in our literature, but it is the apparatus that dispenses this logic. According to Hardt and Negri, Foucault's biopower "is constructed through a diffuse network…that produce[s] and regulate[s] customs, habits, and productive practices" as determined by the state.[99] As we shall see, each of the disciplines named carries the taint of the eugenic worldview and therefore marks itself as part of biopower's diffuse network.

99. Michael Hardt and Antonio Negri. *Empire* (Massachusetts 2000), 23.

But all around us there was a machinery meant to verify the myth and validate the illusion. Some black people believed but most of us would look out at the illusion, on a particular day, at a particular angle, in a particular light, and the strings and mirrors would be, if only for an instant, revealed.
—Ta-Nehisi Coates
We Were Eight Years in Power

What argument against social change could be more chillingly effective than the claim that established orders, with some groups on top and others at the bottom, exist as an accurate reflection of the innate and unchangeable intellectual capacities of people so ranked?
—Stephen Jay Gould
The Mismeasure of Man

CHAPTER 2: Charting the Eugenic Apparatus from the Nineteenth to the Twenty-First Century United States

Introduction

Despite debilitating challenges to scientific racism and the eugenic ideology developed in the eighteenth and nineteenth centuries, biological determinist principles have endured well into the twentieth and now twenty-first centuries. Perhaps this would not be cause for great concern if eugenic thought were found only within isolated pockets of fringe neo-Nazi, Ku Klux Klan or Alt-Right groups, but its influence appears to be far more widespread, persisting within institutions where presumably it ought not exist. In fact, there is much evidence to suggest that eugenic thought has long been an ideological fixture within mainstream governmental bodies and their various networks. Comprised of public and private institutions, these networks continue to breathe new life into the undying theories of scientific racism, providing legitimacy for ideas of

biological determinism and eugenics. Further, the continuation of these ideologies has become the basis of future research and social policy. Disturbingly so.

How can this be? How do we explain the paradox that modern genetic science, which has sought to dispel the biological conception of race, has engendered, tolerated, or been unable to impede its use as a pretext for implementing governmental policy? In the first place, we might propose that the science dispelling racial difference is difficult to conceptualize. Such an abstract connection between our DNA and who we are, individually and socially, facilitates a reversion to culturally prescribed ways of knowing with an overreliance on physical appearance, particularly skin color. Moreover, for white Americans occupying positions of privilege within the existing social order, this overreliance allows for a seemingly logical connection between visible physical differences and social hierarchy. Such a correlation, which may create the impression that physical differences and social hierarchy are causally related, would not only assuage any guilt associated with systemic inequality, but would also reinforce notions of self-worth and superiority. This essentialist view of racialized physical difference is a tempting harbor in a sea of socially constrained opportunity. The logic offered, in this case, is that it is easier to believe in the "truth" of a correlation that we can see—the association between dark skin color and lower social status—than it is to be mired in the complexities of genetic science and consequently be forced to consider the uncomfortable details of how social inequality is produced. It is easier than considering one's complicity in maintaining such inequality.

In the second place, we might consider that the discourse of genetic study itself is partly to blame. This reasoning suggests that within the language of apparent objectivity, there lies the underlying premise that superior and inferior attributes exist in a fixed sense. Thus, superior and inferior human beings, relative to the number of superior or inferior attributes they possess, also

exist in a fixed sense. Terminologies such as "valuable" or "favorable" or "beneficial," employed without much regard to environmental context, necessarily imply that the "worthless" or "unfavorable" or "harmful" opposites exist. In this sense, the role of genetic science is to discover and provide the language for defining these attributes, which are then used by eugenicists seeking to eliminate those that they consider to be undesirable. Indeed, the early geneticists were indistinguishable from the eugenicists which facilitated the entry of their biased vocabulary into mainstream scientific discourse. They were the same people. Such an infusion, according to this line of argument, would make it difficult for challenges to race science to be effective. How does one challenge the concept of race with its implied hierarchical valuations without challenging the value of hierarchies? One does not, and within genetic discourse, there is an unwillingness to do away with the premises which support the establishment of race and racism, and so they linger. From the standpoint of an "impartial" and "objective" science, which considers its own bias and values, identifies reasonable causal relationships between phenomena, and is reliable, the tension between this self-reflective science and scientific racism, and the essentialism upon which scientific racism rests, remains unresolved. Either race as a biological concept has been shown to exist or it has not.

Yet, what appears to be the inability or the reluctance of scientists, academics, and lay persons to do away with unproven racial categories betrays something more. It displays more than the desperation to understand and to preserve difference that is as misguided as it is limited in its ability to offer consolation, or the attempt to assuage the cognitive dissonance associated with benefitting from social inequality. And, it is far more complicated than seemingly neutral language use within scientific discourse. These arguments, elements of why scientific racism persists, exist as part of a larger pattern, forming part of a larger state-orchestrated initiative

aimed at preserving resources for a prescribed biological norm. Moreover, this initiative is sustained by a network of adjacent institutions incorporating and expanding upon our previously presented arguments. As Alan Peterson notes, the resurgence of eugenic thought is highly correlated with the scarcity of economic resources and policies implemented to ensure that the "cost of supporting the unfit" does not occur at the expense of the "fit."[1] Echoing these sentiments, Stephen Jay Gould comments that the "resurgences of biological determinism correlate with episodes of political retrenchment, particularly with campaigns for reduced government spending on social programs, or at times of fear among ruling elites, when disadvantaged groups sow serious social unrest or even threaten to usurp power."[2] The correlation identified by both Peterson and Gould suggests a link between eugenic ideology and access to resources. It suggests that the scientific racialization of America legitimizes inequality. It is the lie of Social Darwinism made truth. Eugenicists and the like create the self-fulfilling prophecy in which the socially fit survive based on their own merit and the socially unfit are destined to fail. In this case, the accuracy of the science supporting the biology of race, or the clarity of the discourse, are second in importance to the rationale it provides for racially hierarchical ranking. In this way science is used to reinforce the logic of the status quo and its supporting market hegemony.

In this chapter, I argue that the paradoxical longevity of eugenic worldview within the United States can best be understood in terms of Michel Foucault's notion of the "apparatus," which functions as an extension of biopower. As explained in the following section, this conception of the apparatus is comprised of several key dimensions. The first of these includes

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1. Alan Peterson. "The new genetics and the politics of public health." *Critical Public Health.* Vol. 8 No. 1: 1998, 63.
2. Stephen Jay Gould. *The Mismeasure of Man*: *The Definitive Refutation to the Argument of The Bell Curve*, rev. ed. (1981; repr., New York: WW Norton and Company 1996), 28.

the various internal discourses surrounding eugenic thought and scientific racism within governmental, quasi-governmental, advocacy, and philanthropic institutions. The second entails the myriad interactions which occur between these institutional elements, which largely serve to reinforce the state's ideological mandate. Beyond intra-institutional discourse, these interactions represent a discourse occurring directly and indirectly between the institutions and the public. Finally, the third dimension of the apparatus is organized around an "urgent need," which in Foucault's terms is a need that necessitates a specific strategic objective as outlined by state authority. This urgent need, in the case of eugenic worldview, is the maintenance of an equilibrium, of racial hierarchies within the United States on behalf of a predetermined biological norm and its corresponding distribution of wealth; the conscription of racial science to provide a legitimate rationale for the preservation of this hierarchy constitutes the strategic objective. Analyzing the functioning of the apparatus as an extension of biopower allows us to properly identify this strategic objective and thus reconcile the paradox existing between supposedly "race-neutral" science and scientific racism. It allows us to see why scientific racism as an ideology is even possible.

Foucault's "Apparatus" as an Extension of Biopower

As we argue here, the theoretical framework of Foucault's "biopower" situates seemingly disparate historical occurrences and explanations within an appropriate context. It helps to explain the persistence of scientific racism and eugenic thought, as well as why scientifically based reasoning has been unable to root them out as legitimate ideologies. As Foucault imagines, modern biopower concerns the state's "right to make live and to let die"; it is the power to intercede into the functions of life and death at the individual and collective levels in a manner

which makes some live at the expense or neglect of others.[3] Its "field of intervention," for example, includes "the birth rate, the mortality rate, various biological disabilities, and the effects of the environment."[4] Those who are made to live constitute the societal norm; those who are permitted to die constitute the societal deviant. Eugenic thought determines who should constitute this norm, and conversely defines who constitutes the deviant. According to eugenic philosophy, the norm should be comprised of individuals having the "best" genes that should, therefore, be preserved and amplified. The deviants, having "bad" genes, should be segregated, marginalized, or eliminated. As Edwin Black describes, it is the "legalized campaign to breed a super race."[5] Further, maintaining the norm—the "equilibrium," "average," or "homeostasis," in Foucault's terms—is the primary objective of the state.[6] Biopower, as enacted by the state, considers the opposing biological forces existing within state borders which must be balanced against one another. For the American state, the "average" or biological norm to be balanced against harmful biological variations has historically been defined as White Anglo-Saxon. This norm must be preserved and protected from "non-White" biological variations, which supposedly threaten its health, purity, and very existence.

With the recent emergence of more widespread and powerful statistical data collection and analysis, science becomes the natural expression of biopower. According to Foucault, biopower introduces and relies on the mechanisms of "forecasts, statistical estimates, and overall measures," which are the primary tools of scientific observation.[7] Thus, at its core, biopower is the scientific surveillance and management of the population. Moreover, since such

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3. Michel Foucault. "*Society Must Be Defended": Lectures at the College de France, 1975-1976* (New York 2003), 241.
4. *Ibid.*, 245.
5. Edwin Black. *War Against the Weak: Eugenics and America's Campaign to Create a Master Race* (Washington 2012), 7.
6. Foucault. "*Society Must Be Defended,"* 204.
7. *Ibid.*, 246.

management is beyond the logistical capability of any one entity, including a centralized government, "it becomes necessary to organize around [biological populations] an apparatus which will ensure not only their subjection but the constant increase of their utility."[8] Foucault introduces the concept of the apparatus to explain the complex way this management of a given population is achieved. In "The Confessions of the Flesh," an interview with Foucault conducted by prominent scholars and philosophers, he presents his formulation of the apparatus:

> What I'm trying to pick out with this term is, firstly, a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions—in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements. Secondly, what I am trying to identify in this apparatus is precisely the nature of the connection that can exist between these heterogeneous elements. Thus, a particular discourse can figure at one time as the programme of an institution, and at another it can function as a means of justifying or masking a practice which itself remains silent, or as secondary re-interpretation of this practice, opening out for it a new field of rationality. In short between these elements, whether discursive or non-discursive, there is a sort of interplay of shifts of position and modifications of function which can also vary very widely. Thirdly, I understand by the term 'apparatus' a sort of—shall we say—formation which has as its major function at a given

8. Michel Foucault. ed. Paul Rabinow. *Foucault Reader* (New York 1984), 279.

> historical moment that of responding to an *urgent need*. The apparatus thus has a dominant strategic function.[9]

As Foucault envisions it, the apparatus is multidimensional in its constitution. Many of the elements within the three dimensions he proposes overlap, and in general they may be condensed and reordered to more efficiently analyze scientific racism and eugenics. For example, it is possible to include under the umbrella of discourses "the scientific statements," as well as the "philosophical, moral and philanthropic propositions." Under the banner discursive systems, or collection of discourses, it is reasonable to incorporate the "connection that can exist between these heterogeneous elements" as well as the "nature of the connection that can exist between these heterogeneous elements." For example, institutions within the apparatus might be linked through financial or political patronage, or the nature of the connection might be adversarial. In either case, the biopolitical needs of the state are satisfied. Given the nebulous nature of the myriad interconnections possible, the intention in this project is to collect and extract the more concrete aspects of Foucault's apparatus and order them so that the totality of their impact is better clarified.

It is useful to begin by analyzing the "strategic objective" of the state and the "urgent need" to which it responds. Essentially, this objective is the node around which the other dimensions of the apparatus organize. It coordinates the institutions and their activities as they knowingly and unknowingly, intentionally and unintentionally, function according to its directives. Following this, we consider particular institutional elements within the "heterogeneous ensemble": in the case presented in this project, the governmental bodies such as the executive, judicial and legislative branches of government; the non-governmental institutions

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9. Michel Foucault. *Power/Knowledge: Selected Interviews & Other Writings: 1972-1977*. ed. Colin Gordon (New York 1980), 194-195.

such as the National Academy of Science (NAS) and the National Research Council (NRC); as well as philanthropic institutions like the Carnegie Institution and the Pioneer Fund. Accordingly, we further examine the nature of the connection that can exist between these institutional elements, including inter-elemental discourses, transfers of leadership, and circulation of personnel that critically reinforce modes of eugenic thought.

Finally, we must consider the remaining elements of the "ensemble" such as the various discourses within and without the scientific community regarding how to classify, define, or measure race. For our own analysis, some of Foucault's elements are more relevant than others; moreover, although presented sequentially, these elements constantly interact with one another in the socio-political space to inform outcomes in terms of access to resources, which determine the wealth and health of the bio-norm and the bio-deviant. As the contexts within which these interactions have occurred change, these outcomes become more or less defined. Thus, in times of perceived threat to the bio-norm, the relationship between coordinating elements of the apparatus and policy outcomes regarding the regulation of normative and deviant social status is more apparent. It is only by refining Foucault's analytical frameworks that the less clearly defined moments are more readily observed. I use this narrowed version of Foucault's apparatus which I characterize as the "eugenic apparatus," to consider the sustainability of eugenic thought within the United States. Let us explore this apparatus in further detail.

The Eugenic Apparatus

Federal Government, Urgent Need, and Strategic Objective

Historians and political scientists have considered at length the general context within which the eugenic apparatus has developed, and for them it is familiar territory. The nineteenth century saw the growing discomfort of Southern slaveholders as Northern Republican

abolitionists challenged their right to own human beings as property. This is not to say that the prospect of freeing millions of African slaves did not trouble the thoughts of most abolitionists as well. According to George M. Frederickson, only the "most radical in their abolitionism saw the blacks as permanent Americans who would make a special and valuable contribution to national life and character."[10] The view of more moderate abolitionists, including those who held influence over the future of these slaves through President Lincoln's three-man American Freedman's Inquiry Commission, was not much more encouraging. As a member of the commission, Dr. Samuel Gridley Howe, the reformer and radical anti-slavery man, was tasked with examining the condition of newly freed blacks after emancipation and recommending policy in regard to their future treatment. In apparent deference to scientific inquiry, he "was ready to allow science to answer the empirical questions" regarding race.[11] By "science," he meant the advice of men like Louis Agassiz, whose "racial policy" of preserving national purity conveniently accorded with his own. Indeed, for most nineteenth-century abolitionists contemplating the impending freedom of blacks, the resettlement of newly freed slaves in Africa was the best course, preserving their "image of a future America that would be all white."[12]

This social preoccupation with racial purity represents the "urgent need," in Foucault's sense, to which the American state felt it had to respond. The most potent rationale for this racial purity came from the scientific community. As Frederickson again notes, with "the development in the 1840s and 1850s of scientific race theory and a new sense of Caucasian or Anglo-Saxon racial pride, it became possible to articulate…concern for continued 'homogeneity' with greater

10. George M. Frederickson. *The Black Image in the White Mind: The Debate on Afro-American Characteristics and Destiny, 1817-1914* (New York 1971), 130.
11. *Ibid.*, 160-161.
12. *Ibid.*, 130.

authority."[13] This scientific support centered heavily on the polygenic theory of humanity, which proposed that the various races of humanity had distinct origins and were ultimately distinct species. As noted in chapter one of this project, this argument was most famously articulated by Samuel George Morton, the renowned anthropologist, whose *Crania Americana* (1839) attempted to classify and rank the different races of man through the measurement of hundreds of skulls. His work, as the first to use empirical data to support his conclusions, was interpreted "as supporting the belief that Negroes were permanently inferior to whites."[14] A long list of scientists and physicians built upon this scientific logic to oppose the equality of slaves and freedmen. Undoubtedly reassured by the scientists of their day, legislators and policymakers within the federal government, including Abraham Lincoln, believed that "political and social equality between the white and black races was impossible."[15]

Operating largely on the rationale behind the urgent need solidified by the scientific community, the American state developed a long-term strategic objective to ensure that America preserved whiteness as the "norm" and protected it from the "deviant" black and other racial elements that threatened its purity. Premised upon the presumption that race as a biological concept existed, the essential nature of races, and the hierarchy of races, this objective provided the ideological framework for elements within the apparatus to great effect. Thus, it is in the context of the American Civil War, the bloodiest conflict ever fought on American shores, and the prospect of black emancipation that the eugenic apparatus was initially developed in order to fulfill the strategic objective of racial purity and hierarchy in the United States.

For many observers, the focus on a long-term containment strategy would be especially necessary given the failure of the American government to successfully resettle freed Africans in

13. Frederickson. *The Black Image*, 132.
14. *Ibid.*, 75.
15. *Ibid.*, 150.

Africa or Central America after Emancipation. Born of the tension between maintaining a white nationalistic identity and the inclusion of a black political body, this containment strategy would immediately supersede Reconstruction efforts. Accordingly, the Reconstruction amendments to the US Constitution, which were enacted to declare and protect equality for newly freed slaves, were undermined by the withdrawal of Northern troops from the South less than a decade later. Following the election of Rutherford B. Hayes in 1876, this fateful withdrawal ushered in the establishment of Jim Crow. The limited enforcement of the newly enacted Thirteenth, Fourteenth and Fifteenth Amendments, and the reestablishment of slavery-like conditions in the South under Jim Crow, kept the "deviant" black element segregated physically, socially, economically, and politically from their rightful place in the American state. In a Foucaultian sense, this governmental vacillation on the commitment to ensure citizens' rights represents a "shift of position and [modification] of function" so integral to the apparatus. These tactical advancements in service of the larger strategic objective signaled the end of the first historical Reconstruction. This pattern of advancement, characterized by the First Reconstruction, followed by the retrenchment that was Jim Crow, became a recurring theme in American history regarding the equality of African-Americans and their access to political and economic resources.[16] Far from implying a unitary and static government (where the shifting and contested nature of politics is a sign of governmental health and stability), these cycles signify reluctance to afford equality to minoritized groups in contravention of constitutional law. For the next several decades, the government would be supported in perpetuating this cycle by a number of important institutions.

16. Andrea Flynn, Holmberg, Warren and Wong. *The Hidden Rules of Race: Barriers to an Inclusive Economy* (New York 2017), 18.

Quasi-governmental Institution: The National Academy of Sciences

Alongside the executive branch of the federal government, the quasi-governmental National Academy of Sciences (NAS) was among the earliest and most important non-governmental institutions to function as part of the eugenic apparatus. Established in 1863, when the prospect of freedom for millions of slaves was within reach, it found itself closely aligned with the interests of the nation's government, sharing in what Foucault would describe as its "urgent need" to preserve threatened privilege. To this end, the Lincoln administration wanted to establish a mechanism through which to enlist the assistance of the nation's scientific community. Originally organized by "fifty prominent scientists and incorporated by an act of Congress," it was to advise the government on all scientific and technological matters to advance the general welfare of the United States.[17] The NAS, it would seem, rarely advised the government on "all scientific and technological matters." In *The Politics of Knowledge*, Ellen Condliffe Lagemann, a professor of history and education, outlines the early role of the NAS. As Lagemann points out,

> as federal (and state) bureaus of science grew in number and size after the Civil War, the advice and assistance of the Academy was rarely solicited. Instead, the NAS spent most of its time defining and redefining the organizational apparatus that would govern its small, self-perpetuating, and relatively aged membership, which tended in any case to be out of touch with developments in the most rapidly advancing special fields of science.[18]

Apparently the NAS, despite its broad mandate, maintained a very narrow agenda of specific interest to the government. While "out of touch" with most fields of advancing technological science, however, the membership of the NAS was very much in touch with the racial tension

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17. Ellen Condliffe Lagemann. *The Politics of Knowledge: The Carnegie Corporation, Philanthropy and Public Policy* (Chicago 1989), 35.
18. *Ibid.*, 35-36.

brewing within the country. One of its most influential and founding members was none other than the famed Swiss biologist Louis Agassiz, whose "intellectual firepower" in support of the polygenic theory of human creation during the 1840s undergirded Morton's later attempts to prove it empirically.[19] According to Dorothy E. Roberts, Agassiz had written four letters "in 1863 to Lincoln's Civil War commission [warning] that incorporating blacks as equals in the reunited nation would contaminate the white race both socially and biologically."[20]

The influence of Agassiz and other well regarded polygenic scientists, who believed in white racial superiority, helped to shape the focus of NAS research. Significantly, Agassiz warned in a statement, one of Foucault's "scientific statements," consistent with the views of the NAS and the executive branch of the federal government that blacks would be "incapable of living on equal footing with Whites without being an element of social disorder."[21] Therefore, it became imperative from the end of the Civil War through Reconstruction to the Great Migration, when millions of blacks left the Deep South to move to the North, that the "National Academies took careful note" of how race would impact the national character of America. Believing this problem of character fell "under the rubric of racial research[,]…[the National Academies] assigned a committee to investigate [the impact of the Great Migration] on 'interbreeding' between whites and blacks" as well as the "fertility rates of black-white racial crosses."[22] It was presumed that the offspring of such racial crosses were more likely to be sterile than either of their supposedly "racially pure" parents.

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19. Roberts. *Fatal Invention*, 33.
20. *Ibid.*
21. *Ibid.*
22. Michael Yudell. *Race Unmasked: Biology and Race in the 20th Century* (New York 1992), 60.

Quasi-governmental Institution: The National Research Council (1921-1922)

The Committee on Race Characters (1921-1922)

In June of 1916, the NAS expanded its reach by establishing the National Research Council (NRC) to further coordinate research efforts on behalf of the government.[23] By May of 1919, an "executive order by President Woodrow Wilson officially incorporated the NRC as a division of the NAS." This new quasi-governmental organization provided postdoctoral fellowships among other grants to support widening research, and "[b]etween 1919 and 1933 the NRC funded approximately 850 fellows."[24] In addition, it was responsible for large-scale studies supervised by various committees. Several of these committees, beginning in the 1920s, studied "the biological and social aspects of race difference in the United States."[25] These efforts began with the Committee on Race Characters, chaired by A. E. Jenks, a professor of anthropology at the University of Minnesota. Initially, the Committee focused on the assimilation prospects of European immigrants, but by 1921 Clark Wissler, anthropologist at the American Museum of Natural History in New York, urgently advised a new focus. In Wissler's estimation, the more pressing concern, again, one consistent with the "urgent need" of the state was the assimilation of African-Americans into the national fabric.[26] Jenks agreed.

Michael Yudell, an associate professor at the Drexel University School of Public Health, has written extensively about the research history of the NRC. As he describes it, Jenks felt that scientific knowledge of racial differences was needed for the benefit of the nation. This was based on his "a priori assessment of racial difference…[which was] primarily genetic in

23. Lagemann. *The Politics of Knowledge*, 42.
24. Yudell. *Race Unmasked*, 61.
25. *Ibid.*, 57.
26. *Ibid.*, 58.

origin."[27] He also outlined the physical, psychical and temperamental ways that races differed. According to Jenks, races differed "physically as breeding animals, due to gametic differences," susceptibility to disease, and "capacities"; they differed psychically, in "pathological reactions" due to "unhappy racial experiences," in attitudes, and in "instinctive" reactions to American culture; and they differed temperamentally, due to different balances of glandular "secretions."[28]

I submit that this theoretical proposition of the meaning of race by the chairman of the Committee on Race Characters under the NAS-NRC umbrella is revealing for its presumptions and selected criteria. As previously noted, race is already presumed to exist; moreover, it is presumed to be located in one's biological makeup in a way that links it directly to skin color. Clearly skin color variation is the controlling element guiding his assessment since the ability to assess genetic makeup would not be available for decades. Should it then be supposed that every variation in skin color constitutes a distinct racial type? Of course not. Not even the most ardent eugenicist of the day within the NRC was willing to defend such a proposition. But even more revealing is that the criteria constructed vary widely with respect to the logic and evidence required for them to be plausible. How were these so-called "gametic" differences observed or even proposed to exist, especially given the large numbers of so-called "mulattoes" in the South? What were the "glandular secretions" which supposedly rendered African-Americans more temperamental than whites? Are there more plausible explanations than perceived racial distinction? While it is reasonable to observe difference, it is unreasonable to declare that these differences unequivocally equate to race in biological terms. Most importantly, Jenks' attempted definition of race based upon the instinctive criteria that skin color must equal race is unsupported by any empirical evidence. That is, race, from his perspective, was not defined by

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27. Yudell. *Race Unmasked*, 64.
28. *Ibid.*, 64-65.

observing clearly distinct boundaries existing between human groups of varying pigmentation. Instead, race is first deemed to exist, and then subsequently the criteria for validating its existence are presented. This begs the question: without reasonable propositions for obtaining evidence, how and why did the chairman of the Committee on Race Character select his criteria for defining race?

The questions raised here are purely rhetorical and meant to highlight the thinking of NRC scientists and researchers concerning race. As part of the eugenic apparatus, this thinking evidences Foucault's "system of relations" established between the federal government and the NRC as a quasi-governmental institution, and the "nature" of that connection. In its advisory capacity, the NRC was examining a social and political question framed in biological terms. In other words, the presumption of difference here is used to make an assessment of social and political disruption, i.e. the "random" element threatening the equilibrium and the position of normative groups. Therefore to scrutinize Jenks' proposed criteria more closely is to recognize that they revolved around the racially defined interests and fears of the state in protecting the biological norm. The claim that "gametic differences" existed between whites and blacks, despite clear and ample evidence of "mulatto" fertility, served to justify the prevention of miscegenation. The notion that the so-called "races" were susceptible to different diseases raised the concern that some terrible disease tolerated by blacks, but not by whites, could eventually spread between them, providing a rationale for prolonged segregation. The all too keen observation that blacks exhibited "pathological reactions" to oppression, and developed particular "instinctive" reactions to the American culture that enslaved them, suggested that greater control over black bodies would be necessary to maintain compliance with the existing order. Thus, devoid of evidence, the criteria proposed by Jenks find their center of gravity

through their correspondence with the strategic objective and its motivating urgent need. Although the scientific evidence in this case was lacking, even by the standards of the time, future research by the committee sought to close the gap between a strategically defined conception of race and the scientific logic and evidence needed to make it a useful biological reality.

Significantly, the Committee on Race Character rejected the generalized criteria proposed by Jenks as subjective. Yet, they were still of the opinion that race clearly existed, and they continued to seek a scientific validation of race for which Jenks could provide no evidence.[29] Consequently, they proposed studies of their own, including the "Study of Normal Race Traits in a Selected Few Races," "Typical Pure-Blood Races for Research," "Other Pure-Blood Groups," "Mixed-Blood Groups," "The Old-Line American Groups," "The Negro," and "The Assembling of Existing Race Data."[30] It was thought that the committee's newly proposed studies would result in an "unbiased observation of facts" regarding race, but the conclusion that race existed was itself motivated by bias. This bias to confirm preconceived racial differences premised upon a hierarchical framework would continue to undermine the scientific validity of later research. Indeed, this pattern of affirming race, and then searching for evidence of its existence, recurs in subsequent research committees commissioned by the NRC. "Of the sixteen projects funded by the committee between 1923 and 1926, almost all of them sought to improve the epistemological approach to the study of race."[31] This included, most notably, the Committee on Scientific Problems of Human Migration (1923-1926). In the second half of the 1920s, it also included the call to find new methods taken up by the Committee on the Study of the American Negro (1926-1929) and the Committee on Racial Problems (1928-1932), in which committee members

29. Yudell. *Race Unmasked*, 65.
30. *Ibid.*
31. *Ibid.*, 72.

continued to search for a scientific methodology for examining the "effects of racial intermixture."[32]

The Committee on Scientific Problems of Human Migration (1923-1926)

Ironically, with the advent of these subsequent NRC committees, the challenges to the sort of methodologies proposed by the likes of Jenks in support of eugenic thought developed more forcefully. Of note were the challenges coming from within its quasi-governmental framework, notwithstanding the permanence of the race concept. As a beneficiary of funding by the Committee on Scientific Problems of Human Migration, the biostatistician and geneticist Raymond Pearl illustrated the looming crisis confronting the methodology supporting the eugenics movement. Producing several papers based on his research on three topics related to race (race and alcoholism, race and cancer, race and tuberculosis), Pearl "provided more mainstream evidence for scientific racism."[33] For instance, his data-driven studies of race difference and pathology showed that cancer rates among whites in Baltimore County were higher and more diffuse than in blacks.

Despite the fact that Pearl's study showed that in this instance blacks were healthier, the focus of scientific racists was establishing the "break" in Foucault's "biological continuum." Thus, Pearl's findings, as Yudell states, reinforced "the popular notion that black and white biology were fundamentally different."[34] This focus on difference due to disease susceptibility meant to imply inferiority enjoys a long history in the US, even when referencing other whites. As Alan Kraut recounts, in 1832 Irish immigrants were "blamed for importing the cholera

32. Yudell. *Race Unmasked*, 73.
33. *Ibid.*, 69.
34. *Ibid.*, 71.

epidemic."[35] In 1916, the Italians "were responsible for the polio epidemic."[36] And in the early decades of the twentieth century Eastern European Jews were often associated with tuberculosis."[37] Therefore, these tactics were not solely based on so-called race, but upon the presumption of biological difference as a pretext to exclusion. Moreover, we should point out that the reinforcement of this notion of difference is still premised upon the "a priori" reasoning that race existed, a staple of the eugenic worldview. Ironically, it was a charge that Pearl would level against Charles Davenport, the founder of the American eugenics movement. In 1917, Davenport presented research on racial hybridization which sought to demonstrate that "racial crossing" yielded inferior offspring in terms of intelligence and fertility. Pearl argued in a letter to the Harvard psychologist Robert M. Yerkes that Davenport's paper, entitled "The Effects of Race Intermingling," was largely supported by "a priori reasoning" and expressed "wishes rather than facts."[38] In Pearl's public break in 1927 with the eugenics movement, which by then he considered a "mingled mass of ill-grounded and uncritical study," he accused them of being "scientific charlatans who had filled the study of genetics and human differences with emotional appeals to class and race prejudices, solemnly put forth as science, and unfortunately accepted as such by the general public."[39]

It is important to consider, however, that Pearl's break with the eugenics movement was not a rejection of the canonical core of eugenics, which promoted the racial superiority of Anglo-Saxon whites. Indeed, in his data-driven cancer study, he rationalizes that "the sites of cancers in whites…represented an evolutionary advance."[40] This conclusion was derived from evidence

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35. Alan M Kraut. "Plagues and Prejudice: Nativism's construction of Disease in Nineteenth-and Twentieth-Century New York City." *Hives of Sickness: Public Health and Epidemics in New York City* (New Brunswick 1995), 67.
36. *Ibid.*, 72.
37. *Ibid.*, 74.
38. Yudell. *Race Unmasked*, 70.
39. *Ibid.*
40. *Ibid.*, 71.

suggesting blacks were more likely to contract cancer "either in the alimentary tract or in the reproductive organs…more constantly and regularly than [was] the case with white people."[41] That is, the higher rates of cancer in whites, instead of being evidence of susceptibility or harmful environment was evidence of inherent superiority. Not only does such a conclusion rest on a linear conception of evolution, an ethnocentric fallacy, but also on the belief that to observe difference is equivalent to observing race. Despite these shortcomings, Pearl, attempting to move beyond the requirements of the Committee on Race Character as they pertained to Jenks, sought the evidence supporting scientific racism through careful data analysis.

The Committee on the Study of the American Negro and the Conference on Racial Difference (1926-1929

This intra-institutional discourse within the NAS-NRC created even more profound conceptual challenges to the eugenics movement through its Committee on the Study of the American Negro. Propagated by Robert Terry, an ardent eugenicist and a professor of anatomy at the Washington University School of Medicine in St. Louis, the Committee culminated in the "Conference on Racial Differences." Organized as a series of discussions held over a two-day period, it was attended by some of the most renowned "natural and social scientists of the time."[42] Moreover, the divide of attendees along eugenic/non-eugenic ideological lines promised vigorous debate.

It is important to highlight here that closing the gap between the myth and reality of race in the minds of Americans, an important goal of eugenicists, was fraught with difficulty. Throughout the nineteenth, twentieth, and twenty-first centuries, as captured by the various committees and conferences of the NRC, constant and varied challenges would arise concerning

41. Yudell. *Race Unmasked*, 71.
42. *Ibid.*, 77.

the methodology and criteria used to define race in biological terms. Of course, this difficulty had nothing to do with either methodology or criteria, for what instrumentality exists that can prove the existence of a fantasy as presented by an "equilibrium myth"? The true difficulty was getting people to understand limited and often contradictory evidence of the existence and nature of racial difference empirically. As it relates to the eugenic apparatus, the ephemeral nature of race within the discourses, which precludes its precise definition, is critical to its longevity. I suggest that as it pertains to defining and measuring race it is, again as Foucault describes, the widely varying "interplay of shifts of position and modifications of function"[43] which provide substantial support to the apparatus in a way that is particularly useful. Because of this range of possible positions, constant challenges can be made to the methods used to quantify and define race *ad infinitum*. Through these myriad challenges, race is by inference reified without the explicit direction of a central organizing body.

Gregory Feldman, anthropologist at the University of British Columbia, offers similar insight. Applying Foucault's notion of the apparatus to contemporary migration policy debates in Europe, he recognizes its "acephalous" nature as vital to the perpetuation of normative immigration policies. Composed of "generic elements that its technicians can easily adapt to new situations[,] it must be designed with impermanence in mind."[44] Ironically, in his analysis, "it" is the migration apparatus which is sustained by its impermanent and generic elements. Indeed, he suggests that "[a]daptability is perhaps the apparatus's most crucial feature."[45] In the context of his analysis, the technicians who avail themselves of the migration apparatus's adaptability are European Union policymakers. Falling, respectively, into right and left neo-

43. Foucault. *Power/Knowledge*, 195.
44. Gregory Feldman. *The Migration Apparatus: Security, Labor, and Policymaking in the European Union* (Stanford 2012), 18.
45. *Ibid.*, 14.

national and neoliberal political camps, they propose challenges to each other's positions, which on the surface are antagonistic; however, policymakers ultimately share "a common interest in not having the migrant speak for him or herself, or at least not in a way that substantially changes migration policy."[46] This coalescence around the common interest is what Feldman calls "spontaneous synthesis."[47]

The synthesis described by Feldman is what we observe during the traditional eugenics movement of the early twentieth century. At the extreme primary poles were the eugenicists and non-eugenicists. Spontaneous synthesis occurred regarding the presumption that race existed at the human level, that it was essential in nature, and that it engendered hierarchical valuations. That race existed was taken for granted and challenges within the NRC discourse of the early twentieth century largely restricted themselves to finding appropriate ways of measuring and defining race. From the perspective of our eugenic apparatus, then, the ideological preservation of race fixes both traditional eugenicists and non-eugenicists alike as functionaries of the eugenic worldview. Thus, by observing the proceedings of the NRC, we see the "shifts" of position and "modifications of function" that through discourse "knowingly or unknowingly" preserve the "strategic objective," even as the eugenics movement during this time was considered to have been waning in influence.

We should examine the operations of the Committee on the Study of the American Negro, with the role of challenge in preserving the strategic objective through spontaneous synthesis in mind. It is of no small import that Fay-Cooper Cole, an anthropologist at the University of Chicago, opened the committee's "Conference on Racial Differences" in 1928 with themes related to preserving the notion of race. This conference, "called to consider the coordination

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46. Feldman. *The Migration Apparatus*, 26.
47. *Ibid.*, 18.

and facilitation of research on problems of racial differences," began with a "discussion about the difficulties in studying and defining the term race."[48] Most troubling for Cole were the varied ways "race" might be employed within any given research article and, more significantly, that the general public believed that those working in the field knew precisely what the term actually meant. Here Yudell highlights that

> Cole's candidness on this matter underscores the contradictions of even the most vehement proselytizers of the term [race] and the word's biological meaning: that in private discussions among colleagues some scientists could admit to their misgivings about the idea of race but in public, be it in scientific journals or popular print, the meaning of race seemed unambiguous.[49]

Among those "vehement proselytizers" harboring misgivings was Charles Davenport, leader of the American eugenics movement. Given his essentialist view of human populations, however, these misgivings related to how to define race were not enough to result in the abandonment of the race concept.

This reluctance was especially salient in the face of research presented by the renowned Columbia anthropologist Franz Boas. His presentation during the conference centered on how "environment mediated intergenerational difference among immigrants."[50] By measuring the cranial indices of newly arrived immigrants and their children who were raised in America, Boas discerned that cranial size and shape varied greatly "both among adults of a single group and within the life of an individual."[51] For this reason, he surmised that it was impossible to speak of a biological race determined by skull size as polygenic theorists had proposed. Boas' work also

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48. Yudell. *Race Unmasked*, 78.
49. *Ibid.*
50. *Ibid.*
51. Gould. *The Mismeasure of Man*, 140.

presented a firm challenge to scientific theories regarding the permanence of racial traits. Indeed, they supported the notion that environmental factors, in conjunction with hereditary ones, determined physical traits with no regard for what we call race. He also identified that "family lines in all so-called 'races' may be much more different among themselves than family lines that happen to belong to two different races."[52] Davenport agreed with Boas' sentiment that race as defined during the time presented difficulties, but this only motivated his desire to find an appropriate definition instead of abandoning it altogether.

The distinction in approach between Davenport and Boas regarding race came to frame future debates, with participants falling into two main camps. As articulated by biologist Ernst Mayr, the eugenicists, with Davenport at the helm, fell into the "typologist," or "essentialist," camp. For these thinkers, each presumed race represented a limited and specific "type" having distinct and immutable essences. Thus, "a typologist looks at skin color and sees not only, for example, whiteness but also all the traits thought to be associated with that color." On the other hand, Boas and others who were considered "population thinkers" proposed that human populations "consist of uniquely different individuals" who differ from each other "not by their essences but only by the mean differences of statistical populations." [53] For these thinkers, diversity was inherent to the human population, which demonstrated greater variation within presumed racial groups than outside of them. Differences presented themselves in fine gradations with no clear line demarcating race, or type, or essence. Thus, as much as race was deemed to exist by traditional eugenicists, it was impossible to speak of the existence of distinct "races" with any clarity.

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52. Yudell. *Race Unmasked*, 79.
53. *Ibid.*, 80.

Unfortunately, the emergence of the population thinkers camp did little to eliminate essentialist thinking or the concept of race, despite the waning influence of the eugenic social movement of the late 1920s to the mid-1930s (when Nazi Germany made eugenics suddenly unpalatable). We might even argue that the discourse surrounding race became more muddled as many within the newly evolving "population" camp embraced typological arguments. Consider the viewpoint of Melville Herskovits, an assistant professor at Northwestern University, population thinker, and acolyte of Boas who presented on "The Role of Social Selection in the Establishment of Physical Type." Although stopping short of regarding the "American Negro" as a new race, he nevertheless did argue that due to anti-miscegenation and segregation, they were a "homogeneous population group."[54] It was a distinction hardly observed by typologist leaning population thinkers like Pearl who in his talk on the "Incidence of Disease According to Race" proposed that the "statistical characteristics of disease do have a rather definite correlation with race." Strict typologists like T. Wingate Todd, an anatomist at Western Reserve University (later Case Western Reserve), who also believed that "the American Negro [was] becoming homogenous," plainly believed that this homogeneity equaled race and could be observed through physical characteristics. His talk on "The Search for Specific African Body Features" sought to demonstrate that differences between "Whites" and "Negros" existed in "absolute dimensions."[55]

Finally, Joseph Peterson, one of the South's most distinguished psychologists, presented on "The Problems and Results of Negro Intelligence." His study of more than "3,000 white and black children from the South[,] concluded that white children performed better on intelligence

54. Yudell. *Race Unmasked*, 83.
55. *Ibid.*

tests."[56] A staunch eugenicist, Peterson nonetheless suggested that determining Negro intelligence was problematic given that "we do not know what intelligence is."[57] Alas, like the many geneticists, anthropologists, sociologists and mathematicians before him, Peterson would ignore what would seem to be debilitating challenges to his underlying premises. Indeed, the lack of a clear definition of race has been timelessly problematic, from the early twentieth century to the present. The response, also timeless, has been to articulate arbitrary criteria for defining race. Thus, Peterson would go on to question whether "the great retardation of the Negroes" was due to "lack of opportunity" or "innate deficiencies."[58] He would propose an experiment whereby representatives of white and black "races" would be educated equally in an orphanage to determine the degree of this innate difference.

The Committee on Racial Problems (1928-1932)

The close of the Conference on Racial Differences under the Committee on the Study of the American Negro ended with several recommendations for research projects to be conducted under the newly commissioned Committee on Racial Problems. Of all such recommendations, only Peterson's racial orphanage was considered as a project under the new committee. In 1930, a conference was held in Detroit to explore the feasibility and research design of the study. It was represented by neuropsychologist Knight Dunlap of John Hopkins, anthropologist Clark Wissler from the American Museum of National History, psychologist R.S. Woodworth of Columbia University, psychologist Madison Bently of Cornell University, and sociologist Robert S. Lynd from the Social Science Research Council (SSRC). While Fay-Cooper Cole and Franz Boas were not members of this particular committee, they offered their concerns in advance of

56. Yudell. *Race Unmasked*, 84.
57. *Ibid.*, 85.
58. *Ibid.*

the conference. Cole was concerned that controlling for bias among caretakers attending to black and white children would be impossible and would alter the experiences of the children being studied. Boas, surprisingly in favor of the study, thought it prudent to have a "Negro on [the] committee."[59]

Ultimately, the study was abandoned due to the methodological difficulties of fashioning an experiment to "throw light on the influences of heredity and environment in producing the differences actually observed in present-day groups in health, vigor, mental achievements and social adjustments."[60] These difficulties would all stem from the limited control of researchers over the social and cultural factors that might undermine the validity of the experiment. Most troublesome was the potential for bias as pointed out by Cole.

With the dissolution of the Committee on Racial Problems, the era of NRC focus on "racial" difference came to a close, at least for the time being. As Yudell points out, however, their influence throughout the first two decades of the 1900s "exemplified the changing scientific approach to race in the United States."[61] During this period, the definition of race had narrowed to focus primarily on skin color, and large scale studies were commissioned to discover the biological nature of so-called racial difference. And these differences were thought to be found in the areas of intellect, pathology and morphology and would go on to model research into the present. Significantly, this model would propagate the notion of race as a common sense biological reality well into the twentieth and twenty-first centuries, despite the non-existence of clear defining criteria. As we have seen, the collection of discourses, each featuring a particular method for trying to define race, has had the paradoxical effect of making the unproven and ambiguous more legitimate and concrete. Likewise, oppositional interplays between eugenicists

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59. Yudell. *Race Unmasked*, 87.
60. *Ibid.*
61. *Ibid.*, 88.

and non-eugenicists, within the traditional eugenics movement, have never provided a challenge to the notion of race, only what it might mean to be of a different race. Its persistence as a concept throughout Foucault's "heterogeneous ensemble" is quite telling. That race could proceed unscathed through the various interplays between the governmental and quasi-governmental institutions, the relationships between these institutions, the discourses and scientific statements reveals its social and political importance. It reveals through the "said as much as the unsaid" the role of difference in satisfying the state's "urgent need" to maintain the power of normative groups relative to non-normative groups. Quintessentially eugenic in outlook, the maintenance of the equilibrium defies expectations by escaping the aegis of the government. The responsibility is a shared one that is easily taken up by non-governmental organizations, and as we will see philanthropic institutions as well.

Philanthropic Institutions: The Carnegie Corporation, the Rockefeller Foundation and the Pioneer Fund

With the declining interest of the federal government during the Great Depression and FDR's New Deal initiatives, a number of philanthropic institutions would increase their financial support roles to fill the void. Their money and social capital would allow them to form institutions to direct the course of research to serve their own interests, while functioning as part of the larger eugenic apparatus. As Lagemann tells us, this new era of "scientific philanthropy" was initiated by the largesse of the Carnegie Corporation. Founded by the steel magnate to divest himself of his millions, the Corporation, endowed with over $125 million, served as a model for the private promotion and diffusion of knowledge—"the politics of knowledge."[62] The interest of private organizations, like the Carnegie Corporation, in informing public policy

62. Lagemann. *The Politics of Knowledge*, 12-13.

was to "increase the nation's capacity for *governance* without enlarging the *government*."[63] They wielded the enormous capacity to disseminate information to disparate groups throughout the United States, and the world, allowing these groups to coordinate around specific issues. Eugenics was one of these issues. As Lagemann further points out, the trustees of the Carnegie Corporation "were also guided in their grant decisions by an acknowledged wish to protect Anglo-Saxon prerogatives, customs, and genes."[64] Their belief, representative of a large number of their socioeconomic peers, was that "everything from intelligence to business initiative was transmitted over generations through biological inheritance."[65] As a consequence, the early focus of the Corporation was geared toward preserving this inheritance and ensuring that its recipients would continue to control political power in America. Therefore, it should come as no surprise that a great number of NAS-NRC members, who were also members of organizations and institutions promoting eugenic philosophy, would be socially, politically, and ideologically connected to philanthropic institutions like the Carnegie Corporation, the Rockefeller Foundation, or the Pioneer Fund.

Indeed, the Carnegie Corporation awarded a grant of "$5 million to the National Academy of Sciences-National Research Council" in 1919.[66] A substantial sum, this funding provided for the establishment of a headquarters and an endowment that would preserve the quasi-governmental organizations into the present. The administration of the Corporation was overseen by Carnegie's attorney, Elihu Root, who chaired the board. Root himself was a powerful figure in American politics. Once a successful attorney who led the Bar Association, he later served as Secretary of War from 1899 to 1904 under presidents McKinley and Roosevelt,

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63. Lagemann. *The Politics of Knowledge*, 29.
64. *Ibid.*, 30.
65. *Ibid.*
66. *Ibid.*, 29.

and then as Secretary of State for President Roosevelt from 1905 to 1909.[67] It was his influence which resulted in the permanency of the NRC through presidential executive order.[68] A firm eugenicist, he used his authority over Carnegie's wealth as well as his political influence to support the initiatives of the eugenic movement's leadership.

For example, in 1904 the Carnegie Institute of Washington (CIW), which was funded by the Carnegie Corporation, established the Cold Spring Harbor Laboratory for Experimental Evolution on behalf of Charles Davenport. The $10 million grant provided a central operational base from which Davenport's movement could flourish by coordinating its predominantly upper social echelon constituency.[69] The laboratory was responsible for training over 250 field workers, who collected data on "genetic defectives" for the Eugenic Records Office (ERO) which was established in 1910. Initially funded by Mrs. E.H. Harriman, the widow of railroad magnate Edward Henry Harriman, it was also situated at Cold Spring Harbor.[70] In 1916, the Cold Spring Harbor project also published the *Eugenical News*, which widely circulated the latest in eugenic propaganda.[71] For example, it published articles touting the virtues of the infamous "one-drop" measure.[72] Passed into law in Tennessee in "1910 and mimicked by other Southern states," the one-drop rule determined who was black by assessing the amount of black ancestry one had.[73] The *Eugenical News* would also reprint the findings of US twin studies in

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67. Lagemann. *The Politics of Knowledge*, 45.
68. *Ibid.*, 47.
69. Lily E. Kay. *The Molecular Vision of Life: Caltech, the Rockefeller Foundation and the Rise of the New Biology* (New York 1993), 27.
    Yudell. *Race Unmasked*, 31-32
70. Dorothy Roberts. *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty* (New York 1997), 62.
71. Black. *War Against the Weak*, 98.
72. *Ibid.*, 174-175.
73. Roberts. *Fatal Invention*, 19. It is interesting to note that the amount of drops needed to make one black varied from state to state. Indiana for example adopted a one-eighth standard while Oregon used a one-fourth test. In effect one could change race by simply crossing state lines (Roberts 2011).

support of eugenic theories of trait heredity in 1916 and 1917.[74] In 1933, it even presented articles in support of the Nazi government's sterilization programs.[75] In fact, several of the paper's advisory committee members were Nazi scientists, including Otmar Verschuer, the proud mentor of Josef Mengele.[76]

Davenport's project was incredibly influential. His research at Cold Spring Harbor Laboratory contributed significantly to the popularization of eugenic thought within mainstream America. As Dorothy Roberts details,

> Ordinary Americans attended lectures, read articles in popular magazines, and participated in Better Babies contests. Those devoted to propagating eugenics joined organizations such as the American Eugenics Society, the American Genetics Association, and the Human Betterment Association. The *Reader's Guide to Periodical Literature* listed 122 articles under Eugenics between 1910 and 1915, making it one of the most referenced topics in the index. At most American colleges, courses on eugenics were well attended by students eager to learn how to apply biology to human affairs.[77]

Each of these entities engaged with the public and communicated eugenic ideology on different levels. Events like the "Better Babies" contests, or "Fitter Families for Future Firesides" competitions, would assess young tykes and their parents and grade them based upon their eugenic fitness. Contestants provided their genealogies, and submitted themselves to medical examinations, including intelligence tests. "Under the aegis of the American Eugenics Society, they were soon being featured—together with eugenic exhibits—at seven to ten state fairs

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74. Black. *War Against the Weak*, 349.
75. *Ibid.*, 300.
76. *Ibid.*, 344.
77. Roberts. *Fatal Invention*, 39.

yearly."[78] Not surprisingly, following a number of contests, future marriages were arranged to preserve positive traits within the population.[79] These events made the American Eugenic Society (AES) the key advocacy and propaganda wing of the eugenics movement. The American Genetics Association, formerly known as the American Breeders Association (ABA), would also promote the idea that humans could be bred as easily as cattle, an extremely simplistic view of hereditary science. Simplistic, but nonetheless popular. Finally, the Human Betterment Foundation (HBF) was recruited to encourage legislation to promote Nordic purity. Its work, under its founder Ezra Gosney, would influence Hitler's sterilization programs.[80] Moreover, we should note that the eugenic parallels between the German authoritarian state and the US democratic state via support relationships between scientists, government officials and philanthropists should dispel the notion that governmental control over choice is necessary for the formation of a eugenic worldview.

At the same time that eugenics was gaining popularity, Davenport and his lieutenant Harry Laughlin sought to expand the political power of their movement. In 1913, they established the Eugenic Research Association (ERA) at Cold Spring Harbor to "escalate its research into legislative and administrative action" and to generate "public propaganda for the causes of eugenics, raceology and Nordic race supremacy."[81] Among the ranks of its initial fifty-one charter members were the most venerated psychologists, medical and life science professionals of the day, many of whom participated in NAS-NRC sponsored research on race and/or were themselves members. Two of the most notable members were the successful corporate attorney and part-time zoologist, Madison Grant and the historian Lothrop Stoddard.

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78. Daniel J. Kevles. *In the Name of Eugenics: Genetics and the Uses of Human Heredity* (Massachusetts 1985), 61.
79. Bonnie Rochman. *The Gene Machine: How Genetic Technologies Are Changing the Way We Have Kids—and the Kids We Have* (New York 2017), 66.
80. Black. *War Against the Weak*, 37, 39, 277.
81. *Ibid.*, 90.

Grant was known internationally for penning *The Passing of the Great Race*, a bestseller. Revered by eugenicists, his book, which should have been considered a work of fiction, promoted the notion of white Nordic superiority and rued the American infestation of races from the Mediterranean Basin and the Balkans. He particularly despised the Irish, who he insisted were socially irrelevant. "Negroes" were clearly inferior in his view, but necessary as servants.[82] (A flattering assessment coming from a eugenicist, I suppose) Stoddard, meanwhile, had also written a bestseller imaginatively entitled *The Rising Tide of Color Against White World Supremacy*. Through eugenic rhetoric, he argued that "colored" people were threatening to overwhelm white supremacy "through rapid population growth, the demise of colonialism, and poor white breeding practices."[83] Both men urged segregation and restrictionist immigration measures, and the value of their propaganda efforts cannot be understated in making these measures reality.

Laughlin was also an active lobbyist who sought to infuse eugenic thought into public policy, particularly immigration reform and sterilization. He, along with Elihu Root, would appear before Congress multiple times "promoting the belief that immigration was foremost a biological problem."[84] Congressman Albert Johnson, chairman of the House's Committee on Immigration and Naturalization and member of the Eugenics Committee, eagerly accepted Laughlin's expert testimony, and the House and Senate passed the Johnson-Reed Immigration Act in May of 1924. Signed into law by President Calvin Coolidge, it would severely restrict non-Nordic immigration into the United States.[85] Laughlin would also prepare a report that "proposed a schedule for sterilizing 15 million people over the next two generations, as well as a

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82. Yudell. *Race Unmasked*, 51.
83. *Ibid.*, 42.
84. Lagemann. *The Politics of Knowledge*, 81.
Yudell. *Race Unmasked*, 34.
85. Black. *War Against the Weak*, 202.

model sterilization law to accomplish this plan."[86] In Virginia, he would testify in a deposition, supporting the sterilization of Carrie Buck. His assessment of Buck's family records, presumably obtained by the ERO, determined that Carrie suffered from "hereditary feeblemindedness." This determination was entirely sufficient for Supreme Court Justice Oliver Wendell Holmes, himself a eugenicist, to approve her sterilization order. The 1927 decision echoed eugenic philosophy through Holmes's famous declaration that "[t]hree generations of imbeciles are enough."[87] Throughout the twentieth century dozens of states would legalize sterilization, including Indiana, Connecticut, California and New York. Thousands of men and women in the United States would be sterilized under the biopolitical regulation of human beings as "a global mass."

Under Elihu Root, the Carnegie Corporation became an important extension of the eugenics apparatus. As one such institution it promoted the elements of the eugenic worldview in their most extreme forms; they were not alone. Although the Rockefeller Foundation did not engineer eugenics programs of its own, it did financially support a number of existing projects. These included the Bureau of Social Hygiene (BSH), which was incorporated in 1913 to remedy crimes "which adversely affect the well being of society."[88] It also included the Laura Spelman Rockefeller Memorial (LSRM), incorporated in 1918 to develop methods of "social control on an international scale."[89] Both programs would heavily rely on Davenport and his fellow eugenicist Henry Goddard for their "hereditarian frameworks of social deviance."[90] The

86. Roberts. *Fatal Invention*, 39.
87. Roberts. *Killing the Black Body*, 69.
88. Kay. *The Molecular Vision*, 27.
89. *Ibid.*, 28.
90. *Ibid.*

Rockefeller Foundation also supplied substantial funding for the ERO at Cold Spring Harbor, and had been an early funder of NRC postdoc awards to the tune of $100,000 a year.[91]

But while the breadth of financial support displayed by the Carnegie Corporation and the Rockefeller Foundation in support of scientific racism was significant, it could be argued that the Pioneer Fund was the most single-minded in ensuring that its funds supported eugenic research. William H. Tucker, professor of psychology at Rutgers University, has researched and written extensively about the non-profit and believes that "the evidence available now strongly indicates that Pioneer has indeed been the primary resource for scientific racism."[92] Founded in 1937 by Wickliffe Preston Draper, the Pioneer Fund has supported some of the most influential scientific racists of the twentieth and twenty-first centuries. Charles Davenport had the distinction of being the first to personally receive funding from Draper before the fund was even established.[93] In 1928, the multimillionaire funded Davenport's research on miscegenation in Jamaica with a $10,000 grant. The research resulted in Davenport's 500 page tome *Race Crossing in Jamaica*. Confirming the racial thinking of the time, the work sought to prove that "hybridization between blacks and whites" produced "disharmoniously put together people," that hybrid populations carried "an excessively large number of intellectually incompetent persons and that "whites were superior in mental capacity to both blacks and browns."[94]

When the fund was officially established, Draper selected Davenport's second-in-command at the ERO, Harry H. Laughlin, to be its first president. Arguing that the presence of blacks in America was "the worst thing that ever happened to the…United States," Laughlin held a special place in Draper's heart. With Laughlin at the helm, he could be sure that fund

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91. Black. *War Against the Weak*, 94.
Yudell. *Race Unmasked*, 63.
92. William H. Tucker. *The Funding of Scientific Racism: Wickliffe Draper and the Pioneer Fund* (Chicago 2002), 9.
93. *Ibid.*, 24.
94. Yudell. *Race Unmasked*, 91.

recipients would be respectably racist. Laughlin would later introduce Draper to Earnest Sevier Cox, a klansman and the founder of the White American Society, which advocated for black repatriation. Civilization, all civilization, Cox believed, was the result of white purity, a theme he upheld in his 1923 book *White America*. "*That the colored races do not originate,*" he opined, "*is the most solemn fact of human history.*"[95] The fund would go on to support Cox's 1930s legislative attempts to send all blacks back to Africa.[96]

In more recent times, between 1973 and 1999, the Pioneer Fund would also support the likes of Roger Pearson, the British-born pro-apartheid anthropologist who founded the Institute for the Study of Man. Established in Washington D.C., the institute investigated "the origins and nature of man in order that contemporary Western society and its pressing problems might be more clearly perceived."[97] A number of books and articles circulated by the institute and distributed in journals like *Mankind Quarterly* would address these problems while providing solutions. Thus, through various pseudonyms Pearson would laud the merits of "eugenic breeding practices…[and] genetic based hierarchies [in] which an aristocracy of greater innate value enjoyed the right of command over inferiors."[98] Between 1981 and 1992, through the reprinting of the same article, he would defend racial prejudice and the distrust of members from other races as "a biological necessity and [the] mark of healthy-minded people."[99] For his efforts, Pearson would receive nearly $2 million, adjusted for inflation, from the fund between 1973 and 2000.

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95. Tucker. *The Funding*, 12.
96. William H. Tucker. "The Leading Academic Racists of the Twentieth Century." *The Journal of Black in Higher Education,* No. 39:
97. Tucker. *The Funding*, 170.
98. *Ibid.*, 172.
99. Tucker. *The Funding*, 175.
Tucker. "The Leading Academic Racists," 94.

Moreover, Pioneer through its cadre of scientific racists and their institutions would fund retrenchment campaigns against the Civil Rights Act of 1964 and support efforts to overturn the 1954 *Brown v. Board of Education* decision.[100] Toward this effort, its monies would fund Arthur Jensen and his 1970s proposition that genetically blacks were intellectually inferior to whites. The theory would be infamously reasserted by Richard Herrnstein and Charles Murray in their book *The Bell Curve* (1994).[101] Leon Kamin, a professor of psychology and well-known critic of hereditarian studies, would disapprovingly point out that Herrnstein and Murray in their discussion of race and IQ "had turned…to Richard Lynn whom they described as a leading scholar of racial and ethnic differences."[102] Lynn, also a Pioneer Fund beneficiary and former editor of *Mankind Quarterly* believed that the recent Ice Age of 10,000 years ago produced "a survival of the mentally fittest among whites who occupied northern climates." In other words, genetically superior intelligence resulted from harsh climates whereas the favorable climates of Africa placed little selective pressure to favor higher intelligence.[103] In 1997, Lynn would publish the article *Dysgenics*, "arguing that the eugenicists of the nineteenth and early twentieth centuries had been correct in predicting the deterioration of Western civilization as a result of modern medical techniques and charitable assistance to the poor."[104] Such assistance, according to Lynn, allowed the creation of a genetically less intelligent and less moral underclass. These were some of the men opposed to equal rights for African-Americans on the grounds that blacks were inherently inferior.

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100. Tucker. "The Leading Academic Racists," 93.
101. Lee D. Baker. *From Savage to Negro: Anthropology and the Construction of Race, 1896-1954* (Berkeley 1998), 212.
102. Tucker. *The Funding*, 2.
103. "A Rogue's Gallery of Scientific Racialists." *The Journal of Blacks in Higher Education*. No. 31 (Spring 2001), 108-111.
104. Tucker. *The Funding*, 193.

In the twenty-first century, the Pioneer Fund has attempted to rebrand itself. In 2001, Lynn would write *The Science of Human Diversity: A History of the Pioneer Fund* omitting any reference to the fund's efforts to oppose the rights of blacks.[105] In 2002, J. Philippe Rushton, psychology professor and a Pioneer Fund author who attempted to persuade the public that "blacks have smaller heads, smaller brains, and larger sex organs" than whites, became the president of the fund with Richard Lynn as one of its illustrious board members.[106] At the direction of these men, the fund would adopt the additional tactic of routing grants from the fund to scientists through new intermediaries like the Atlas Economic Research Foundation or the New Century Foundation to obscure the link between these scientists and Pioneer funding, thus masking the intent of the scientist's "scholarship." Despite these attempts to distance Pioneer from blatant racist overtures, the fund's connection to *American Renaissance*, an organization and periodical dedicated to protecting Western civilization from blacks and other racial minorities makes their intentions unmistakably clear. Pioneer members like Rushton, Pearson or Lynn have written articles for *American Renaissance* and attend their events. Indeed, the 2002 American Renaissance Conference featured a who's who of scientific racists. This would include former Patrick Buchanan adviser Samuel Francis who lectured on "Immigration and National Security." It would include retired computer consultant Glen Spencer who argued for a preemptive invasion of Mexico to stave off the stealthy annexation of US land in his talk "The Second Mexican-American War."[107] Attendees would also include City University of New York professor Michael Levin who argued that mainstream white Americans needed to understand the

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105. Tucker. *The Funding*, 214.
106. "A Rogue's Gallery," 108.
Tucker. *The Funding*, 214.
107. Mike Hill. "America's Biennial Gathering of Academic Racists: The 2002 American Renaissance Conference." *The Journal of Blacks in Higher Education*. No. 35 (Spring 2002), 95.

"intrinsic defects of the mutagenically disabled Negroid species."[108] Jared Taylor, the founder of *American Renaissance* and organizer of its events, would implore his "genetic kinfolk" to answer the call for "racial solidarity" and work to hold the eroding line of "biological supremacy."[109]

Conclusion

By extracting the eugenic apparatus from Foucault's broader concept, I have sought to explain the persistence of scientific racism and eugenic ideology as a worldview within the United States. I argue that the dynamic and adaptable elements of the apparatus function without the explicit instruction of a central organizing body and often seem to work at cross purposes, but that they ultimately coalesce around the state's urgent need. This need is to define and preserve the norm which eugenic philosophy defines through its myths as white Anglo-Saxon. Distributed around the norm are the variations of deviancy which must be kept at bay by elements of the apparatus. As outlined in this chapter, these elements include everything from the governmental organizations which articulate strategic objectives and urgent needs, to the non-governmental and philanthropic institutions which help to fulfill these objectives and needs, to the series of discourses, which all interact in varied ways to reinforce the eugenic worldview.

Of course, one could conceivably argue that the importance of the apparatus is overstated. Perhaps the influence of eugenics is not as widespread as our analytical framework suggests, and what is catalogued here only affects the extremists who are clinging to outmoded notions of racial superiority. Tucker's closing thoughts suggest as much. In his opinion, the work of the Pioneer Fund, and institutions which share its extremism, represent desperation. Few within the scientific community or the public, he argues, find any scientific validity in their views. In his

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108. Mike Hill. "America's Biennial Gathering," 96.
109. *Ibid.*, 94.

view, racism in our contemporary colorblind age is a "social pathology that must be exposed and eliminated," and the exponential growth of "interracial marriage" will change our society's notion of race. His is a popular sentiment, one that is optimistic, and one that can be appreciated for its innocence. But innocence is no safeguard against peril.

First, I am not so confident that the scientific community has rejected eugenic thought to the degree suggested. The presumption that race exists, and that there are "pure" races, still finds its way into scientific discourse. Medicines are now being tailored to one's so-called race and marketed accordingly. In addition, Companies like 23 and Me or Ancenstry.com can supposedly tell us how African or European we are down to the decimal point. Indeed, Tucker's own language implies two important premises underlying the eugenic worldview. The term "interracial" not only presumes that "racial" differences exist, but that there are "pure racial types" which can be blended into mosaics. Perhaps he uses these terms as common references, as we all do. But what value does defining race have for a scientist? I point this out, not to condemn Tucker as some racist in hiding, but to highlight just how engrained racial concepts are in our thinking even though we know them to be false and repugnant.

Second, the idea that interpersonal relationships between people with different skin tones will change racial attitudes discounts the functioning of racism as a system. The system is not concerned with feelings per se. Perhaps the people within those relationships will feel differently about skin color. But those who believe, and have been raised to believe in their own racial purity and the access to power and resources that this purity allows them will recognize the need for greater social control against growing odds. Despite the exponentiality of "interracial" relationships, disparities between so-called whites and blacks continue to widen in terms of wealth and health outcomes. Segregation is still high. Racially disparate incarceration rates are

still high. We still have to convince ourselves that black lives matter. It is a misconception that eliminating superficial expressions of bias or prejudice will eliminate racism.

What, then, is to be made of our historical investment in discovering racial difference? It is too easy to suggest that the entire scientific community over the last 300 years was motivated by hatred. Some, we should assume, were motivated by a desire to understand hereditary variability, imbue it with significance, and eventually control it. They observed their environments and noted that plants and animals could be bred for specific traits. Of course, they asked themselves, why not us? But the scientific inquiry is subject to a larger social and political reality. In this context, difference is never simply observed to sate curiosity. In a racialized society, human difference is currency. In a biopolitical state, difference is measured against a norm, and thus difference constitutes deviance. There is no hatred, or bias, or prejudice involved in this calculation. In the end those feelings are unnecessary. To the system of biopower, racism is simply a break in the human continuum. It is the power of defining, measuring and regulating life. From the perspective of the scientific racist, it is nothing more than a practical assessment in a world of limited resources. In this case, what portends for a world where the illusionary definitions we create for humankind can become biological realities?

Medical statistics will be our standard of measurement: we will weigh life for life and see where the dead lie thicker, among the workers or among the privileged.
—Rudolf Virchow
Sociology of Health and Illness

Even with the bioethical concept of autonomy, choice, consent, and beneficence codified into medical practice and research, American society is characterized by wide discrepancies in genetic health access and literacy that can easily turn one person's perfection into another person's defectiveness.
—Alexander Minna Stern
Eugenic Nation

CHAPTER 3: The Biomedical Industrial Complex as Part of the Eugenic Apparatus

Introduction

In the United States, the eugenic apparatus operates to produce negative outcomes for non-normative groups in ways that seem covert in contrast to the overt operations seen in Nazi Germany, during apartheid in South Africa, or at the height of the eugenics movement in early twentieth-century America. In these overt cases, extreme "eugenic strategies" are regarded by mainstream colorblind accounts as separate from patterns of "normal" racial exclusion.[1] In assessing the covert machinations of the apparatus, however, careful observers recognize these strategies as an extension of a larger socio-political trajectory. Supported by a widespread and diverse network of institutions and practices, this seemingly incoherent trajectory is cemented by

1. By "eugenic strategies," I refer to long-term methodologies premised upon eugenic logic used to maintain, propagate, or create outcomes consistent with the eugenic worldview within a particular sphere of control, e.g. immigration, sterilization, segregation.

the constellation of discourses engendered regarding race. That this eugenic apparatus is less visible is no indication of its effectiveness. Indeed, its longevity and widespread outcomes, disproportionately affecting non-normative groups, are a testament to its potency.

In particular, there are clear links between the biopolitical directives of the eugenic worldview and contemporary outcomes regarding immigration, sterilization, segregation, and mass incarceration, although we are told that since the 1940s the eugenics movement had lost its influence. What we find though, in fact, is that the seeds planted by the overtly eugenic policymakers and lawmakers of the 1920s, to make non-normative groups the disproportionate targets of immigration control, of sterilization laws, of laws of segregation, and of constant surveillance have produced just as impressive yields through the twentieth, and now twenty-first century. And given the various eugenic strategies covertly employed through the eugenic apparatus, as well as the widespread harms they have manifested for non-normative groups within the population, it is reasonable to investigate if other institutions exist that produce similar outcomes.

Given the central role of scientific investigation in supporting superiority myths in the service of the eugenic worldview, I propose that one central focus should be the growing US biomedical industrial complex that has emerged in this new age of genomics. I define the biomedical industrial complex as a diverse network of institutions, practices and discourses, composed of the Human Genome Project as well as the biotechnology firms, universities, pharmaceutical corporations, health care providers, and insurers that have profited from greater understanding of the human genome and advances in genetic science. Given the historical patterns outlined throughout this project, I find it important to consider the following question:

how might the eugenic worldview continue to inform this biomedical industrial complex, even when geneticists have sought to foreclose overt eugenic applications?

I contend that as a prominent part of the eugenic apparatus in the United States, the biomedical industrial complex seeks to increase the life chances of the norm relative to the non-norm consistent with the eugenic worldview. Integral to this process of increasing the life chances of the norm is a discursive system which, despite its interplays contesting how race is defined, presumes and preserves the biological validity of race. This "presumption and preservation" tandem is further solidified through the commercialization intrinsic to the biomedical industrial complex. And critical to achieving the strategic objective of the eugenic apparatus is the prioritizing of the normative group as the focus of life-enhancing medical technologies, a reality superimposed onto existing inequalities in access to health care. This is Foucault's biopolitical concept of making some live while letting others die. But to understand the import and functioning of this apparatus, and how it fulfills its mandates, we first need a basic understanding of how the genomic age came to be.

Historical Background of Genetics and the Genomic Age

For millennia it was unknown how "like begat like." It was a mystery how children obtained many of the characteristics of their parents across generations.[2] A number of prominent thinkers including Pythagoras in the 6th century BC, Aristotle in the 4th century BC, Paracelsus in 1520, and Caspar Wolff in 1768 would offer a number of interesting theories, but the debate

2. Mukherjee. *The Gene: An Intimate History* (New York 2016), 23. Pythagoras would offer the theory of "spermism," which proposed that information carrying these parental characteristics was stored in male semen. Aristotle would propose that fetuses were formed by both male and female contributions. The male sperm carried the instructions (message) to build a child, while the female sperm (menstrual blood) provided the raw material from which the child was made. Paracelsus would instead propose the theory of "preformation," the idea that the fetus existed in miniaturized form within the sperm and would only grow when received by the womb. Caspar Wolff would argue that instructions were blended together in the fertilized egg, and then a guiding principle "like an invisible hand" would mold the egg into a human form (Mukherjee 2016).

over the mechanisms responsible for heredity would continue until Gregor Johann Mendel's eight-year experiment with peas was rediscovered in 1900. Written in 1865, the importance of his report "Experiments in Plant Hybridization" would not be appreciated until Hugo de Vries, Carl Torrens, and Erich Von Tschermak-Seysenegg independently conducted their own experiments and obtained results that were consistent with Mendel's findings. Mendel's report outlined the secrets of heredity as observed in successive generations of the pea plant *Pisum sativum*. Due to his large amount of data (28,000 plants, 40,000 flowers, and 400,000 seeds) and meticulous notes, Mendel would uncover that the hidden "*discrete pieces of information*," passed from parent plants to offspring, demonstrated a clear correlation with particular phenotypes and were either purely dominant or recessive: yellow versus green seeds; smooth versus wrinkled seeds; green versus yellow pods; inflated versus constricted shaped pods; white versus violet flowers; axial versus terminal position of the flower; tall versus short.[3] In the 1900s, these discrete units, which Mendel called "characters," would come to be known as alleles for a given trait, or alternative versions of what came to be known as genes.[4]

By observing the frequency with which the characters appeared, disappeared, and then reappeared across generations, Mendel could predict their probabilities and thus confirm the composite nature of the hereditary units. His findings regarding these units, would revolutionize modern biology, but also raise new social and political questions. William Bateson, the English biologist who popularized Mendel's work after it had been ignored for thirty-five years, would coin the term "genetics," the study of heredity and variation;[5] and he would also present in eugenic terms the social and political importance of genetics once human beings finally

3. Mukherjee. *The Gene*, 52.
4. Steven J. Heine. *DNA is Not Destiny: the Remarkable, Completely Misunderstood Relationship between You and Your Genes* (New York 2017), 13.
5. It was Wilhelm Johannsen, Bateson's colleague, who coined the term "gene" as a unit of heredity (Mukherjee 2016).

understood the secrets of heredity. The power to manipulate the "composition of individuals," he said, would eventually be "applied to control the composition of a nation."[6] The next step was to discover the composition of the genes themselves.

This milestone was reached in April 1953, when James Watson and Francis Crick published their paper "Molecular Structure of Nucleic Acids: A Structure for Deoxyribose Nucleic Acid" in *Nature* magazine.[7] The paper outlined their ball-and-stick model of DNA, with sugar and phosphate molecules arranged as the backbone of a spiraling helix and the bases within facing each other in complementary pairs. Their model relied on the DNA X-ray diffraction imagery of Rosiland Franklin, which suggested a helix, and the discovery of adenine-to-thymine and guanine-to-cytosine ratios by Erwin Chargaff, suggesting complementary base pairing. Indeed, Franklin confirmed the theoretical accuracy of Watson and Crick's model once it was completed and wrote an article in the same issue of *Nature* that provided crystallographic evidence in support.[8] The structure of DNA, Watson and Crick would note, suggested a copying mechanism for the genetic material. The search for this mechanism, and more, would become the focus of the scientific community. Within the coming decades, it was discovered that genes acted by encoding RNAs; the genetic code, which determined which triplets of DNA bases coded for which amino acids, would be solved; science's central dogma of biology (DNA→RNA→Protein) would be established; and beginning in the 1980s, the Human Genome Project (HGP), an "international venture involving Great Britain, France, Japan, China, and Germany" commissioned to sequence the human genome, would be under way.[9]

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6. Mukherjee. *The Gene*, 63.
7. *Ibid.*, 158.
8. *Ibid.*
9. Dorothy Roberts. *Fatal Invention: How Science, Politics, and Big Business Re-create Race in the Twenty-first Century* (New York 2011), 49.

By the turn of the millennium, a draft had been finished and in 2003 the sequencing of the entire human genome, some 3.2 billion base pairs, had been completed. Spread over 23 chromosomes, the genome coded for approximately 20,000 genes, far fewer than had previously been estimated given that apparently simpler life forms like corn, rice, wheat, or onions all contained *more* genes. Moreover, only about two percent of the genome coding for proteins contained these genes. Scientists would also discover thousands of pseudogenes, genes that no longer functioned, along with a cluster of 155 genes on chromosome 11 responsible for the ability to discern thousands of smells. Indeed, there were many things to annotate and discern concerning the genome, and in 2003 the National Human Genome Research Institute (NHGRI) commissioned the Encyclopedia of DNA Elements (ENCODE) project to delineate all of its coding elements.[10]

Of great interest in the emerging era of genomics was the discovery that the genomes of human beings were 99.9 percent identical. Francis Collins, the head of the HGP, and Craig Venter, the founder of Celera Genomics, would declare that there was only one human race. The twenty-first century declaration was an attempt to end long standing debates about race and racism occurring in the United States and around the world, particularly after the eugenic specter of World War II. During those years, an international community of scientists, sociologists and anthropologists led by Ashley Montagu would denounce racial divisions. Despite these proclamations, the concept of a unified human race could not be insulated from various challenges, ranging from direct opposition to vacillations regarding the degree to which race had a biological basis. Ultimately, discloses Michelle Brattain, "most proved unwilling to question

10. Encode Project Consortium, 1.

the validity of race as a natural category."[11] Some scientists even argued that race was a biological certainty and sought to make racial distinctions along cultural and intellectual lines. As I have already noted, the debate continues well into the twenty-first century.

Race as a Discursive System within the Eugenic Apparatus

In the previous chapter, I presented the NAS-NRC committee investigations as examples of how the eugenic apparatus modified the various interplays of "shifts of position," as Foucault describes, regarding race. These interplays occur through debates over how to define race and have ultimately reified its usage; given the doubt surrounding its validity through continued discourse, race as a biological reality is accepted by default. Here we should consider in more detail how race is routinely naturalized and reified in the biomedical industrial complex in the genomic age and the problems inherent in these discursive formations. Building on Foucault's interplays between power and knowledge at the heart of the apparatus, Stuart Hall adds what he calls the silent and logical conclusion which yields "*power-knowledge-difference*."[12] Hall's three-part concept is consistent with the idea presented in this project that biopolitical power utilizes knowledge, primarily through science (or at least it pretends to do so), to enshrine difference as a constant within the social and political sphere. It is a concept that should aid our assessment of race and outline its primary function of representing difference. This difference, Hall asserts, is established through discursive systems, "racial discourses [which] constitute…[a] persistent classificatory system."[13] These discourses, within which race acts as a sliding signifier, do not reference "genetically established facts but the systems of meaning that have come to be

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11. Michelle Brattain. "Race, Racism and Antiracism: UNESCO and the Politics of Presenting Science to the Postwar Public." *The American Historical Review*. Vol. 112, No. 5 (December 2007), 1388.
12. Stuart Hall. *The Fateful Triangle: Race, Ethnicity, Nation*. ed. Kobena Mercer (Cambridge 2017), 48.
13. *Ibid.*, 46.

fixed in the classifications of culture" even as science is used to validate their existence.[14] It is from this perspective that I consider the continuing discourses of race in the genomic age. Despite the absence of proof that race is a viable biological reality for human beings, it still maintains itself as a social signifier, constantly subject to modification.

Considering race as a discursive system, then, we should reconsider the tempting 99.9 percent data point supporting the notion that there is only one human race. In fact, when observing the sequences of nucleotides which make up our genotypes—adenine, thymine, cytosine, and guanine—human genomes vary from each other by only one-tenth-of-one-percent (.1%). That is to say, differences occur in only one in every one thousand base pairs.[15] By comparison, penguins, which are physically indistinguishable to the human eye, vary genetically from each other by more than .2 percent, or twice the amount of difference present in human beings. Fruit flies, meanwhile, register 10 times the amount of difference, and yet we consider them all to be fruit flies.[16] Thus, it appears that there is apparently little genetic or biological justification for classifying people into differing races. This is especially true regarding skin pigmentation, which accounts for very little genetic information, perhaps no more than a handful of genes.[17] It would make more sense to create racial categories according to musculature, which is presumably shaped by a larger amount of genetic material. But even this would be problematic, since musculature is likely to be confounded by another category, like height for example. In the final assessment, as more categories are added, the racial picture becomes more and more muddled.

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14. Hall. *The Fateful Triangle*, 45.
15. Mark F. Sanders and John L. Bowman. *Genetic Analysis: An Integrated Approach*. 2nd ed. (United States 2015), 766.
16. (Race—the Power of an Illusion).
17. Lian Deng and Shuhua Xu. "Adaptation of human skin color in various populations." *Hereditas*. Vol. 155, No. 1 (2018): 1-12.

It is tempting to end the question here, but the 99.9 percent argument does not by itself go far enough to do away with the concept of biological race. To learn more, we should consider how we might be compared to other species. As Roberts highlights, human beings share a majority of their genomes with other mammals. For example, we share 98.7 percent of our genes with chimpanzees and 90 percent with mice. Accordingly, it doesn't follow that genetic similarity means there are no important differences to be found.[18] Indeed, applying this logic to comparisons within the human species, a .1 percent difference of 3 billion nucleotide base pairs means that there are 30 million places within our genomes for difference to be expressed between any two individuals.[19] Conley and Fletcher add another layer of complication, highlighting "the fact that all humans share the same genes ignores the fact that much of evolutionary change and biological difference…is about the regulation of those genes' expression."[20] As an example, they recount that by genetically manipulating only four genes, scientists have been able to turn a mustard weed into a woody tree.[21] What might variations in genes within our .1 percent reveal? The question of biological race, then, is not determined by how much difference exists, per se, but where the differences occur and if they are significant enough to delineate a racial classification.

According to Nicholas Wade, former science reporter for *The New York Times*, differences within the .1 percent can clearly be shown to be distributed along "racial" lines. He even goes so far as to characterize the position of Collins and Venter, denying the validity of race, as mere political correctness. Annoyed by the failure of scientists, sociologists, and

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18. Roberts. *Fatal Invention*, 51.
19. Desalle and Tattersall point out, however, that on average human beings will display difference in only about 3,000,000 base pairs (Desalle and Tattersall 2018).
20. Dalton Conley and Jason Fletcher. *The Genome Factor: What the Social Genomics Revolution Reveals About Ourselves, Our History, and the Future* (Princeton 2017), 95.
21. *Ibid.*

anthropologists to see and declare the obvious, he poses the question: "how did the academic world contrive to reach a position on race so far removed from reality and commonsense observation?"[22] As Wade sees it, this commonsense observation can be derived from the three distinctive skull shapes belonging to Africans, Caucasians, and East Asians as determined by physical anthropologists, and which conveniently correlate to common understandings of what race is.[23] He further suggests that the biological basis for race can be "founded in the subtle quality of relative allele frequency."[24] We should explore the problems associated with Wade's reasoning with respect to race as a biological reality. As a racial discourse, his reasoning reflects a constant part of the recurring interplay in the genomic age.

To begin with, Wade's assertion that race can be determined by observing the difference in allele frequencies between so-called races is misleading. His assessment is based on two genomic studies of human population groups using what are known as ancestry informative markers (AIMs). Recall from the previous section that alleles are alternative versions of a particular gene, and that selective pressure can influence how often an allele appears within a particular group. For example, alleles for dark skin occur at greater frequencies in hot sunny climates and alleles for sickle cell will occur at greater frequencies in malarial regions. Thus, populations living in hot malarial climates are more likely to have these alleles in their genomes at higher frequencies than would be expected in populations who live in the mountains or where it is cold. These selected alleles, which often come in the form of single nucleotide polymorphisms (SNPs), are clustered together to represent AIMs of the groups they are meant to categorize.

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22. Nicholas Wade. *A Troublesome Inheritance: Genes, Race and Human History* (New York 2015), 68.
23. *Ibid.*, 70.
24. *Ibid.*, ix.

At the evidentiary heart of Wade's argument is the project led by Noah Rosenberg, published in 2002, which incorporates the analysis of AIMs. Using a computer algorithm called STRUCTURE to sort the massive amount of data, Rosenberg's team selected 377 markers to assess 1,056 individuals from 52 population groups.[25] The results of the sorting led the researchers to conclude "that there [were] six human populations" largely corresponding to continental geographical locations.[26] Five of the six geographical populations (Africa, Eurasia, East Asia, Oceania, and America), Wade writes, correspond broadly "with popular notions of race."[27] In 2005, Rosenberg and his team published a second study in which they reduced the sample size to 1,048 individuals and tripled the number of genetic markers to 993.[28] The results largely mirrored the first 2002 study and were also cited by Wade, and much of the media, as a demonstration that genetics could prove the existence of race.

Strangely enough, as Roberts points out, Rosenberg et al. did not reach the same interpretation as Wade.[29] Specifically, they cautioned that their findings should not be "taken as evidence of [their] support of any particular concept of biological race."[30] In the original 2002 study, they expressly note that "genetic differences among human populations derive mainly from gradations in allele frequencies rather than from distinctive 'diagnostic' genotypes."[31] So while the probability of continental ancestry can be determined with high confidence, this does

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25. Wade. *A Troublesome Inheritance*, 97.
    Rob Desalle and Ian Tattersall. *Troublesome Science: The Misuse of Genetics and Genomics in Understanding Race* (New York 2018), 146.
26. Desalle and Tattersall. *Troublesome Science*, 146.
27. Wade. *A Troublesome Inheritance*, 97.
    Roberts. *Fatal Invention*, 61.
28. Wade. *A Troublesome Inheritance*, 99.
    Desalle and Tattersall. *Troublesome Science*, 146.
29. This appears to be a penchant of Wade's, citing scientific research and making claims the authors find objectionable. Consequently, 139 geneticists wrote to the *New York Times* denouncing claims advanced by Wade in his book *A Troublesome Inheritance*, which cited some of their work.
30. Roberts. *Fatal Invention*, 61.
31. *Ibid.*

not mean that individuals within the population group will fit neatly, or even at all, into any definition of biological race or what is popularly considered to be race.

Beyond the fact that Rosenberg et al. do not share Wade's interpretation, several factors further cloud the declaration that continental ancestry is equivalent to biological race. First, the selection bias of groups included in this study as input can widely skew the results. As Desalle and Tattersall explain, AIMs are based on particular human references for a geographical grouping. These references of different "geographic regions have their genomes scanned, and when a variant appears at high frequency for a particular geographic location, that variant is said to be a marker for people from the geographic region concerned."[32] The choice of referents is not random. It is based on what we expect is the archetype for a particular region and this designation is arbitrary. And when greater numbers of these arbitrary groups are included, the number of "distinct" populations increases. Significantly, when Sarah Tishkoff et al. added more subjects to Rosenberg's data set, fourteen distinct clusters were inferred.[33] In addition, Rosenberg notes that when they analyzed their data set using 6 to 20 clusters, STRUCTURE found "multiple ways to divide the sampled individuals."[34] And when asked to only divide the data into 2 clusters, STRUCTURE did so by identifying groups anchored in Africa and the Americas. Of what use are the demonstrated results, with their arbitrarily defined groups, in defining race? We should ask Wade.

> Some readers may be troubled that the number of human races is not fixed but depends on the way race is assessed. But this should not be a surprise, given that races are not distinct entities but rather clusters of individuals with similar genetic variation…The number of human races depends on the degree of clustering to be

32. Desalle and Tattersall. *Troublesome Science*, 163.
33. *Ibid.*, 161.
34. Roberts. *Fatal Invention*, 60.

> recognized, and three, five and seven are all reasonable answers to the issue of enumerating the major subsets of human variation.[35]

As a reader, I am not as troubled by the conclusion that the number of human races is not fixed as I am by the strange verbal modifications Wade now adopts. After his many exhortations that there are clearly distinct human races, we are now told that this "depends" on how "race is assessed." We are then told that "races are not distinct entities," and that any number from three to seven is a reasonable count for how many "non-distinct" races exist. It seems in Mr. Wade's view the only number that is objectionable is one. But perhaps we should not focus too much on the equivocations he presents, and instead consider two remaining issues that undermine the biological validity of race.

Pilar Ossorio presents one of these issues in the form of another fallacy associated with converting biogeographical designations into individual racialized realities, the "tendency to transform statistical claims into categorical ones."[36] Ossorio suggests what we might have already suspected about using relative allele frequencies to represent individuals within a given group. That is, many of the individuals within the same geographical location will not have the referenced alleles in the same proportion, and thus might conflict with common understandings of what race should look like. As an African-American, Rick Kittles, the scientific director of the genealogy service African Ancestry, could reasonably trace his origins to West Africa, as might most descendants of African slaves brought to America from West or Central Africa. A frequent allele in West Africa is called the Duffy null, but ironically Kittles has no copy of this allele. Doubly ironic is that his friend, Mark Shriver, who is white, does have a copy of the

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35. Wade. *A Troublesome Inheritance*, 100.
36. Pilar Ossorio. "Race, Genetic Variation, and the Haplotype Mapping Project." *Louisiana Law Review* 66 (2005): 131, 141.

Duffy null allele.[37] Consider also this more interesting example. Earlier this year, *THE WEEK* reported that genetic testing of the Cheddar Man, a 10,000-year-old skeleton found in the Cheddar Gorge in England in 1903, revealed that the "early Briton had dark to black skin and blue eyes." Further, the report indicated that genetically Cheddar Man was "related to millions of Britons living today."[38] Imagine the surprise of Cheddar Man (were he alive today), and Wade, who is from England, upon discovering how closely related they are, even though in "common sense observations," to quote Wade, they are of so-called different races.

But even more fundamentally debilitating to the notion of race is the fact that it is never clearly defined. Indeed, in the debates about race outlined throughout this project, the various interplays never require its precise definition in advance of any hypothesis proving its existence. In fact, one can read any number of science texts, essays, reports, and books, including Wade's work, and never encounter a definition of race, or the criteria by which it might be identified in advance of its "discovery" in the human species. Without this clear definition, it is impossible to discredit the existence of race and any opposition faces an unreasonable burden. As Brattain makes clear, the debate regarding race "replicated the logical structure of the most elementary experimental trials, where one claim assumed the status of the 'null' hypothesis—the claim by default assumed to be true."[39] The presumption that race exists is assumed to be true at the outset of the debate. It is the null hypothesis. If it cannot be proven not to exist, it is to be accepted as truth. Indeed, to prove the existence of race without clear boundaries as to how to define it is to engage in purely inductive reasoning. Thus, from the reality that differences exist between groups of people, whether in terms of skin color, or genetic variation, it is inferred from

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37. Roberts. *Fatal Invention*, 236. Shriver often teases Kittles with the notion that as a white male he is more African than he is (Roberts 2011).
38. "Early Brit was black." *THE WEEK*. February 23, 2018 (national edition), 8.
39. Brattain. "Race, Racism and Antiracism, 1390.

some subjectively determined threshold in assessing these factors that race, as it pertains to human beings, is a biological phenomenon. In this case, race is a moving target whose meanings are irrelevant in any biological sense. In a social sense, however, race and difference would inform neo-eugenics and with it a new era of medical intervention.

The Advent of Neo-eugenics

Roe v. Wade (1973) would have important ramifications beyond the right of a woman to privacy, or to terminate a pregnancy. With abortion legalized, medical intervention through genetic testing became widespread, creating an important market for genomic medicine. Prenatal genetic testing was able to detect several hundred known hereditary diseases by the mid-1970s, and the selective abortion of affected fetuses became commonplace. The unspoken notion that there was a duty to create babies that would not be a liability to society, or that those fetuses had the right to be born without genetic anomalies, carried a eugenic subtext that was difficult to ignore.

Proponents of this new form of eugenic expression, however, would quickly distance it from the older and more virulent form imagined by Davenport and Hitler in the early twentieth century. "Neo-eugenics" or "newgenics," as its champions called it, would avoid the dangers of the past by maintaining "scientific vigor" and "choice."[40] There would be no pseudo-scientific pronouncements or a government bureaucracy making decisions on behalf of the population. No one would interfere with the rights of individual citizens to have the healthiest children possible,

40. Mukherjee. *The Gene*, 275. Famous advocates of neo-eugenics included geneticist Hermann Muller, evolutionary biologists Ernst Mayr and Julian Huxley, population biologist James Crow, Francis Crick, James Watson, and James Shanon, the director of National Institutes of Health. Shanon would tell Congress that genetic screening was not just a "moral obligation of the medical profession, but a serious social responsibility as well" (Mukherjee 2016).

unless of course you considered subtle social pressures. Indeed, under the new philosophy, every parent had the societal responsibility to produce healthy "non-burdensome" offspring.

A number of contemporary voices seem comfortable enough with the newgenic approach to scientific rigor and personal choice. As Bonnie Rochman suggests, "[a]t its heart the goal of contemporary eugenics…is the relief of human suffering through the reduction of the incidence of disease." In her estimation, the salient difference between eugenics of yore and its modern permutation…is the absence of institutional coercion."[41] By this she is referencing the governmental coercions of sponsored sterilizations in the United States and Germany. Jennifer Doudna, whose RNA expertise helped to create the new gene editing tool CRISPR, echoes Rochman's sentiments.[42] Despite her misgivings about the possible misuse of gene editing, Doudna dismisses eugenics as "fallacious" and "thoroughly repudiated by mainstream science."[43] In her estimation, it is unlikely that "we'll see anything similar [to what happened in Nazi Germany] happen again."[44] Nikolas Rose carries this sentiment a bit further, declaring that the current biopolitics, distinct from eugenic articulations, is "organized around the principle of fostering individual life," that it does not "operate under the sign of the sovereign state" or "seek to legitimate inequality." Ultimately, "it is a biopolitics in which references to the biological do not signal fatalism but are part of the economy of hope that characterizes contemporary biomedicine."[45]

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41. Bonnie Rochman. *The Gene Machine: How Genetic Technologies Are Changing the Way We Have Kids—And the Kids We Have* (New York 2017), 70.
42. CRISPR (clustered regularly interspaced short palindromic repeats) is a powerful new gene editing tool at the heart of new biotechnological innovations. Its creation has reinvigorated debates about eugenics and the creation of designer genes. I will return to its impact later on in this chapter.
43. Jennifer A. Doudna and Sam H. Sternberg. *A Crack in Creation: Gene Editing and the Unthinkable Power to Control Human Evolution* (New York 2017), 193.
44. *Ibid.*, 234.
45. Nikolas Rose. *Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-first Century* (Princeton 2007), 167.

To be sure, the neo-eugenic strategies are different than those found in traditional eugenics, but the mandate to make some live described throughout this project is still present and is not foreclosed by either "scientific rigor" or "personal choice." In the first place, the invocation of scientific rigor implies that early eugenicists did not likewise think of themselves as engaging in scientific rigor. While it is easy in hindsight to view the methods of Davenport and his contemporaries as suspect, we should recall that many were professional geneticists applying what knowledge they had at the time. By observing the selective breeding of plants and animals, they made plausible inferences that similar results could be achieved in human beings. Although they made equivalences that were unwarranted and held oversimplified and deterministic views about the function and expression of genes, their eugenic views stemmed not from methodology, but from a worldview that necessitated a hierarchy based on essentialized difference. It is how racialized power appropriates knowledge that should concern us. Through this cooptation, this knowledge has been applied by the eugenics movement to increase the overall health of the population, however subjectively and reprehensibly they measured and defined that health.

More importantly, neo-eugenic strategies are not immune to eugenic-style deterministic oversimplifications regarding links between genes and their phenotypes. For example, in cases like Down syndrome, which are readily identifiable and marked by clear connections between mutation and defining characteristics, the "variation between individuals carrying the same mutation [is] striking."[46] Some affected with Down syndrome are highly functional, but a prenatal exam identifying the causative mutation gives no hint that functionality at this level is possible. Without this possibility, selective abortion is likely to be suggested. Indeed, Roberts highlights that "[a]lthough genetic counseling should be nondirective, many counselors show

46. Mukherjee. *The Gene*, 275.

disapproval when patients decide against [the] selective abortion" of a child predicted to have Down syndrome.[47] But, beyond the interpretation that genes determine physical and social outcomes, the disapproval of genetic counselors is reflective of societal evaluations which measure Down syndrome children against the norm, as they measure all groups against the norm in the biopolitical space.

We can see how these deterministic evaluations, followed by subtle coercion, can undermine the "personal choices" of individuals to have an abortion, or to make any other choice related to the evaluation of life. But not only is information filtered through the eugenic apparatus, compromising informed choice, the personal choice of selecting a seemingly healthy embryo is a luxury not afforded to everyone. Techniques like preimplantation genetic diagnosis (PGD) and in-vitro fertilization (IVF) designed to select for the most viable embryos are expensive. As Rochman tells it, "PGD adds another $6,000 or so to the cost of standard IVF, which can run to $20,000 for just one round. Insurance rarely covers either procedure."[48] Roberts adds that advanced and expensive genetic technologies "will be reserved for the wealthiest people and fall outside the reach of most women of color."[49] Access to expanded choices through wealth is a reality that Doudna also acknowledges when considering the gene editing of the human germline.

> Since the wealthy would be able to afford the procedure more often, and since any beneficial genetic modification made to an embryo would be transmitted to all of that person's offspring, linkages between class and genetics would ineluctably

47. Roberts. *Fatal Invention*, 218.
48. Rochman. *The Gene Machine*, 48.
49. Roberts. *Fatal Invention*, 222.

> grow from one generation to the next, no matter how small the disparity in access might be.[50]

Thus, it would appear that the claims of scientific rigor and choice attendant to neo-eugenics do little to impede the proliferation of eugenic strategies in the genomic age. We still find Foucaultian "breaks" in the biological continuum of the kind which reify race. We also continue to observe the biological determinism and hierarchy expressed through prenatal "choice" couched in cultural values. To clarify, the question is not whether choice is inherently bad. It is not. The central question is whether it is reasonable to believe that individual families, acting in their own interests, make these choices outside of the diffuse eugenic apparatus that Foucault's biopower addresses. I would venture that they do not.

The sobering reality that neither scientific rigor nor personal choice guard against the formulation of new eugenic strategies becomes more salient as the market for genomic medicine expands. In this burgeoning commercial market, the discursive formations surrounding race persist and serve to reify race. Further, there is great incentive in the commercial space to foment oversimplifications and deterministic thinking in the minds of lay persons as they regard their personal genomes. As the biotech industry rapidly expands, science too often takes a back seat to marketing. This is not a new concern. Indeed, over forty years ago, the geneticist Victor McKusick hypothesized, with great consternation, that "overdeterminism in genetics, and its indiscriminate application to human selection would result in the creation of what he called the genetic-commercial complex."[51] It would appear that in 2018 we have not heeded his warning.

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50. Doudna and Sternberg. *A Crack in Creation*, 232.
51. Mukherjee. *The Gene*, 276.

Pharmacogenomics and Gene Editing: BiDil and CRISPR as Case Studies

Prior to the enactment of the Bayh-Dole Act (1980), private corporations could not own university patented medical discoveries financed by federal funds. Meanwhile, the universities that developed the innovations owned them, but had no funds or incentive to develop them. As a result, thousands of such patented items could not be brought to market. Bayh-Dole eliminated this barrier permitting these taxpayer funded patents to be owned by private bio-medical firms for the first time. This intimate government-university-corporate research network catalyzed the "$43-billion-per-annum biotechnology industry" as universities organized their research departments to focus on marketable ideas that could be licensed or sold to bio-tech firms.[52] Notably, prior to the Bayh-Dole Act, colleges and universities obtained about 260 patents per year and by 2010 the number was 3,000 per year. It is within the context of this emerging network that I present case studies on BiDil, the congestive heart failure medication, and CRISPR, a new gene editing technology. Through these case studies, the workings of the tangible elements of the biomedical industrial complex (the institutions) and the intangible elements (the various discourses) can be scrutinized as being anchored in elements of the eugenic worldview.

History was made in 2005, when the biotech firm NitroMed obtained a patent for BiDil, a congestive heart failure for African-Americans. It became the first-ever medicine to be "approved by the FDA on the basis of race."[53] Despite this approval, it would be false to presume that BiDil was developed with African-Americans in mind, by considering some metabolic pathway specific to that group. It was not.

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52. Harriet A. Washington. *Deadly Monopolies: the Shocking Corporate Takeover of Life Itself—And the Consequences for Your Health and Our Medical Future* (New York 2011), 48.
53. *Ibid.*, 48.

Initially patented by Jay Cohn in 1989, BiDil was licensed to a small pharmaceutical company called Medco. Medco would develop, manufacture and market BiDil as a single pill to treat congestive heart failure for patients without considering race. To be sure, the subsequent patent application, based on clinical trials conducted in the 1970s and 80s on groups of black and white men made no mention of race.[54] In 1997, the Food and Drug Administration (FDA) denied the patent for failing to meet its criteria for "statistical significance" and Medco allowed Cohn to retain the rights. "It was only after the FDA rejection that Cohn turned BiDil—the exact same drug that he had patented without regard to race—into a therapy for African Americans."[55]

By creatively parsing the data from the original trials along self-reported racial lines, Cohn generated a retrospective analysis suggesting that the heart failure therapy prolonged survival in black patients. Cohn then relicensed his intellectual property rights to NitroMed, and the 2000 patent application now included language specifying that the therapy specifically treated heart failure in African-Americans. Because of this specificity, BiDil became novel enough that the FDA entertained approval if "NitroMed could prove in a clinical trial that the drug worked effectively for black patients."[56] It took only a year to raise $31.4 million in private funding to launch the "African-American Heart Failure Trial, or A-HeFT."[57]

Before considering the results of the A-HeFT, it is worth noting the several discursive interplays that serve to solidify elements of the eugenic worldview through the newly inscribed apparatus, the biomedical industrial complex. To begin with, the structure of patent law, combined with profit incentives to create new, or novel, therapies constitutes fertile ground for the sprouting of racialized medicine. This new growth, however, is only possible with the

54. Roberts. *Fatal Invention*, 170.
55. *Ibid.*
56. *Ibid.*, 172.
57. *Ibid.*

presupposition that race exists, since it is illogical for the United States Patent and Trademark Office (USPTO) to issue patents related to a quality that it does not recognize. Moreover, the USPTO must also believe that races bear essential qualities, and that a particular medication will have the same outcomes in all African-Americans. That these assumptions are taken for granted is clear given the conflation of socially constructed and biological notions of race. Recall that the prior clinical trials were based on racial self-reporting, a social and subjective designation. This designation is being used to consider medical applications of a matter that is largely physiological. That someone declares themselves to be of a particular race is quite distinct from the alleles their genomes carry which might alter how medication is metabolized in their bodies.[58]

The preceding can be said of the FDA as well, which also must presume the existence and essentialization of race prior to entertaining the approval of BiDil. These shared understandings of race within these governmental institutions indicates the extent to which presuppositions of race, and its inherent qualities, have been engrained and preserved throughout the apparatus, which would also include the private funders of the $31.4 million who must also hold these presumptions. Moreover, these engrained beliefs find their way into the discourse that BiDil as a "black medication" is needed to address the long neglected health of African-Americans at a time when they are dying disproportionately from congestive heart failure. As we consider the A-HeFT, we will see that such falsehoods not only reify the biological validity of race but also obscure the true correlations between disease, therapy, and individual biology and how that biology interacts with environment. This obfuscation occurs in the context of a commercially incentivized market where closer scrutiny of these correlations is costly and

58. Tesfaye B. Mersha and Tilahun Abebe. "Self-reported race/ethnicity in the age of genomic research: its potential impact on understanding health disparities." *Human Genomics*. Vol. 9, No. 1 (2015), 4.

considered counterproductive. Why overshoot the mark, so to speak, to search for a genetic element that may undermine a claim to black specificity, the basis of the exclusive patent?

In launching the A-HeFT in 2001, NitroMed cleverly allied with the Association of Black Cardiologists to garner black participation in the trial.[59] As a Phase III study, it was conducted with 1,051 subjects to test its efficacy in a group large enough that side effects would be easier to detect. On the surface, the trial comported with FDA requirements. Beneath the surface, however, there were several problems that should have been of concern to the FDA. First, all of the subjects were "self-reporting" African-Americans.[60] To truly determine if BiDil was more effective for black subjects, it would be appropriate to include at least one other self-reporting racial group in the trial to elicit a comparison dispositive of race-specific results. Instead, NitroMed relied on the results of the 20-year-old trial which had, among other issues, too small of an African-American sample to be statistically meaningful.

Second, self-reporting, as we have already considered undermines the veracity of a biological cause for BiDil's efficacy in African-American groups. As Washington notes, "the tests were not conducted on a genetically distinct group at all, but rather on a social cohort."[61] Finally, BiDil wasn't tested alone, but in conjunction with other congestive heart failure medications already known to be effective.[62] The published results, heralded as a success, showed that subjects "taking the drug combination that included BiDil enjoyed 43 percent fewer heart failure deaths and a 39 percent decrease in hospitalizations" than subjects who did not take

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59. Washington. *Deadly Monopolies*, 159.
60. One of the "unsaid" propositions, to use Foucault's term, is that the majority of US clinical trials involving the testing of new medications routinely featured white males exclusively, and this was no bar to use by other "racial" groups of medications thus tested. BiDil, by contrast, was prescribed only to blacks since this was the basis of the patent and FDA approval. The racialization of medical trial results thus solidifies the position of white males as the norm.
61. Washington. *Deadly Monopolies*, 160.
62. *Ibid*. 159.

a regimen that included BiDil.[63] But in this case, it is not possible to know how effective BiDil was by itself, or if the desired results might be attributed to one of the other medications. Despite these issues, BiDil was approved in June 2005 as the "first-ever drug for blacks only."[64] Hooray.

Paradoxically, the reification and essentialization of race which has always functioned as a prerequisite to subjugation and discrimination was now being celebrated by influential African-American organizations in support of BiDil.[65] One week before it was approved, the FDA's Cardiovascular and Renal Drugs Advisory Committee met to assess BiDil's effectiveness and many of these organizations attended through representatives. During the committee, which is reminiscent of the NAS-NRC committees, which also presumed the a priori existence of race, the public portion featured an old discourse framed in terms of the new racial therapy. Roberts describes, that based on the notion that BiDil was specific to black physiology,

> Black cardiologists, activists, and members of Congress testified that approving BiDil would help the agency make amends for America's racist history of medical maltreatment and demonstrate its concern for black people's health.[66]

This statement was followed up by concerns that congestive heart failure in African-American communities represented an exigent circumstance which warranted overlooking "concerns about the statistical strength of the trial data."[67] Indeed, the FDA would normally require at least two clinical trials, but to withhold a drug that it believed could be a first step to eliminating racial

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63. Washington. *Deadly Monopolies*, 159.
64. *Ibid.*, 160.
65. Among these were the Black Congressional Caucus, the Association of Black Cardiologists, the National Association for the Advancement of Colored People, and the National Minority Health Month Foundation (Roberts 2011).
66. Roberts. *Fatal Invention*, 173.
67. *Ibid.*, 175.

disparities in health care would be unconscionable. As a type of discourse, these positions express the sentiment that redress should be made to the neglected African-American community. We should note, in Foucaultian terms, that they are expressed without the malice we normally associate with racism and negative outcomes, although by essentializing race more damage is done to those it is intended to help, a paradox further complicated by the support of African-American leaders. Indeed, the study provided no evidence that BiDil addressed the specific metabolism of black people, a uniform metabolism that does not exist; moreover, this essentialist approach prevented a more careful study to possibly identify alleles within some population group amenable to BiDil. As it stood then, there would be some, if not many, African-Americans who would not have benefitted from BiDil, and many whites, Asians and Hispanics who could have benefitted, but would have been excluded because of their socially constructed "race." Equally disturbing is that the underlying logic supporting race-specific medicine deflects attention from the structural racism, informed by a eugenic worldview, which is at the true heart of health care disparities.

The issues raised in the BiDil case study explain why many professionals are challenging the use of race as a legitimate variable in health research. As Fullilove appropriately questions, "why use an unscientific system of classification in scientific research?"[68] Mersha and Abebe point out how deceptive self-reporting of race can be by comparing the SNPs of James Watson, Craig Venter (both of European descent) and Seong-Jin Kim (of Asian descent). Watson and Venter "share fewer SNPs (461,000) than they each share with Seong-Jin Kim (569,000 and

68. Mindy Thompson Fullilove M.D. "Comment: Abandoning 'Race' as a Variable in Public Health Research—An Idea Whose Time Has Come." *American Journal of Public Health*. Vol. 88, No. 9 (September 1998), 1297.

481,000 respectively)."[69] The example demonstrates that, in this case, if one were to make a self-reporting designation based on physical appearance, they would be incorrect.

Mersha and Abebe also point out that, instead of self-reporting according to socially defined race, assessing genetic ancestry "can improve clinical care" by locating alleles that predispose their carriers to particular drug interactions or susceptibility to a particular disease.[70] The A-HeFT could only have been considered reliable if it investigated the possibility that some allele, or group of alleles, increased the efficacy BiDil in some population group with African ancestry. But given the disincentive to investigate this possibility, we are left with a new model for biotech companies to exploit by patenting and marketing "race-specific" pharmacogenomics.

In fact, according to the United States Patent Office database, between 1976 and 2005, there were twelve racial patents filed. Between 2001 and 2005, however, sixty-five of these patents were filed. The patenting of race-specific medicine is a growing trend which is reinscribing biological notions of race in the minds of lay citizens. As Ansell remarks, "the general public reads about [the decision to approve BiDil] and believes that blacks' health outcomes have a biological basis."[71] This reification of race as a eugenic tactic in service to an overall strategy informs racial policy to the detriment of non-normative groups.

More importantly, as an extension of eugenic practice, the broader context of racialized health care, in terms of limited access and disproportionate outcomes, requires special acknowledgment. This context provides legitimacy for racialized therapy and thus the reification of race. We should duly note that healthcare systems in segregated neighborhoods lack the resources needed to maintain the optimum health of their constituents. Yet, their bad health is determined to be the result of "poor" choices. To be sure, the health gap between normative and

69. Mersha and Abebe. "Self-reported race/ethnicity," 4.
70. *Ibid.*
71. David Ansell. *The Death Gap: How Inequality Kills* (Chicago 2017), 61.

non-normative groups has continued, and appears to be widening. In 1960, white males had an average life expectancy of 67 years, while the average life expectancy of black males was 61. By 1996, this gap widened by eight years, with life expectancies for whites reaching 74 years, while black life expectancy rose to only 66. "Further, African-American and American-Indian infant mortality rates remain[ed] approximately 2.5 and 1.5 times higher, respectively, than rates for whites."[72]

The disparity is consistent with limited access to health care, either through lack of private insurance or jobs which provide health coverage. In 2000, 22.8 percent of African-Americans were likely to be without health care as compared to 12.7 percent of whites.[73] Of insured African-Americans, 53.1 percent had employment-based coverage while that number was 72.8 percent for whites.[74] The cost of health care services is a serious barrier being reinforced by a growing biomedical industrial complex and its penchant for pricing its medicines according to "what desperately sick patients are willing to pay to stay alive."[75] As Washington astutely observes, for example, pharmaceuticals routinely cite research and development costs as the justification for exorbitant drug prices, even though those costs are largely borne by taxpayers who fund the universities—the universities that actually conduct the research and development. These pricing schemes adversely affect non-normative groups and as Roberts suggests, the "racial disparities documented in most areas of health care may in fact be greatest for new technologies."[76]

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72. Brian D. Smedley, Adrienne Y. Stith and Alan R. Nelson. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care* (Washington 2003), 35.
73. *Ibid.*, 83.
74. *Ibid.*, 84.
75. Washington. *Deadly Monopolies*, 86.
76. Roberts. *Fatal Invention*, 210.

One such technology that may provide health benefits priced beyond non-normative groups is the gene editing tool called CRISPR. CRISPR (clustered regularly interspaced short palindromic repeats) are special DNA sequences largely found in bacteria and archaea. First identified in the bacteria *Escherichia coli* in 1987, it would not be until 2007 that scientists suspected that CRISPR was a type of bacterial immune system. When invaded by viruses, the CRISPR system would use its unique sequences to recognize and then destroy the viral DNA. Intrigued by CRISPR's functioning, in 2012 researchers were able to modify CRISPR-cas9 (the most widely studied of the various CRISPR systems) to serve as an efficient gene editing tool.[77] With the ability to edit the genomes of plants, microorganisms, and animals, CRISPR-cas9 is creating new research opportunities given its simplicity and how cost relative to other gene editing methods, like zinc finger nucleases (ZFNs) or transcription activator-like effector nucleases (TALENS). Jennifer Doudna and Emmanuelle Charpentier, researchers who realized the potential of CRISPR-cas9, published their data on the bacterial defense system in 2012. Since then, the use of the new gene editing technology has exploded.[78]

As of February 2017, the US-based market research firm Grand View Research projects the global market for gene editing will reach $8.1 billion by 2025 and potential applications for CRISPR are constantly emerging. The ideas range from reasonable to bizarre: tomatoes that don't rot, flood-resistant crops, orange trees resistant to diseases (yes, trees get sick too), mosquitoes unable to transmit malaria, beagles with muscles, pigs no bigger than your piggy bank, and lizards with wings, just to name a few. There are a number of exciting possibilities, but the CRISPR-generated innovations with impacts for human health are considered the most promising—for those who will have access to it.

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77. Cas9 stands for CRISPR associated enzyme 9, one of many CRISPR associated enzymes.
78. Mukherjee. *The Gene*, 472.

On April 29, 2018, *60 Minutes* aired the program "CRISPR: The Gene-Editing Tool Revolutionizing Biomedical Research." During the program, correspondent Bill Whitaker interviewed several scientists and researchers using CRISPR to cure some of the 6,000 diseases known to be caused by faulty genes. The list includes diseases like Huntington's disease, Sickle-cell anemia, Amyotrophic lateral sclerosis (ALS), and Hemophilia. Caused by mutations of varying types, if CRISPR could be delivered to affected cells and make the appropriate edits these diseases might be cured. It would represent a huge boon for the biotech industry.

One researcher, Kang Zang, shared his experiment on mice with retinitis pigmentosa, a genetic form of blindness. After injecting CRISPR into the eye of one blind mouse, the researchers examined him three months later and observed that the rodent had regained 30 to 50 percent of his vision. Trials on monkeys have also been promising and Kang plans human trials in the near future. Similarly, Shoukhrat Mitalipov used CRISPR to edit embryos harboring the mutation that causes hypertropic cardiomyopathy. His research team applied a CRISPR solution to affected sperm cells, and then released those sperm cells to healthy eggs. The resulting embryos, grown in an incubator for three days, were then checked for any sign of mutation. Mitalipov reports a success rate of 50 to 72 percent. While these are impressive steps, widespread human application of CRISPR-mediated medicine may be decades away. This, of course, should not keep us from thinking about a future where only the wealthy, overrepresented by the norm, can afford the life-enhancing therapies structurally denied to the bio-deviant poor. Again, these outcomes will occur without the malice associated with traditionally racist overtures. Nonetheless, the outcomes in terms of relatively decreased life expectancy accrue, and in societies where inequality is normalized, negative outcomes serve to rationalize the tenets of Social Darwinism which have always laid blame for society's ills at the feet of its victims.

Meanwhile, so many within the normative group are intrigued by the possibility of designer babies, with designer genes modified by CRISPR, once again auguring in the idea of a eugenically ordered genotocracy. But while it is easy to imagine a future where parents select desired traits for their embryos, the reality would be far different. Even assuming the technical capability to trade genes at will, even assuming that scientists knew what every gene in the genome did, or didn't do, perfectly genetic children are unlikely any time soon. In the first place, we don't know how our genes interact with other genes to perform functions that we hardly understand. There is a great deal of interconnectedness in our genomes and with this comes some difficulty in sorting out exactly what role a given gene may play in the network. Indeed, to believe that we can turn genes on and off and that they all correspond to particular traits is an oversimplification. It is also a mainstay of eugenic thought. It is far more likely that unpredictable trade-offs in gene selection affecting phenotypic expression will occur.

For example, according to Feng Zang's *60 Minutes* interview by editing out the gene PCSK9, you can significantly reduce the risk of cardiovascular disease; however, this increases the risk of diabetes. And Eric Lander reminds us that a mutated CCR5 allele can confer protection against HIV infection; however, susceptibility to fatal cases of West Nile virus is increased.[79] These types of tradeoffs would make gene selection exceptionally difficult. Perhaps you trade increased height for decreased bone density, or select for greater intelligence (however you define intelligence) and also receive tiny feet in the bargain. I am being facetious here, but the point is that our limited knowledge of the genome presents a challenge to haphazard gene editing. It presents a challenge to even carefully considered gene editing.

Due to these unpredictable results, the international community has called for a moratorium on germ-line editing. In 2015, from December 1-3, the US Academies of Sciences

79. International Summit on Human Gene Editing: A Global Discussion, 3.

and Medicine, the Royal Society, and the Chinese Academy of Sciences convened an international summit of more than 500 experts in biology, medicine, law, ethics, sociology, and journalism to discuss the potentials and pitfalls of gene editing in the wake of CRISPR. After notables like David Baltimore, Daniel J. Kevles, Jennifer Doudna, Emmanuelle Charpentier, Hille Haker, Eric Lander, Jinsong Li, and Pilar Ossorio weighed in on the ethical, regulatory and safety considerations, it was agreed upon that "clinical use of germline editing" would be irresponsible until,

> i) The relevant safety and efficacy issues have been resolved, based on appropriate understanding and balancing of risks, potential benefits, and alternatives, and
>
> ii) There is broad societal consensus about the appropriateness of the proposed application. Moreover, any clinical use should proceed only under appropriate regulatory oversight.[80]

This summit concluded that going forward, the US National Academy of Sciences and US National Academy of Medicine in conjunction with the Royal Society of the UK, and the Chinese Academy of Sciences, should "take the lead in creating an ongoing international forum to discuss potential clinical uses of gene editing."[81] It would appear, however, that someone did not get the memo.

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80. National Academies Press. International Summit on Human Gene Editing: A Global Discussion. Committee on Science, Technology, and Law Policy and Global Affairs (2015), 7.
Andrew R. LaBarbera. "Proceedings of the International Summit on Human Gene Editing: a global discussion—Washington, D.C., December 1-3, 2015." *Journal of Assisted Reproduction Genetics.* Vol. 33 (May 2016), 1126-1127.

81. LaBarbera. "Proceedings of the International," 1127.

On November 26, 2018, the New York Times reported that Chinese researcher He Jiankui had "created the world's first genetically edited babies."[82] Jiankui claimed to have altered a gene in the embryos before having them implanted in the mother's womb. The goal was to make the twin girls, Lulu and Nana resistant to HIV infection. The altered gene called CCR5 is known to be mutated in the genomes of one to two percent of white men, particularly from northeastern Europe. The mutation confers resistance to HIV therefore Jiankui had a ready-made model to draw from. The problems, as critics have pointed out, are that off target mutations might occur causing other unintended mutations, or that not enough of the cells will be edited. Or, as Lander has pointed out it may make the twins susceptible to a fatal case of West Nile Virus. The ambition of Jiankui is further complicated by the fact that gene editing was not necessary to prevent the twins from becoming infected. Scrubbing the sperm of HIV infected men prior to insemination is a common option for discordant couples wanting to have children. The editing of these children was dangerous, unnecessary, and violated the terms of the summit agreement in every aspect. More than 100 Chinese scientists have criticized Jiankui's decision, but it remains to be seen what censure he will receive. Although unethical, gene editing of human embryos in China is not illegal.

Of course, He Jiankui's actions have sparked the designer baby controversy all over again. Some now fear that Pandora 's Box has been opened. In the US however, it appears that there is little appetite for gene editing of embryos on behalf of leading scientists. According to Lee McGuire, Chief Communications Officer at the Broad Institute, the MIT/Harvard collaborative holds "key patents for the commercial use of CRISPR" and places "restrictions on

82. Gina Kolata, Sui-Lee Wee and Pam Belluck. "Chinese Scientist Claims to Use Crispr to Make First Genetically Edited Babies." *New York Times*, November 26, 2018.

licensing…[which] prohibit germline editing."[83] And Eric Lander, the founding director of the Broad Institute has not only cautioned against germline editing, but has also been quick to dispatch eugenic ideals. In a 2002 video lecture, where Landers and other prominent researchers fielded questions from local high school educators, one participant authored a comment suggesting that to use gene editing to increase the health of someone who carried a mutation that would otherwise not be selected for, is to make the species as a whole weaker. As he put it, we were "taking things that maybe shouldn't be reproduced and should die out and now you take all the weaker parts that wouldn't have lived before from processes of natural selection and you make them live." Landers responds by first pointing out the normative nature of the claim, but then goes on to question: "In what environment [should things live or not live based on natural selection]?"[84] What Landers points out is that genes and the phenotypes they produce have no special inherent value independent of their environments. Eugenicists and Social Darwinists routinely ignore this reality, preferring the essentialist interpretation that they are destined to be who they are, while ignoring how the society (environment) they live in creates rules that augment their survival chances relative to those they presume to be deficient. It is a highlight of the lecture to watch Lander address what is clearly a eugenic proposition.

Indeed, the position of the Broad Institute is commendable in this regard, but grandiose dreams of super-intelligent, super-athletic designer offspring do not truly represent the eugenic vision to live at the expense of others. The more pressing concern is the use of CRISPR to make medical breakthroughs of the sort showcased in the *60 Minutes* program. Right now, researchers are exploring CRISPR-mediated cancer treatments. They are eliminating pig viruses called PERVs (porcine endogenous retroviruses) with CRISPR, to make pig organs available to human

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83. Communication with Jeff Jurgens (2018).
84. (Scanning Life's Matrix: genes, proteins, and small molecules).

hosts. When these techniques are finally perfected, what price will biotech firms think is appropriate? How many without access to adequate health insurance will be able to meet these costs? It is here that the eugenic promise will find new ground to exploit.

Conclusion

The biomedical industrial complex as part of the eugenic apparatus is critical to fulfilling the objectives of the eugenic worldview. Composed of a unique network of governmental institutions, regulatory boards, lawmakers, universities, scientists, researchers, pharmaceutical corporations, biotech firms etc., it is perfectly situated to intervene in the life processes of those within its continuum. And through this intervention, it is particularly adept at suppressing the lives of some at the behest of others. That is to say, it is efficient at making some live while allowing others to die.

Like all apparatuses, collaboration among the disparate elements, or institutions, within the "complex" is only possible by adherence to the guiding elements of the eugenic worldview. As a centralizing philosophy for discerning the value of human beings, it allows loosely associated pieces to organize themselves into a larger puzzle, largely through a series of discourses. Existing at times as a collection of statements, agreements, challenges etc. these discourses, or discursive systems, simultaneously stabilize and destabilize the meanings of race according to biopolitical needs. As Hall describes, "race is a discourse…that operates like a language, like a sliding signifier" which gains its meanings through "the will to power and the regime of truth that are instructed in the shifting relations of discourse that such meanings establish."[85] These "shifting relations of discourse" approximate the interplays of Foucault,

85. Hall. *The Fateful Triangle*, 45.

where the discursive formations regarding race continue to conflate the social and the biological within and without the "complex."

Thus, throughout challenges to its meaning, race within the complex is permanent and serves to inscribe "difference" through various feed-back loops in the socio-political framework. And while it is proposed that difference is to be respected and should not be ignored, it is curious that difference-making is always accompanied by exploitation, marginalization and death. This is evident by the constellation of outcomes for the norm as compared to minoritized groups. In nearly every statistically measurable way, normative groups enjoy privileges which extend their lives relative to everyone else, and it comes as a shock to discover this truth, only if one hasn't been paying attention. If you have been paying attention, you know that difference in the biopolitical space is presented as a prerequisite to control, manipulation, valuation and essentialization. No racialized system can function without it. You can tell by how fiercely the system protects it. Even those institutions that are erected to preserve life and not simply watch it dissipate routinely function in ways that protect the status quo.

Moreover, racialized systems exist as an extension of a broader philosophy. Indeed eugenic philosophy still exists even though scientists have been forceful in rejecting their superficial methods and hateful proclamations. Its more fundamental premises, however, the presumption of race, the essentialization of race, and hierarchy associated with race are still reflected in contemporary policy. These include narratives surrounding immigration, segregation and mass incarceration. More subtly, they find currency within the biomedical industrial complex via specialized medicine tailored to race supposedly intended to close disparities in health care outcomes. But as we have shown, race is a poor proxy for true medical assessment, just as it is a poor proxy for the true assessment of individuals.

For the power of man to
make himself what he pleases
means, as we have seen, the
power of some men to make
other men what they please.
—CS Lewis
The Abolition of Man

Technological progress
is like an ax in the hands
of a pathological criminal.
—Albert Einstein
Investing Daily.com

CONCLUSION

In the spring of 2015, I was fortunate enough to take a course called *The New Genetics: Ethical, Social, and Legal Issues* along with my longtime assistant Mr. Chatman (I know, an undergrad with an assistant. It's crazy to me too). By then we had taken several biology courses together and had a basic understanding of what genes were and how they worked, but this philosophy course, taught by Professor Daniel Berthold, exposed us to the complicated ethical and moral implications of rapidly advancing genetic research. The experience was complemented by organized debates on topics ranging from abortion to choice based on preimplantation genetic diagnosis (PGD), and even more so by a guest appearance by biology Professor Michael Tibbetts, who made the connection between science and ethics more visible. To my thinking, at the heart of all the conundrums lingered the question of who in our society was desirable and who was not, and who got to decide. By the end of the semester, I was convinced of two things: first, that my current knowledge was insufficient, and second, that if I wanted to accelerate my understanding, that I would need a new assistant.

Three years later and, although I have learned much, my current knowledge is still insufficient. Delving into the nuances of defining race as a social versus biological phenomenon is not as clear cut as it would appear. Undoubtedly, race as a social signifier carries important meaning, but this social significance is often conflated with the biological. Even biological assessments of race are varied as we have seen. Given the vacillations about how to define race, then, we might properly ask: why it is so important to declare the division in the first place? In this project, I have argued that the division, as a "break" within the biological continuum and eugenic worldview, is a necessary biopolitical imperative. The separation of a desired norm from the non-normative groups is a prerequisite to inequitable treatment with relatively better outcomes, particularly in terms of wealth, for the norm as ensured by the eugenic apparatus. Through its interplays, doubt is enshrined within and through discourse, and despite the clarity of some regarding the relevance, or irrelevance, of race ambiguity leads many to follow the path of least resistance, a tacit acceptance that is fertile ground for the biomedical industrial complex. Within the "complex," race as a concept is further reified and the eugenic worldview as a biopolitical rationale continues to be expressed.

In this project, I have also sought to use Foucault's assessments to better understand race as an extension of eugenic mandates to make some "live" while indirectly letting others "die." In my reading of Foucault, eugenic logic is borne of the calculation that resources are finite and not from any feeling of hatred or animosity, although these certainly find their way into racist expression and motives. I also note the shift Foucault points out in the sovereign's hold over life. For Foucault, taking life gave way to the more efficient making live in the modern state. Who, then, is made to live becomes a eugenically driven question. Rose and others who challenge the influence of eugenic thought on the modern state overlook the subtle biopolitical implications.

It is here that I want to further complicate Rose's biopolitical interpretation of eugenics, and thus neo-eugenics, which he only defines through what I consider its extremes. For Rose, eugenics entails the limited procreation "of those thought to be of lower, inferior, defective, or diseased stock."[1] It is embodied by the "Nazi insectification" of such defectives and is marked by government intervention.[2] Thus defined, Rose implies that eugenic strategies necessitate the cruel debasement of "others," facilitated by the coercive power of government. This definition is then juxtaposed to the biopolitical formulations of Giorgio Agamben and Zygmunt Bauman, among others, which propose that a "thanatopolitics of population purification lies at the very heart of modernity."[3] This thanatopolitics is part of the sovereign power over life and death that Foucault finds central to administrating the modern state. But the death function is only one side of the biopolitical coin. The power to take life, as we have seen, also came to incorporate the power to "make live." It is this biopolitical turn that Rose is reluctant to link to eugenic strategies that I find problematic.

The concern for Rose is that eugenics, thus labeled, will become an "analytically meaningless rhetorical device" deflecting from the opportunities personal choice offers individuals in the biomedical age.[4] The concern is a legitimate one, if by eugenics and its strategies we consider the formulations of Galton, Davenport, or the Nazi scientists as the standard by which eugenic strategies should be measured. In this project, however, I have sought to show that eugenic strategies, and therefore eugenics, predate the articulations of Galton with precedents all across Europe in the Middle Ages and in the modern state. It is engendered by a eugenic worldview which includes various "breaks" within the population continuum,

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1. Nikolas Rose. *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century* (Princeton 2007), 54.
2. *Ibid.*, 69.
3. *Ibid.*, 56.
4. *Ibid.*, 73.

essentialization, and the establishment of hierarchy. Eugenics, as a biopolitical imperative, functions to preserve equilibrium among these breaks, where an established norm is maintained at the top of this hierarchy through various strategies. These strategies have included the mass murder of Native Americans and the enslavement and subjugation of Africans. It also includes sterilization programs and immigration restrictions. It further encompasses segregation, mass incarceration, and even the eventual "whitening" of the Irish, Italian, and Jewish immigrants.

These strategies all mark eugenics, in its zero-sum analysis, as having the unwavering goal of making the norm live while letting others die. In this light, what is traditionally considered to be the eugenics "movement" in the United States and Germany is only an extreme manifestation of a longstanding biopolitical objective. It neither necessitates hatred, cruelty, or insectification, although these are amenable to its function. Neither does it necessitate direct government control, although government power can effectively coordinate the apparatus. Essentially, all that is required is a designated norm and a logic for preserving that norm above all others. To focus only on the extremes, I think, risks that we miss how eugenic strategies reproduce and recreate themselves in an evolving biopolitical state.

Curiously Rose, much like Rochman and Doudna, recognize the effects of biopolitically ordered eugenics even if they do not recognize it as such. Access to wealth and material resources are concentrated within the norm and afford greater life chances relative to the non-normative, bio-deviant groups. This is what Rochman and Doudna allude to when they highlight the expense associated with ever advancing, life preserving and expanding technologies like PGD, IVF and gene editing. In the age of biotechnological medical advances even Rose recognizes that "the lives, illnesses, and troubles of many may be ignored or marginalized in

contemporary political economies of vitality."[5] That this outcome is not "making die" or is not directed by a sovereign who "plans the sickness and death of our fellow citizens" is of small comfort.[6] The eugenic outcomes exist nonetheless.

Aside from the question of access to life-enhancing technologies, this project also considers the role of myth making in preserving "whiteness" as an identity. In her book *A Crack in Creation*, Doudna recounts a dream, or nightmare, in which concerns about the use of this new gene editing technology come to the fore. In her dream, she is asked by a colleague to teach someone how to use CRISPR, the new gene editing technology she helped to discover. It turns out that the person she is to teach is none other than Adolf Hitler. When she realizes who he is, she wakes up.[7] Yes, definitely a nightmare. Nevertheless, Doudna dismisses traditional eugenics, and by extension the new eugenics movements, as "fallacious" and "thoroughly repudiated by mainstream science."[8] In her estimation, it is unlikely that "we'll see anything similar [to what happened in Nazi Germany] happen again."[9] But she forgets, like many in her field, that eugenics first finds its roots in the United States. And like Rochman, she believes that the danger of eugenics is mitigated by the personal choice of private citizens. They both overlook that those private choices could most likely be guided by government, as well as privately funded, genetic counselors whose influence may reflect national norms anchored in white identity.

As Frederickson notes, the "American…self-image…formulated and popularized at the very time when the slavery controversy focused interest on the Negro character…[a]dhered to

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5. Rose. *The Politics of Life*, 58.
6. *Ibid.*
7. Jennifer A. Doudna and Sam H. Sternberg. *A Crack in Creation: Gene Editing and the Unthinkable Power to Control Human Evolution* (New York 2017), 199.
8. *Ibid.*, 193.
9. *Ibid.*, 243.

a…democracy…defined as racial in origin and thus realizable perhaps only by people with certain hereditary traits."[10] It is an identity that has never been fully repudiated in this country, and thus it will likely inform public policy in ways that in turn reinforce it. Moreover, the manner in which this national identity rests upon social and racial inequality means that those within the lower strata of society will likely be excluded from the benefits of gene-editing technology. Polarization in wealth and race has the potential of creating a biological disparity as well. The false notion of superiority that whites feel compelled to justify via science may become the impetus for creating, genetically, the superiority they crave.

Indeed, there are a number of emerging domains where the eugenic worldview remains salient and where this genetic superiority will be offered for sale. The emerging sociogenomic market, where human nature and life outcomes result from genetic and social factors, is growing. Beginning in the early 2000s, around the drafting of the human genome, sociogenomic corporations in the US and worldwide are now providing services that "normalize eugenic strategies."[11] Companies offer "talent" tests which claim the ability to locate talent in customers' genomes. Some companies are bold enough to claim to be able to report how children respond to crisis based on their DNA profiles.[12] Tests for aggression, or the infamous "warrior gene" are marketed even though they are based on studies that have not been replicated.[13] Fitness, finding love, genetic match-making, if you can think of it, there is probably a sociogenomic company that can test for it—or will if you ask.

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10. George M. Frederickson. *The Black Image in the White Mind: The Debate on Afro-American Characteristics and Destiny, 1817-1914* (New York 1971), 100-101.
11. Catherine Bliss. *Social by Nature: The Promise and Peril of Sociogenomics* (Stanford 2018), 194.
12. *Ibid.*
13. *Ibid.*, 200.

All of these programs, as Bliss laments, "are being devised and sold under the auspices of revealing innate truths" as revealed in your personal genome.[14] They are meant to be fun, but the determinism, and essentialism inherent to the interpretations reinforce elements of the eugenic worldview as lay persons have difficulty parsing the probabilities these tests are meant to represent. Right now there are groups of white men who are chugging milk because they believe the ability to digest milk past adolescence is a unique sign of their superiority. Perhaps they are unaware of the East African cattle breeders who also digest milk into adulthood. No matter, they also argue that their superiority is due to their Neanderthal DNA. It is interesting to note how the discourse has evolved so much that Neanderthals, at one time representative of ignorance and lack of sophistication, can now represent the epitome of genetic virtue.

The science associated with these interpretations is bad, or better nonexistent, and scientists seem to be working overtime to debunk this misuse. But, it doesn't matter whether the science is bad or not. The interpretations are premised upon a worldview that makes it real and thus as soon as one superiority myth is challenged another is constructed to take its place. It is hoped that by recognizing the patterns and logic associated with the formation of these myths that the newest permutations of division-making can be recognized early enough to be dismantled intellectually and intuitively. But more importantly, by understanding the hidden presumptions buried in our thinking it is hoped that we can transform the most reprehensible of our doings, deconstructing the worldview and its apparatuses that have thus far undermined the evaluation and proper evolution of the human self.

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14. Bliss. *Social by Nature*, 197.

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