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Expertise, Dissent, and Identity in American Eugenics, 1907-1927

By

Margaret R. Eby

A dissertation submitted in partial satisfaction of the

requirement for the degree of

Doctor of Philosophy

in

Sociology

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Christopher Muller, Co-Chair
Professor Armando Lara-Millán, Co-Chair
Professor Jennifer Johnson Hanks
Professor Osagie K. Obasogie

Spring 2024

Abstract

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By

Margaret Eby

Doctor of Philosophy in Sociology

University of California, Berkeley

Christopher Muller, Co-Chair

Armando Lara-Millán, Co-Chair

This dissertation is a sociological study of the emergence of eugenics as an expertise in early 20th century America. In reckoning with eugenics as a case of expertise legitimization, I seek to not only contribute to the study of eugenic legacies and roots but also examine it as a collaborative project that relied on various frameworks of knowledge production to be realized. Eugenics was first introduced in 1893 by Francis Galton, a British statistician who coined the term to describe the science of a "good birth". Galton built on a growing movement that suggested scientific intervention might address fears about shifting population demographics at the end of the nineteenth century. These fears, motivated by racism, xenophobia, ableism, and sexism, manifested in an international movement for reproductive control. The resulting eugenic interventions were categorized as positive (encouraging the reproduction of the "fit" through education and social and financial incentives) and negative (preventing the reproduction of the "unfit" through sterilization, incarceration, and the prevention of marriage). Here I draw on archival sources including medical journals, conference records, and newspapers to analyze the mechanisms through which eugenics was legitimized as an actionable science and how stakeholders engaged with its unsettled nature to negotiate their power.

In the first chapter, "Expertise and the 'New Science' of Eugenics," I show how medicine legitimized eugenics as a science through a process of "expertise laundering" in which it claimed authority over eugenic interventions while obscuring the science behind these interventions. The second chapter, "'Misconceived, Misinterpreted, and Misapplied': How Dissent Shapes Eugenics and the Scientific Process," extends this analysis of scientific legitimization by exploring how dissent from within medicine structured eugenic interventions and became part of the process of scientific authentication, ultimately motivating a turn away from positive eugenics and toward negative eugenics. In chapter three, "'Eugenics Brought Home': White Women Physicians and Reproductive Authority", I theorize white women physicians' engagement with the eugenic project as both responsible for and subject to eugenic demands on white motherhood. I argue that

they linked their identities as white women to specific moral and technical expertise to gain authority over eugenic intrusions into the home, thereby linking their professional advancement with their participation in reproductive surveillance and control. These chapters each deal with the historical ramifications of eugenics while pointing to the ongoing legacies of eugenic logic on current and future scientific interventions. This research contributes to studies of scientific knowledge construction, demonstrating how unsettled experts differently draw on unsettled sciences to manage professional, social, and ethical challenges.

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This dissertation represents a fascination with the history of eugenics and a love for research that began during my first year as an undergraduate at New York University. My path to graduate school was made possible by the support and instruction I received there, namely from Iddo Tavory and Marie Bragg.

My good fortune in finding intellectual guidance and mentorship continued when I moved to Berkeley. Chris Muller has been a tremendous influence since I first took his course on historical methods. His intellectual curiosity, attention to detail, and dedication to expansive sociological investigation of the smallest things he brings to his work have inspired me on my own research trajectory. When I taught for him for the first time, I experienced a new appreciation for sociological theory and the joy of sharing it—this new perspective on the classroom shaped the rest of my time at Berkeley. Armando Lara-Millán introduced me to medical sociology through a small class that became more reading group than course. When our collective imagination for exploring risk and medicalization expanded beyond the semester, he was a supportive guide in our dive into digital ethnography; working with this group was an early exposure to the joys of collaboration. Jennifer Johnson Hanks was my first mentor at Berkeley, welcoming me to her office for a conversation about the enduring thrall of demographic histories and opening the door to a whole new world of population theory. Her meticulousness and genuine care helped me find my place in my first years at Berkeley. Taking Osagie Obasogie's course "Bioethics: from Nuremberg to Modern Times" transformed my career aspirations and my imagination about what medical sociology could do. Since then, he has been a tireless champion and generous collaborator in our work on the ongoing legacies of eugenics in science, medicine, and technology. His deep commitment to more ethical health futures, and his willingness to challenge those who stand in the way, is an enormous influence on how I structure my work.

I was fortunate to spend my fourth year in the department as the Blumer Teaching Fellow. Through the graduate pedagogy course I taught with Michael Burawoy I began to explore my own graduate school experience and relationship to teaching. The conversations that began during this course evolved into a years-long project on the academic labor process which has been one of the most fruitful and generative of my academic life; my appreciation for the friendship and intellectual camaraderie of Justin Germain, Thomas Gepts, Natalie Pasquinelli, and Elizabeth Torres Carpio cannot be overstated. We owe much to Michael, who has been a tireless mentor and supporter, and I will be forever grateful for his kindness and leadership during difficult times.

I began the program alongside a cohort of extraordinary peers who made the transition to graduate school and California worthwhile. Beginning with our initial classes and spanning

movie nights and trips to each other's field sites, each of them has helped me see the world in new ways. Adriana Perez Ramirez and Kim Burke have been steadfast friends since the early days and continue to make each new stage of this process a little less lonely. Isaac Dalke has walked around campus with me more times than I can count and generously continued our meandering conversations via phone when I left the Bay—he has provided some of the most clarifying, generous, and deep engagement with my writing I have ever had. At the end of my first year I met Skyler Wang, who has been a true companion in work and life. He responds to both my anxious texts and chapter drafts with a kindness and humor that has kept me on track at the most challenging junctures.

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St. Paul, May 2024

INTRODUCTION

In 1904 the *American Journal of Sociology* published an account of Francis Galton's invited talk, "Eugenics: Its Definition, Scope, and Aims", where he was welcomed by H.G. Wells as a "great founder of sociology" (F. Galton 1904). In this lecture Galton lays out the course of eugenic procedure as follows: dissemination of a knowledge of the laws of heredity, historical inquiry into the rates with which the various classes of society have contributed to the population at various times, systemic collection of facts showing the circumstances under which large and thriving families have most frequently originated, influences affecting marriage, and persistence in setting forth the national importance of eugenics (F. Galton 1904). At the end of his presentation, Galton reminds his audience of the importance of methodological soundness in advancing eugenics: "I see no impossibility in eugenics becoming a religious dogma among mankind, but its details must be zealously worked out sedulously in the study. Overzeal leading to hasty action would do harm, by holding expectations of a near golden age, which will certainly be falsified and cause the science to be discredited" (F. Galton 1904, 6). Although Galton's presentation was not met with complete approval— one commentator remarked that "in few other departments of study would there be so much danger of incomplete knowledge, and even of downright quackery, clothed with the mantle and authority of science" (F. Galton 1904, 12)— the promise of a eugenic golden age was a powerful one.

The early 1900s were already characterized by burgeoning movements around population control including the Neo-Malthusian League, eugenics-adjacent movements for birth control access, and restrictive immigration reform designed to prevent growing non-white populations in the United States (Ngai 2007; Sanger 1926; Klausen and Bashford 2010). By 1937 over half of U.S. states passed either positive or negative eugenic legislation, public support of eugenics continued to grow, and prominent figures like Theodore Roosevelt wrote in support of eugenic intervention to avoid "race suicide" (Roosevelt 1914; E. Black 2012; Connelly 2009; Stern 2022). But despite the popularity of eugenics rhetoric, published medical perspectives expressed doubt about the legitimacy of eugenic practice. In the final chapter of the 1936 "Eugenical Sterilization" report, the Committee of the American Neurological Association for the Investigation of Medical Sterilization cautions against rushing into eugenics policy or practice without exploring its consequences and probability of success: "No great or radical change in the complexion of society can be expected from any such sterilization program as we recommend, nor from any justifiable legislation. We do not believe that society needs to hurry into a program based on fear and propaganda." (Myerson 1936) As a 1937 review of the book in the Journal of the American Medical Association recounted:

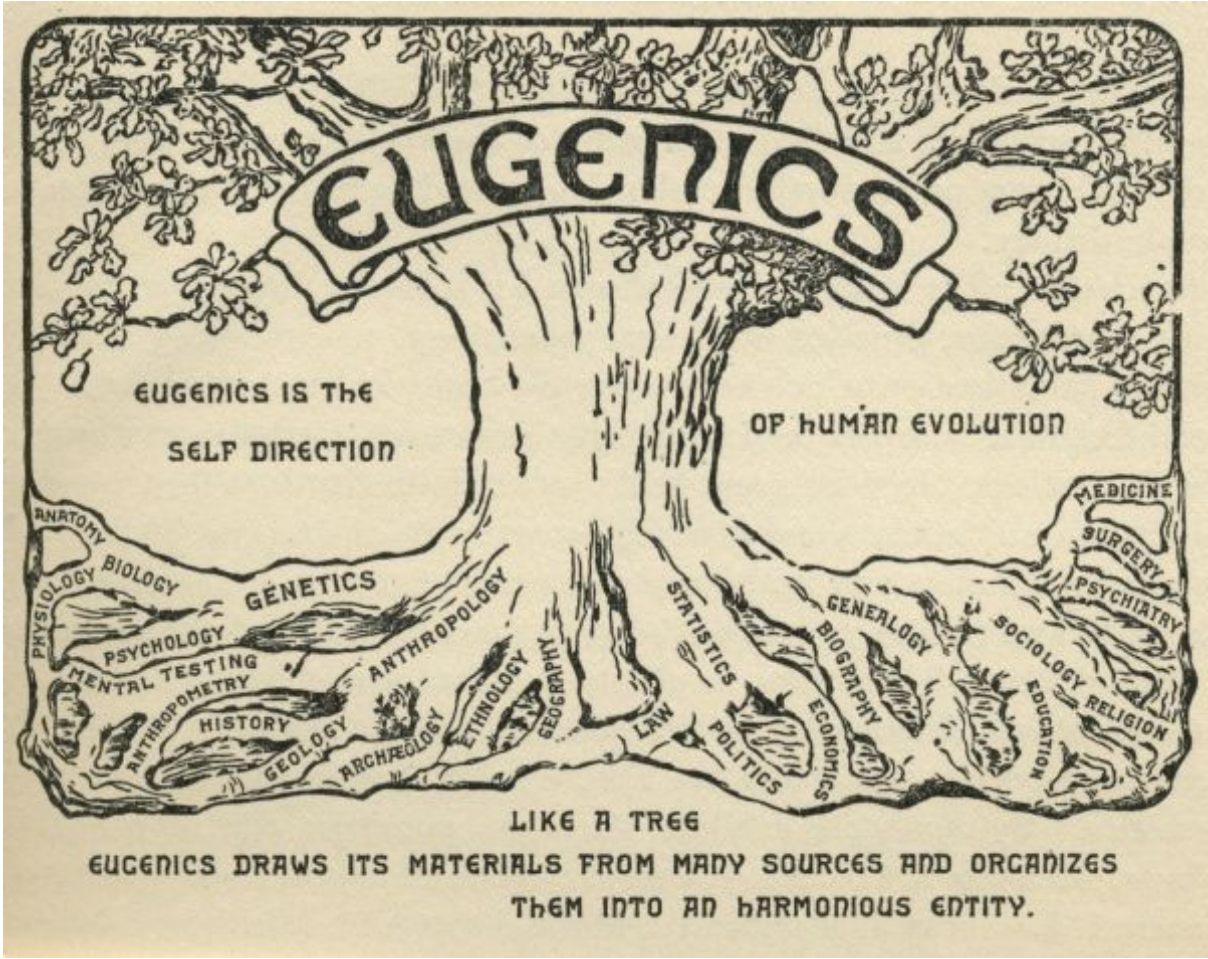
> "The committee does not consider that our knowledge of human eugenics is sufficient to warrant sterilization of people who themselves are normal in order to prevent the appearance of such conditions in their descendants. It does not consider that there is at present any sound scientific basis for sterilization because of immorality or character defects. It suggests that any laws concerning sterilization passed in the United States should be voluntary and regulatory rather than compulsory; moreover, that these laws should be applicable not only to patients in such institutions but also to those in private institutions and those at large in the community." (*JAMA* 1937)

What allowed for eugenics' rapid rise despite contradictory scientific guidelines and evidence? And how did medicine and science come to align with politicians' and social reformers' arguments about a pending population emergency? Fields' accounts of social and scientific fact will often dovetail to match each other, particularly when they pertain to the most pressing social issues of the time (Duster 2006). Although eugenics lacked the necessary scientific 'proof' that its interventions were worthwhile, it provided compelling evidence to many professionals and social reformers that it might have a real impact on issues ranging from crime to alcoholism to strains on the welfare system; with such convenient remedies for every ill, its scientific viability and ethical violations became inconvenient footnotes.

This dissertation reckons with the mechanisms that made these alignments possible, drawing on theories of expertise legitimization, dissent within science and medicine, and the relationship between identity and authority. In this research, eugenics serves as an example of how a new idea becomes a science, gains credibility, and is deployed by authoritative agents, despite significant problems with its claims. It also serves as a case for how permeable and tenuous the boundary between settled and unsettled science really is. As Latour writes in *Science in Action*, "uncertainty, people at work, decisions, competitions, controversies are what one gets when making a flashback from certain, cold, unproblematic black boxes to their recent past. 'Science in the making' on the right side, 'all made science' on the other; such is the Janus *bifrons*." (Latour 1987, 4) The precarity of eugenic science did not carry over to its application at the institutional, legal, or political levels; by the time eugenic logics were applied (either voluntarily or compulsorily) they existed as "all made science."

Accounts of eugenics often make two assumptions about how it fits accounts of disciplinary development over the previous century. The first is that eugenics was a pseudoscience, completely divorced from rigorous scientific methodology and thus irreproducible. The second is that eugenics was successfully excised from its governing disciplines and universally recognized as harmful and inaccurate. Both assumptions absolve disciplines who engaged with eugenics of any ongoing responsibility to acknowledge or prevent ongoing entanglements; they also fail to account for the mechanisms through which harmful interventions become sanctioned and applied. The list of disciplines who participated in the eugenic project is an extensive one. In an image created for the Second International Congress of Eugenics, held at the New York City Museum of Natural History in 1921, eugenics is depicted as a tree "which draws its materials from many sources and organizes them into an harmonious entity." The roots of the tree are labeled with the following: Anatomy, Physiology, Biology, Genetics, Psychology, Mental Testing, Anthropometry, History, Geology, Anthropology, Archaeology, Ethnology, Geography, Law, Politics, Statistics, Economics, Biography, Genealogy, Sociology, Education, Religion, Psychiatry, Surgery, and Medicine.

Fig. i.1: The "Eugenics Tree." Source: Laughlin 1923: 15, figure 3.



Although the term has become associated primarily with the second world war and the atrocities committed against "undesirable" populations by the Nazis, this history obscures the relationships between the professionalization of medicine and eugenics in the United States in the first half of the 20th century. It also negates the case of eugenics as a case of legitimate expertise. When eugenics is classified as a discredited pseudoscience, or purely as a political project, important features of the process of legitimization are lost. This research seeks to reexamine the construction of eugenic expertise to generate new ways of analyzing the emergence of new sciences.

The first chapter seeks to answer how medicine legitimizes unsettled science using the case of developing eugenic science. Here I investigate how physicians reckoned with the growing demand for eugenic legislation despite their qualms about the legitimacy of eugenic intervention as a part of medical purview. I do so by analyzing medical publications to trace physicians' engagement with eugenic hypotheses, their original research pertaining to eugenics, and the growth of eugenics as an explanatory medical factor. My analysis begins in 1907, when Indiana became the first state to enact compulsory sterilization legislation, and ends in 1927 when *Buck v. Bell* made eugenic sterilization constitutional. First, I analyze the professional challenge

eugenics presented to the rapidly transforming field of medicine. Next, I show first how physicians cast eugenics as both a historical norm and a new science, reinforcing it as part of their domain while protecting their skepticism. Finally, I argue that medicine was able to legitimize unsettled science through a process of "expertise laundering" which obscured the unsettled science behind eugenics while bolstering the legitimacy of interventions that would reinforce medical authority.

The second chapter reckons with objections to the development of this eugenic expertise. Historical accounts of eugenics often present the eugenics movement as monolithic, made up of misguided social reformers and enterprising politicians looking to solve contemporary population "problems" with pseudoscientific interventions. Even at the height of eugenics' popularity, however, there were voices of dissent from within the professions that most ardently advocated eugenic implementation. How does dissent over developing sciences shape research and intervention? In this article, I analyze expressions of dissent in professional journals in medicine, public health, and sociology between 1907 and 1927 to show how dissent served to shape eugenic strategies. I first organize rejections of eugenic hypotheses according to motivation and trace the reactions and responses to such expressions. Opponents of eugenic interventions differently drew on ethical, scientific, or evaluatory frameworks to dispute the legitimacy of eugenic logic, cautioning against too rapidly employing eugenic strategies to address the numerous social challenges that emerged during this period. I argue that dissent resulted in more, rather than less, eugenic harm; it was the rejection of positive eugenics as a reasonable intervention that resulted in negative eugenics- through sterilization and segregation- becoming the favored eugenic approach. In highlighting the uneven support for eugenics as it emerged as a science in the first decades of the 20th century, I show how dissent shapes the direction of policy and practice.

In the third chapter, I examine the engagement of white women physicians with the "new science" of eugenics in the early 20th century to make sense of how actors leverage identity to generate ownership over emerging expertise. Although the white men who initially organized the eugenics movement framed women's growing educational and professional independence as a detriment to the national project of race betterment, here I argue that white women physicians were able to reframe these critiques as supporting a unique, identity-based alignment with the eugenic project. By analyzing discussion of eugenics in women's medical and public health journals, as well as the treatment of eugenics in popular women's magazines, I trace the emergence of white women physicians' strategic alignment with eugenics movements in the United States and the dissemination of their messages to lay women. These physicians adopted tactics to position themselves as not only in accordance with eugenic values but as authoritative arbiters of eugenic intervention and expertise. Building on sociologies of expertise and medical sociologies of lay stakeholders, I argue that an examination of this oft-excised history of first-wave feminism has repercussions for both the privileging of whiteness in reproductive justice and the utility of representation more broadly.

These three chapters help to make sense of the relationship of medicine to eugenics historically, as well as paving the way to a more productive conversation about the legacy of eugenics moving forward. Eugenics has recently re-emerged as a topic of scientific and ethical inquiry as reproductive interventions become both increasingly mainstream and controversial. Many

proponents of increased reproductive intervention argue that discontinuities between contemporary and historical eugenics guarantee that previous ethical violations will not be repeated, (J. Savulescu 2001; Harris 1993) while critics others point to the continuities to make the case that unchecked scientific advancement will quickly result in ableist, racist, and sexist modifications in the pursuit of a "good birth" (Benjamin 2016; Koch 2010; Sparrow 2011). Articulating what is and is not eugenics continues to pose challenges to the investigation of eugenic legacies.

Defining Eugenics

The emergence of eugenics occurred at the intersection of social reform and science; with its intellectual roots spanning from Darwin and Malthus to Mendel, it provided logic and structure to a variety of ideological and political concerns about the quality and quantity of national populations. British polymath Francis Galton coined the term 'eugenics' in his 1883 book *Inquiries in Human Faculty and Its Development*:

> "This is, with questions bearing on what is termed in Greek, *eugenes*, namely, good in stock, hereditarily endowed with noble qualities. This, and the allied words, *eugeneia*, etc., are equally applicable to men, brutes, and plants. We greatly want a brief word to express the science of improving stock, which is by no means confined to questions of 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. The word *eugenics* would sufficiently express the idea; it is at least a neater word and a more generalised one than *viriculture*, which I once ventured to use." (S. F. Galton 1883)

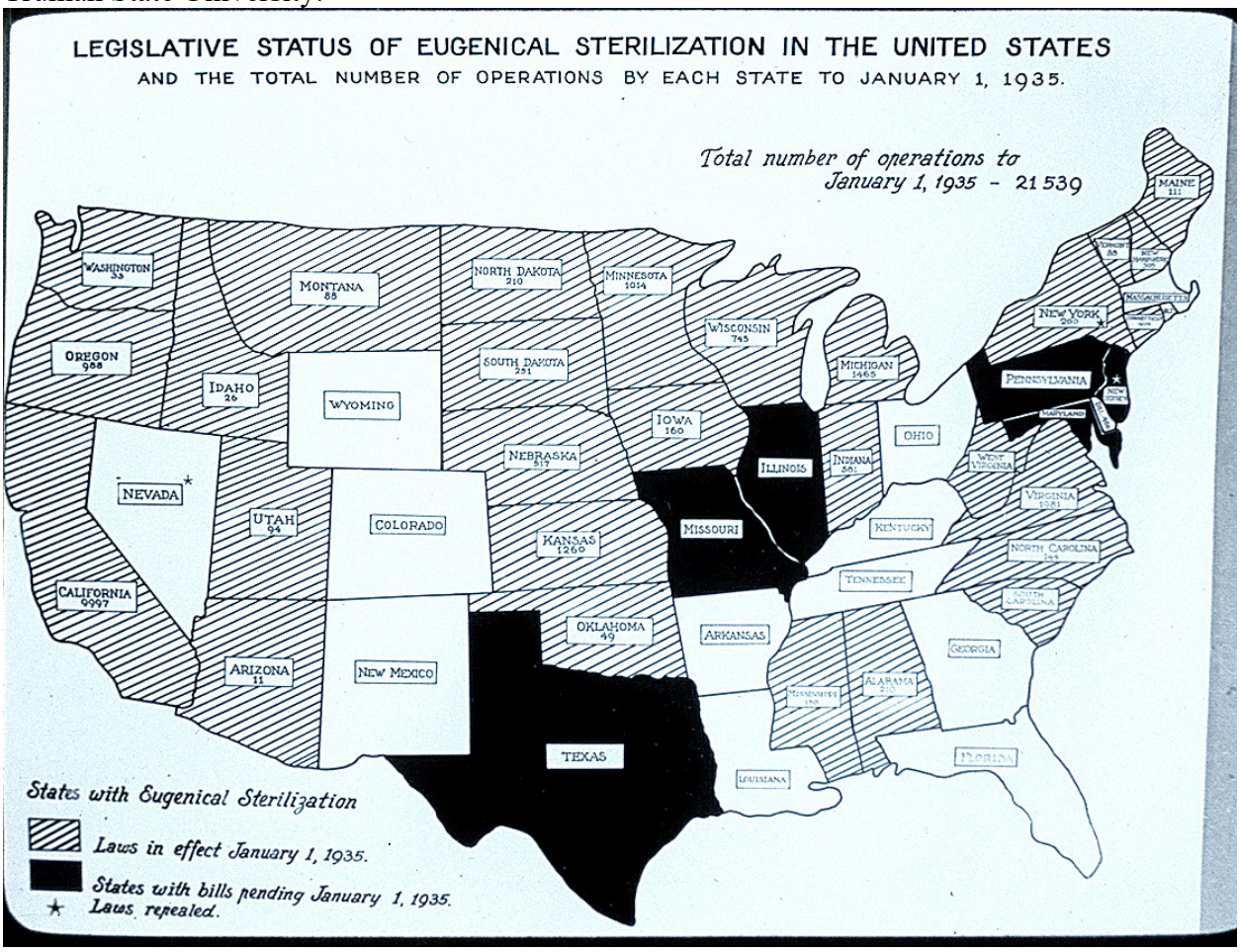
When Galton published this work, he was entering into a milieu of theories on how populations operated and how they might be improved. Galton's half-cousin, Charles Darwin, published *On the Origin of Species* in 1859 (the rest of the title, *by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, was added on the title page) (Freeman 1977). This work initiated a new era of debate and discussion around the science of populations and the possibility of intervention in human development, which had been previously recognized as completely distinct from that of animals (Seth 2016).

Darwin had been influenced by another British population theorist, Thomas Robert Malthus, whose 1798 treatise *An Essay on the Principle of Population* suggested that future population difficulties were unavoidable as populations increased geometrically while food production could only ever increase arithmetically (Malthus 1970). Without checks on an increasing population, Malthus argued, a dangerous difference between population and resources would emerge. These checks were formulated as preventive, which would lower birth rates (e.g. celibacy, later marriage), and positive, which would increase mortality rates (e.g. war, famine). Malthus's warnings about the links between growing population and growing poverty had an enormous influence on the fields of demography and political economy (Robbins and James 1980; Hollander 1997). His followers founded the Malthusian League, an early ally of the eugenics and birth control movements, and championed the vision of small family units whose

decreased consumption protected against the ravages of overpopulation. However, proponents of eugenics quickly outgrew this idea, as small family units brought about precisely the kind of racial decline and national weakening they feared. Instead, they promoted alongside negative eugenics (which incorporated Malthusians' preventive checks) positive eugenics, which encouraged reproduction among "the fittest stock" (Soloway 1979).

Eugenics had appeared at precisely the right time to address fears about demographic change while building on popular scientific ideas about how populations were constructed and controlled. The result was a rapid uptake of eugenic reforms across American institutions, focusing largely on sterilization on eugenic grounds. Sterilization was often posited as the less expensive and more permanent alternative to segregating "unfit" individuals throughout their reproductive years (Laughlin 1922; Lombardo 2022). Between 1907 and 1939, thirty states enacted laws that would allow authorities overseeing state institutions to sterilize patients who were not seen as capable of parenthood (Fig. i:2) (Reilly 2015).

Figure i.2: Legislative Status of Eugenical Sterilization in the United States, 1935. Source: Truman State University.

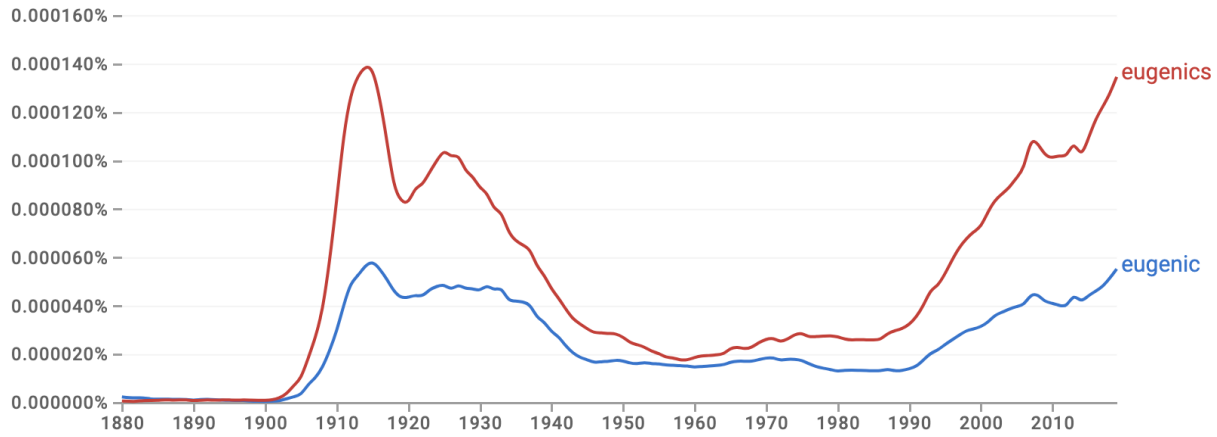


While eugenic structures became part of the fabric of American public and political life, the most well-known applications of eugenics occurred in Germany during World War II. By 1933 a majority of German physicians had joined the Nazi party, and many went on to direct or

participate in the murder of "undesirable" populations, including Jewish and Romani people, as well as those with intellectual or physical disabilities (Kater 1989; Proctor 1988). At the end of the war, many of these doctors were put on trial alongside German military leaders at Nuremberg. Twenty-three physicians and administrators were charged, with 16 ultimately convicted and seven sentenced to death for their perpetuation of war crimes in the name of medical science (Shuster 1997). Even though eugenics had also proliferated in the United States during this period, these trials were framed as a closing of the chapter on eugenic violence (Marrus 1999).

However, this break was not nearly as clean as has been suggested. Scholars have linked the fields of genetics and genomics to the eugenic project, demonstrating the historical continuation between their founders and early supporters of the eugenics movement. By changing the name of academic departments and disciplinary journals, the same actors using the same methods (and holding the same eugenic perspectives) continued their work without engaging critically with eugenic histories. One example is the journal of the American Eugenics Society; it began publication in 1916 as *Eugenical News*, later changing its name to *Eugenics Quarterly* in 1954. In 1968 the journal again changed names, this time to *Social Biology*, and finally, it is still published today under the title *Biodemography and Social Biology*. Likewise, the American Eugenics Society changed its name in 1973, just months after the decision in Roe v. Wade was handed down; in reflecting on the shift, then-president Frederick Osborn remarked that "the name was changed because it became evident that changes of a eugenic nature would be made for reasons other than eugenics, and that tying a eugenic label on them would more often hinder than help their adoption" (Paul 1995, 125). But despite the word falling out of favor, and the subsumption of eugenics into other fields, the use of the term is experiencing a resurgence. Figure i.3 shows the frequency of the words "eugenics" and "eugenic" in American English books published between 1880 and 2019. While the use of the terms peaked around 1912, this graph shows that they appeared nearly as frequently in 2019.

Figure i.3: Frequency of appearance of "eugenics" and "eugenic" in Google Books from 1880 to 2019. Source: Google Ngram.



Why is the term making a comeback now? There are several reasons why this might be the case. First, the rapid transformation of reproductive technologies has drawn criticism from across the political spectrum. Democrats point to the mistreatment of migrants, the failure of the state to support poor parents, and the limitation of birth control and abortion access as eugenic projects on the American right (Paul 2017; Roberts 1998). Meanwhile, Republicans highlight Margaret Sanger's support of eugenics as indicative that birth control and abortion access are themselves expressions of modern eugenics (Currell 2019; Lombardo 2023). As each party attempts to demonstrate its zeal for political polarization, allegations of eugenic impropriety will likely only increase. A second reason for this uptick in the use of the word "eugenics" might be that some among the ultra-wealthy have called for a new eugenics that makes use of these tools to design a future population according to traits they consider most desirable. One prominent couple who advocates for a resurgence of pronatalism (the promotion of increased birth rates to increase a country's "native population") has even labeled themselves "hipster eugenicists" (Black 2022; Lovett 2009). Their process of family formation, which includes the ranking of potential embryos according to the results of preimplantation genetic screening, is designed to result in children that are not only free of disease, but also of any traits that might weaken their performance (such as stress, anxiety, and ADHD).

Second, these same reproductive technologies are the subject of much discussion and debate, with the term eugenics often being brought in to analyze their potential impact. The term "procreative beneficence" has been used to describe a bioethical imperative to utilize reproductive technologies to enable the best possible births (Savulescu 2001). Critiques of this perspective follow this argument through to the conclusion that if each trait were selected based on the highest suggested personal performance in modern society, only babies would be born who were white, tall, and male (Sparrow 2011). Our racism, sexism, xenophobia, and ableism cannot be disentangled from our science. This work thus contributes to the theorization of eugenic legacies and influence during a period of increased interest in the topic. To connect eugenic histories to our eugenic present, I draw on sociologies of medicine and professions that elucidate the linkages between expertise, dissent, and identity.

A Sociological Approach to Eugenic Histories

Although this research relies heavily on archival evidence to reconstruct a history of eugenics and the mechanisms that enabled it, it is through sociological theories of expertise construction, and professionalization that it makes sense of the evidence. Sociologists of science and medicine often center two processes in their work on the past century of the American medical institution: the historical transformation of the medical system and the contemporary phenomena that detail these transformations.

This first category describes the medical profession or institution as moving through a series of stages in which health and risk are differently conceptualized (Starr 1982; Conrad and Schneider 1992; Rose 2001). Building on Foucault's assertion that we live in a biopolitical age, that is, one in which politics address not only the right to live or die, but also the bodily processes of human existence, Nikolas Rose argues that we have moved beyond biopolitics into ages of risk politics, molecular politics, and ethopolitics (Rose 2001; Foucault, Davidson, and Burchell 2008). He asserts that over the course of the 20th century, two great state-sponsored biopolitical projects

were taking place; those of modifying individual habit and moralizing health to align with disciplinary and surveillant state structures such as schools and hospitals and maximizing population health at the site of reproduction (3). Although these two strategies had their moments of tension, they were both organized around principles of white supremacy and market viability under capitalism (Bridges 2019; Evans 2000). The role of the state in modifying or enforcing reproductive strategies across so many liberal, democratic societies means that the distance between interventions like involuntary sterilization and genetic counseling becomes increasingly muddled, particularly when the roots of such strategies are interrogated (Roberts 2009). The growth of individual responsibility as a major medical player also bears consequences for bioethics. Using the established principles of biomedical ethics (autonomy, beneficence, non-maleficence, and justice) might prevent further abuses of medical authority like eugenics. However, there is also evidence that autonomy has come to disable the mechanism established by the principles and that increasing demand for individualized medicine puts greater human dignity at risk (Wolpe 1998; Beauchamp and Childress, 2001).

This second category accounts for the movements within and upon medicine that speak to the co-constitutive relationship between patients and their disease state. More recently sociology has examined the relationships between social movements and the medical institution to explore the effects and impacts the former might have on the latter. Epstein points to the rise of health-related activism through the formation of distinctive groups that construct identities around particular disease categories and assert political claims based on these identities (ex. breast cancer, Lyme disease) as evidence of a growing trend toward challenging hierarchies of medical authority. His argument that the expansion of medical knowledge to include subjugated knowledge and bring in patients as experts on their own experience might hold in the case of HIV/AIDS activism, but historically the ability of patients to act as experts on their own experience might also be fraught with new means of domination. The construction of activists as a point of passage between patients and the larger medical system made activists indispensable because of their value as relayers of patient demands and as recruiters for medical studies. This strategy mirrors that of feminist activists who cast themselves as representatives of progressive maternalism, upper-class conduits of maternal health information, and spokeswomen of the reproductive experience. (Michel 2013; Ziegler 2008)

The role of activist groups in shaping medical policy echoes the reorientation from nationhood to risk. Where social reform through medicine was undertaken largely by wealthy white men in the early 20th century, medical advocates now adhere to unwritten logic about personal adjacency to the condition they represent. These developments are often framed as indicating the potential for a reversal of the medical mechanisms of power, moving from a historically top-down to a bottom-up constitution of medical knowledge. However, sociological work on similar processes within the disability justice movement and Artificial Intelligence argues that the dangers of under-examined ethics in "cutting-edge" science run the risk of being legitimized in pursuit of high modernism (Scott 1998; Fourcade and Healy 2017; Benjamin 2016, 2020).

Medical sociologists also point to the fluid nature of disease categories as evidence that diagnoses are socially, as well as biomedically, constructed; for example, as diagnostic criteria for autism and bipolar disorder expand, the group of individuals known to themselves and medicine as patients increases, and increasing resources are put towards this seeming emergency

(Navon and Eyal 2016; Lakoff 2005). This unsettled science has also created an opening for the moralizing power of the social movement. Sociologists point to contestations over moral framings as frequently unseating biomedical ones, resulting in the medicalization of certain bodies or conditions on the basis of moral worth rather than physiological conditions (Saguy and Riley 2005; Armstrong 2003). The resulting treatments for such conditions are then organized around treating the moral disorder and can bear heavy, stigmatizing consequences for vulnerable groups.

As these scholars' research shows, social movements have a history of contributing to the evolution of medicalization. However, there are several gaps in medical sociology's account of how new sciences are generated and legitimized. Here I explore how expertise, dissent, and identity-specific elements shaped these processes and map the avenues through which early proponents of eugenics were able to situate themselves as medical and scientific authorities by leveraging this "fear and propaganda" to increase and concretize professional power. The eugenic project is endowed with such a lasting legacy precisely because of the confluence of agents that saw it as an expertise mill: where they lent their identities to the legitimization of its interventions, they received in turn magnified status as "experts" equipped to dispense and enforce their agendas. This research also complicates the narrative of historical eugenics by investigating the opposition posed by scientists and physicians to the eugenic project. In many scholars' attempts to demonstrate the scope and scale of the American eugenics movement, they overlook the charges leveled against it by those who 'looked under the hood' of eugenic logic to see the tremendous violence it posed to the most vulnerable. As Pennsylvania Governor Samuel W. Pennypacker said as he vetoed the nation's first compulsory sterilization bill soon after it passed in the state's legislature in 1905, "to permit such an operation would be to inflict cruelty upon a helpless class in the community which the state has undertaken to protect." (Laughlin 1922, 35) Recognizing historical opposition to the eugenics movement even from those at the top will improve upon theories of resistance in the face of powerful social and scientific pressure.

CHAPTER 1: EXPERTISE AND THE "NEW SCIENCE" OF EUGENICS

> "When an institution (e.g., the church, state, medical profession) gains the power and authority to define deviance, that is, to say what kind of a problem something is, the responsibility for dealing with the problem often comes to that institution. In this sense, we can say institutions can define their own social control "turf."
> (Conrad and Schneider 1992)

> "How shall we bring about a 'wide dissemination of a knowledge of the laws of heredity…? We shall not be able to reach the public until we are able to influence the education of a body of men whose studies naturally bring them into relation with the subject and who, when united, are numerous enough and powerful enough to sway public opinion. Only one such body of men exists— the medical profession." (F. Galton 1904)

Between 1907 and 1937, eugenic legislation in the United States increased rapidly. Thirty-three states passed laws allowing for involuntary sterilization on eugenic grounds, while even more initiated public health campaigns to educate their constituents about their responsibility for "better breeding" (Stern 2016). Evidence of this new intervention was everywhere: parents entered their infants and children into Better Babies Contests, where they might win prizes based on their performance on series of aptitude tests and physical standards; fairs hosted information booths where inflated statistics about declining American literacy rates and imbalanced reproduction bolstered anti-immigrant rhetoric; newspapers ran alarming headlines about the uncontrollable growth of populations dependent on the state and suggested that eugenics might be the next horoscope through which to find true love ("Eugenics Take the Place of the Constellations: Here is Where Cupid Takes a Scientific Degree in Match-Making" (N. G. Smith 1912)). These could be sorted into positive eugenics, which emphasized public education and more of the right kinds of reproduction, and negative eugenics, which included sterilization, the prevention of marriage among those considered "unfit", and in extreme cases, euthanasia.

Although the term 'eugenics' was first coined by British physician Francis Galton in 1893, eugenics' earliest supporters had not been purely among the medical profession.[1] The first arguments detailing the dangers of degeneracy and the importance of human breeding (then sometimes referred to as stirpiculture) came from United States Census agents and women's suffrage activists (Wine 1880; Woodhull 1888). Eugenics became an object of medical interest through its necessary role in conducting sterilizations: in an 1892 presidential address to the *Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons*, Dr. Isaac Kerlin asked, "Whose state shall be the first to legitimize oophorectomy (removal of the ovaries) and orchitomia (removal of the testes) for the relief and cure of radical depravity?" With eugenic intervention designated a surgical intervention, medicine had early access to this new science.

By 1893 castration programs had taken effect under Dr. F. Hoyt Pilcher at the Kansas State Asylum. When Indiana became the first state to put eugenic intervention into law in 1907, it

[1] Some of this disciplinary confusion might also have resulted from the various "expertises" of the Victorian polymath. Over the course of Galton's life he practiced medicine, statistics, sociology, psychology, geography, and anthropology, among others.

stipulated that in each institution in the state a further two "skilled surgeons of recognized ability" should be hired to form with the regular institution physician a "committee of experts" which had the power to declare an inmate "unimprovable" and surgically sterilize them (Indiana 1907). Although surgeons were tasked with practically implementing and supervising eugenic sterilizations, eugenic interest had continued to proliferate outside the medical field, from botanists to demographers to suffragists. Each structured their support of eugenics as being born of field-centric expertise; botanists claimed Mendel's experiments with pea plants as the true dawn of eugenics (East 1923), while feminist reformers argued that as mothers and homemakers, they possessed innate responsibility and knowledge over proper eugenic development (Atkinson 1910). Demographers took the opportunity to call for increasingly detailed population statistics, presenting increased rates of institutionalization as evidence of a growing biological emergency (Sear 2021). Likewise, sociologists hosted discussions on eugenics as a new branch of social theory and situated themselves as obvious partners in the eugenics project (F. Galton 1904). By endorsing eugenics as "the right tool for the job" (and themselves as the wielders of such tools), these fields attracted capital and recognition as they tried to position themselves as credible experts (Pryma 2022).

Studies of expertise generally emphasize competition and exclusion as experts and disciplines jockey for ownership. There is no room for collaboration. But the battle for jurisdictional primacy over eugenics unfolded in an unexpected way—despite early contradictions about which disciplinary lineage was the most natural successor to Galton's eugenics, eugenic expertise became a kind of group project that afforded its collaborators increased political airtime and authority over immediate interventions. As popular as the idea of eugenics became over the first decades of the twentieth century, its wide-ranging applications were devised and delivered by the medical profession as sterilization emerged as the most popular and effective means of controlling undesirable populations. This analysis focuses on the construction of eugenics as a category of medical expertise as it first clarified and articulated its claim over eugenic expertise, then drew on extra-medical accounts of eugenic legitimacy to affirm and expand its potential applications, ultimately laundering expertise to conceal its unsettled origins and bolster medicine's claim over the authority this "new science" afforded.

The case of eugenics offers a unique opportunity to examine the processes through which new forms of expertise are legitimized as such and how these news experts accordingly adjusted their new professional boundaries. First, the speed with which eugenics became recognized not only as a new science, but a political and social ethos, indicates the combined power of these experts in constructing and mobilizing interventions. Second, the back-and-forth between disciplines as pro-eugenics theory and data were exchanged highlights the importance of inter-field expertise formation and the stakes of each party in the legitimization of their knowledge.

Here I draw on Eyal's (2013) sociology of expertise to map the relationships between medicine and other disciplines contributing to the development of eugenics as a science as they negotiate concepts of heredity and control and suggest new strategies for theorizing the exchange of knowledge. The milieu of professions looking for authority and credit through eugenics made implementation of eugenic policy disorganized and wide-ranging. From State Fair competitions to IQ tests, every arena presented an opportunity to further the eugenic cause, thus justifying it as a reasonable measure. As eugenic interventions were legitimized, so too were their arbiters; this

exchange between expert and expertise resulted in a process through which new institutional matrices emerged with the authority to speak on health, reproduction, and population-making. Here I analyze leading medical journals between 1907 and 1927 to examine the ways in which medical professionals write about eugenic policy, practice, and practicality, and who they call on to inform or enforce these logics. I find that eugenics became a topic of medical interest during a period of increased instability for the field when educational reforms and the promise of wider-reaching interventions beyond medicine threatened to destabilize physicians' authority. I then show how medicine wrangled eugenics under its professional umbrella by defining and contextualizing it as a medical intervention without actually participating in the project of eugenic knowledge creation. Ultimately I argue that these processes initiated what I here call "expertise laundering", in which the origins of eugenic "expertise" were strategically obscured by filtering them through other disciplines, leaving medicine free to enact eugenic interventions and claim the power that came with them without engaging critically with the logic or science behind them. This research uses the case of eugenics to further develop a theory of expertise that accounts for misalignment in expert tasks and expertise as well as resulting shifts in expert designation. It also makes the case for a more rigorous analysis of interventions rooted in exclusion, because of, and not despite, dystopian claims of any "new science" of humanity.

Legitimizing Processes

How was eugenics legitimized by medicine? In the subsections below, I approach this question both from the standpoint of the new expertise itself and the discipline that adopted it. By evaluating the challenge posed by the new expertise to the developing expert, I develop an analysis of the strategies through which medicine drew on the novelty of eugenics to position itself as its governing body in order to defray the instability that the growth of eugenics posed to the existing professional order. Finally, I argue that this legitimization was made possible by a process of "expertise laundering" that drew on other disciplines' authority to bolster claims about eugenics' authenticity while obscuring the lack of evidence for this new "science".

Expertise, Experts, and Boundary-making

Sociologists have long called for a history of tasks and problems that will account for both jurisdictional struggles over such tasks and the assembly of forms of expertise designed to solve them (Abbott 2014; Eyal 2013). While some structure the demarcation of expertise according to professions (Abbott 2014), others emphasize an expertise-as-network approach. When experts are theorized as a network, arguments about power must take into account both the distinction and dynamic interdependence between the monopoly and autonomy experts pursue, as well as the generosity and co-production involved in putting together robust networks of expertise (Eyal 2013, 899). These networks of expertise require the institutions within them to mutually recognize one another's expertise as lending something to the shared project. But with eugenics such a "new science", experts had to construct this visible expertise in other ways.

As politicians, social reformers, and doctors began to frame failure to take eugenic action as morally reprehensible in the early 1910s, the movement was able to challenge concerns about the ethics of disrupting 'natural' (and religious) processes of reproduction (Wilde and Danielsen 2014). This reframing of eugenics as a moral emergency created a natural historical dovetailing of social and scientific fact (Duster 2006): eugenics was reframed as the right "tool for the job"

for nearly every emerging "challenge" to American society (Pryma 2022). Eugenics promised to decrease strain on the state's social welfare systems, protect against immigrant overpopulation, prevent wars, and, when that was impossible, ensure the best possible army to win them. The only question remaining was who was to wield the eugenic tools that would enable such a population to prosper.

A number of fields claimed eugenics as falling under their purview, with eugenicists themselves encouraging this multidisciplinary approach to eugenics (Laughlin 1923, 15, fig. 3). Sociologists drawing on Bourdieu's field theory center the relational nature of knowledge to various fields to highlight the fluctuating value of expertise between disciplines (Panofsky 2011; Fligstein and McAdam 2011; Panofsky 2018; Bourdieu 1975). These fluctuating values, I argue, meant that medicine could draw on interdisciplinary constructions of eugenics as a "new science" to legitimate its authority without directly engaging with the research behind the valuation of eugenic interventions. The case of eugenics in the first quarter of the 20th century indicates that this process of expertise valuation, and its exchange rate between fields, helped to generate an artificial emergency of legitimization.

These processes of mutual construction between professions and jurisdictions and experts and expertise are effective so long as the problems they seek to solve continue to be recognized under their control. However, when problems move outside their own spheres and appear to endanger society at large, professional routines are criticized, institutions are attacked, elites are threatened and punished, and far-reaching institutional reforms are encouraged (Alexander 2018). Thus a problem that escapes a field's control can likewise challenge field dynamics, disrupting its boundaries, internal hierarchies, and symbolic capital; this, I argue, was the case when eugenics entered medicine's jurisdiction from the outside.

Theorizing Expertise in Emerging Sciences

Sociologies of medicine in the 20th century point to a social transformation of American medicine through which medicine emerged as a major political and economic player (Starr 1982). As Americans came to rely on the professional sovereignty of medicine and surrender their private judgment to the institution of medicine, medicalization became a locus of power through which American cultural values about morality and risk were cultivated (Conrad 1992; Starr 1982; Rose 2001).

However, the medical profession also faced a series of professional challenges at the beginning of the 20th century that contributed to its reorganization. In 1910 the Carnegie Institute published Abraham Flexner's report on American medical schools, which resulted in the closure of one-third of operating medical schools (Duffy 2011). The Flexner Report created more rigid standards for medical education and more rigorous certification exams, unifying medical education and practice under the purview of the American Medical Association (AMA) (Conrad and Schneider 1992). It also embodied progressive era reformers' demands for increased social planning and social control in the face of the harmful conditions arising from urbanization and industrialization, endowing newly structured professions with license to autonomously intervene in problem areas (Kunitz 1974).

As medical education underwent massive restructuring, the medical profession itself was undergoing a period of transition. The first decade of the 20th century saw enormous gains in favor of medical control over pharmaceuticals as the AMA founded its own regulatory body to discredit the many pills and potions being advertised to the laity, while drug manufacturers increasingly recognized their dependence on doctors' prescriptions and the medical profession increased its credibility (Starr 1982, 129). While the expansion of the domain of medicine over the past century can be attributed in part to the prestige the medical profession has accrued and its position as steward of the value of life by performing "miraculous" interventions, it is also the result of medical crusading and entrepreneurship (Conrad and Schneider 1992). The maneuvering of deviance from "badness" to "sickness" gave medicine even greater control over social life, a control which it wielded throughout the temperance movement, abortion debates, anti-prostitution legislation, and the rise of eugenics.

Through an inductive analysis of these historical accounts, I show how medicine legitimized eugenics as a form of expertise and locate it within its professional domain. I argue that this process had three stages. First, popular support for eugenics and large-scale population improvement interventions initially infringed on medical authority, encouraging medicine to adapt by widening its scope and maneuvering the challenging expertise under its control. Next, medicine engaged with eugenics conceptually and scientifically by defining and contextualizing eugenics as a settled practice and a progressive, cutting-edge area of expertise. Finally, the authors positioned the science of eugenics as incontrovertible by drawing on other disciplines' claims to eugenic expertise, while denying them jurisdictional authority and strengthening medical claims to this new knowledge. I call this process of obscuring eugenics' origins while borrowing from other disciplines' authority expertise-laundering. This analysis of medicine's legitimization of eugenics illuminates the strategies by which unsettled forms of expertise are settled to the advantage of established, but insecure, professional authorities.

Case Selection, Data & Methods

This analysis focuses on these developments in the field of eugenics between 1907 and 1927, a twenty-year period over which Indiana became the first state to legalize eugenic sterilization and eugenics was protected by the Supreme Court. Although Pennsylvania had attempted to legalize sterilization on eugenic grounds in 1905, the legislation was ultimately vetoed by Governor Samuel W. Pennypacker, on the grounds that "to permit such an operation would be to inflict cruelty upon a helpless class in the community which the state has undertaken to protect" (Laughlin 1922, 35–36). Following Indiana in 1907, eugenic sterilization laws were passed by California, Washington, Connecticut, Iowa, Nevada, New Jersey, New York, Michigan, North Dakota, Kansas, Nebraska, Wisconsin, Oregon, New Hampshire, South Dakota, Idaho, North Carolina, Alabama, Pennsylvania, Delaware, Montana, Virginia, Utah, Maine, and Minnesota. By the time Buck v. Bell was decided by the Supreme Court in 1927, 26 states had legalized sterilization on eugenic grounds.

I do not suggest that these years fully encapsulate the origins of eugenic logic as they proliferated at the turn of the century or the growth of eugenics through the Second World War and beyond. That eugenics has a storied history in national population-making struggles is clear (Stern 2016;

Kevles 1995; Bashford and Levine 2010; Largent 2011). Here I make the case that these twenty years provide some unique insight into the particular growth of support for eugenics as a new science and that these processes by which eugenics came to be recognized as an emergency of medical import, rather than a fringe social reform movement, might add to sociologies of expertise.

Understanding the legitimization of eugenics as a science requires an analysis of the professional discourse surrounding it. To investigate how this legitimization took place, this article relies on a mix of primary and secondary sources from medical journals published between 1907 and 1927. These decades cover the early uptake of eugenics as an explanatory factor in individual- and population-level disease, the cultivation of eugenic intervention as a moral duty, and the interaction of eugenics with ideas of scientific progress and nationhood preceding and proceeding the First World War. This data has been collected primarily from American publications for several reasons. First, the publications examined here continue to hold varying levels of prominence in contemporary medicine, highlighting the legacy of institutions that played, and still play, a significant role in the legitimization of expertise. Second, American eugenics has been historically de-emphasized in favor of eugenic regimes perpetrated by Nazis during the Second World War (and the foundations of eugenic theory in genocide perpetrated against indigenous people in the Americas and anti-immigrant policies) (Pegoraro 2015; Sanchez-Rivera 2023; Black 2012).

This analysis focuses on three medical journals representing a broad range of orientations to medicine and social intervention. The *New England Journal of Medicine* has been published continuously for 200 years and is currently recognized as the world's leading medical journal (Brandt 2012). During the period covered in this paper, the journal was known as the *Boston Medical and Surgical Journal*; it was only in 1928, after a period of financial difficulty, that it was purchased by the Massachusetts Medical Society and reverted to the title by which it is currently known (Campion et al. 2010).

The National Medical Association, the first national American organization of African American physicians, began publishing the *Journal of the National Medical Association* in 1908 with the support of the Tuskegee Institute and Booker T. Washington (Morrison and Fee 2010). The journal continues to be published today with the purpose of addressing medical care disparities of persons of African descent.

Finally, the *Medical Review of Reviews* began publication in 1824 (under the title "The American Medical Review and Journal of Original and Selected Papers in Medicine and Surgery") and evolved through a series of titles and was published at least through 1937 (Ebert 2012). The history of the journal was recounted by Frederic M. Robinson when he became editor in 1916: The *Review* was founded in 1895 to address the ballooning number of medical journals in the United States (over 200 per week, according to Robinson's account). In selecting and reprinting a selection of articles from other medical publications (although often with improper citations), the *Review* endeavored to keep up with the latest in medicine (F. M. Robinson 1916).

The *Review* is also notable for its investments in public demonstrations and media that represented what it considered to be areas of extreme import for medicine.[2]

Journals, like their professions, represent a period of transition in standards. During the period analyzed here, there was little to interfere with an author's autonomy - submissions to medical journals were not peer-reviewed until after the Second World War, and many journals relied on heavy contributions from their editors to maintain regular publication (Burnham 1990). Articles described as "original research" might contain analysis of a series of treatment records, census data, a single author's experience with a certain condition, or simply be a lengthy treatise on the relationship of an illness or treatment to other social conditions. However, they do offer important insights into the public debate and discussion within medicine, as well as demonstrating dominant topics in medical discourse.

A review of these journals revealed a total of 109 articles (including research articles, reviews, commentaries, and letters) engaging with eugenics. To evaluate the relationships of medicine and eugenics, I developed a series of codes for 1) original research articles pertaining to eugenics, 2) references to inter-field partnerships between medicine and other disciplines in enacting it, and 3) the construction of eugenics as a field, expertise or science. I thus track how eugenics became a legitimized topic of medical expertise on which politicians and social reformers could draw to construct their interventions. In addition to these articles in medical journals, I drew on a wide-ranging set of supporting data. These include original research on eugenics between 1907 and 1927 in the American Journal of Sociology (eighteen articles), the American Journal of Public Health (four articles), accounts of the proceedings of the three International Eugenics Congresses, and newspaper articles on eugenics from the *New York Times* and the *New York Herald*.

The Professional Challenge

Eugenics, and the problems it promised to address, entered the scene just as medicine was attempting to strengthen professional boundaries, standardize its training and certification processes, and gain public credibility. In this section, I show how eugenic interventions posed new challenges to medical authority and analyze medicine's response.

Much of this challenge was predicated on the inevitability of a eugenic emergency. Hyperbolic assertions about the impending population crises facing the United States made for popular headlines: from rising rates of immigration to war, any number of factors were hastening (unwelcome) changes to the population (Salmon 1913; Leonard 1914) These threats to the not-so-distant future of the United States rendered interventions attractive. They also lessened the power of medicine's individually based interventions in improving national welfare. Key medical developments towards the end of the 19th century had been largely in the treatment and prevention of food- and water-borne illnesses, with breakthroughs in the study of bacteria resulting in a transition to the treatment of specific, rather than general, disease. Vaccines against typhoid, tetanus, and rabies emerged at the turn of the century, as did early treatments for syphilis (Hajj Hussein et al. 2015; Starr 1982, 135). In the early 1910s, however, medical

[2] These included the production of plays on public morality (including an American run of 1901 French play "Les Avariés" ("Damaged Goods"), about the effects of syphilis on a marriage).

practice began to move its emphasis from drugs to public hygiene (Starr 1982, 135). In one 1913 argument for an expansive medical vision beyond pharmaceuticals, a doctor writes that "the term physician is a limiting one, consorts too much with those ideas of 'physics' and 'drugs,' medicines and bugs. The physician is an ever-ready servant in time of trouble, accident, and need, but his vision must more and more accommodate itself to the broader horizon of the hygienist" (Goldsbury 1913).

The compulsion for a more expansive medical vision may have been an internal movement, but it was equally met by external pressures for more immediate solutions to pressing population problems. In this 1915 address to the teachers of the Tuskegee Institute Summer School given by Dr. John A. Kenney, personal physician to Booker T. Washington, he references statistics provided in W. Grant Hague's "The Eugenic Marriage" (Morrison and Fee 2010):

> "It has been stated that 100 years from now the United States will have accomplished what no other race has ever accomplished or it will cease to exist as a nation. It is estimated that if the present trend continues, in 50 years from now every other child born in this country will either die in infancy or be unfit for self-support, thus being a burden upon society. Here is where the eugenist expects to get in his work. He desires to so enlighten the people and thus change the mode of living so as to bring about a different result." (Kenney 1915)

While medicine grappled with whether or not eugenics fell within its purview, some physicians and eugenicists argued that the population emergency was growing past the point of control. As Dr. Kenney described here, this is where the eugenicists expected to "get his work"- by offering public, popular immediate interventions. If medicine failed to take up this work, argued some, these movements would be operated at odds with the interests of the profession. Dr. Andrew F. Downing urges his colleagues to engage critically with their role in social progress in a lengthy account of the demands of the 20th century: "There are other social problems involving our profession that are soon to demand an answer. Unless we go forth to meet them with the aggressive and uncompromising spirit of a militant and elevating social force, sex hygiene, eugenics, and birth control will come to us, swaggering with the insolence of popular hysteria and the coarseness of unbridled demagogy." (A. F. Downing 1917)

While eugenics grew in popularity due to its promised solutions to coming emergencies, medicine was facing a crisis of authority. In 1911, Dr. James Ewing, Professor of Pathology at Cornell Medical College, delivered an address at the 64th anniversary of the Academy of Medicine in which he addressed growing public distrust of medicine and argued that demand for immediate, large-scale interventions failed to take into account the tremendous innovations in preventive medicine and pathology. The *New York Times* covered the event under the headline, "Public Isn't Fair to Doctors, He Says— Dr. Ewing at the Academy of Medicine, Attributes its Distrust to Ignorance— Superstition in it, too— Thinks an Inferior Order of Intelligence is a Deterrent in Medical Research". Ewing stated that while the field was aware of its "defects" as far as medical education, but that the shortcomings stopped there: "Many influences also in modern times emphasize the incompetency of modern medicine to control the great majority of diseases… The present public distrust, I believe, rests on an inherent defect in the public mind itself." Ewing goes on to argue that if medicine were no longer serving the public- which he

promises it is- the only possible reason would be the declining mental quality of individuals entering the profession. While medicine is challenged here because it does not do enough to combat this "great majority" of diseases, such as the decline of general intelligence, Ewing makes a circular argument that this challenge is either coming from those already with defective minds or because medicine itself has been infiltrated by these same defectives. In this case, medicine has taken over the language of eugenics to stave off professional threats and protect its interests. This editorial from the following year, reprinted in the *Medical Review of Reviews* from the *Glasgow Medical Journal*, lays out the professional challenge more plainly-

> "The new science of eugenics more and more loudly challenges the interest of physicians and of the laity because it points the way to relief from burdens incident to our civilization, burdens which unless effectively checked tend not to diminish but to increase." (Macpherson 1912)

This new joint interest of physicians and "the laity" would result in increased investment in collaboration, with medicine keen to expand the scope of its expertise in this new science. And because eugenics also threatened a veritable landslide of disasters should preventive measures not be taken - from race suicide to the collapse of state programs under the weight of the multiplying needy - it was only too easy to expand that scope in the interest of a shared moral order.

With medicine on the back foot, and its jurisdictional control increasingly precarious, professionals began the process of defining and contextualizing eugenics so that it seemed like a natural extension of the medical profession and a reasonable approach to preventing the pending population emergency. I suggest that medicine was constrained in its response because it lacked sufficient alternatives to eugenics, that is, broad, large-scale interventions that resolved the problems eugenics highlighted as presenting the greatest challenge to powerful interests. Because medicine itself was facing challenges to its authority over the American body, it had more to gain by aligning itself with simplistic eugenic narratives than by challenging them on scientific grounds. As medicine took up the challenge of eugenics, this process occurred both internally (encouraging physicians to take heredity seriously and consider further training in the topic) and externally (presenting eugenics, with medicine in charge, as the most responsible approach to population "emergencies").

Defining And Contextualizing Eugenics

The first task for any field hoping to claim eugenics as part of its jurisdictional expertise was to define it as sharing values and properties with other subjects under its authority and to introduce it as having innate relationships with other topics within that field. American medical journals during this period thus navigated the task of introducing eugenics to their readers in kind: physicians wrote paradoxically of eugenics in this period as both a "new science" and as the most recent iteration of an ongoing strategy for successful population management. These definitions were not distinct, but sometimes posited eugenics as a recently rediscovered science with innately noble qualities rooted in antiquity: "The recent advances which have been made in the knowledge of heredity have awakened interest in the possible artificial improvement of the human race, an idea which dates back to Spartan civilization" (1910 Present Knowledge of the

Laws of Heredity, p. 10). These references to ancient Greek infanticide drew themselves on shoddily constructed classical "expertise" usually drawn from Plutarch's *Life of Lycurgus*, in which he writes that Spartan infants that were "ill-born and deformed" were abandoned at the foot of Mt. Taÿgetus, "in the conviction that the life of that which nature had not well equipped at the very beginning for health and strength, was of no advantage either to itself or the state" (Plutarch 1914, 16). This account (despite describing a period 700 years before Plutarch himself) gave rise to a still prominent theory that the practically-minded Spartans set a precedent for eugenic infanticide as statecraft. However, there is little evidence beyond Plutarch for this tradition, and more recent scholarship has situated the popularity of this claim as yet another attempt to normalize and contextualize standards of disability (Sneed 2021).

This harkening back to ancient practice was also highlighted in the *Journal of the National Medical Association*: in a 1922 "item of interest" titled "A Reason for Negro Race Pride", Dr. Sara W. Brown describes the sexual education practices of the Yoruba (from whom she writes a majority of Black Americans descend) as having high standards of individual sexual and racial health. Recounting interactions with Professor Aggrey of Livingston College, she describes his pride in pointing out the advancement of his people in sex education beyond that of "modern nations": "I was made to feel that eugenics originated with them" (S. W. Brown 1922). These expressions are surprising because they indicate the prevalence of eugenic logic as extending beyond the promotion and protection of whiteness to an expansive strategy of racial progress, despite the fact that the effects of the eugenic project were undoubtedly structured by scientific racism and the goal of white racial dominance. However, the concept of "racial progress" achieved global popularity precisely because it promised a universal improvement in population outcomes and could be constructed as a natural and ancient strategy for achieving them.

Eugenics was also located in medicine's more recent past, justifying a jurisdictional claim over the practice of contemporary eugenic interventions. Despite Galton being recognized as the modern founder of eugenics, a 1916 "Medical Pencillings" section in the *Medical Review of Reviews*, noted that "in an old book called Domestic Medicine, written by Dr. William Buchanan in 1772, we find this: 'No person who labors under an incurable malady ought to marry. He thereby not only shortens his own life, but transmits misery to others'"("Medical Pencillings" 1916). Eugenics was consistently defined as a science: sometimes as a "new science" (Leonard 1911), at other times "a science late upon the field" (Goldsbury 1913); eugenics might also be "an applied science" or "only recently recognized as a science" (Kenney 1915; Taylor 1912). This balance between ancient standards, naturally arising disciplinary development, and progressive science situated eugenics as a key project of any forward-thinking physician.

This project of linking contemporary eugenics with a formative past also looked to the future, emphasizing the possibilities of eugenic intervention alongside a professional medical imperative to direct them. The then-President of the Pennsylvania State Medical, Dental, and Pharmaceutical Association noted this balance between past and future in his 1923 address, which was reprinted in its entirety in the *Journal of the National Medical Association*:

> "The experience of the ages is now being drawn upon in this fight against disease, and to this end we are gathered here today. Medicine is concerned with the preservation of life and the prevention of disease. To accomplish these ends our profession, the world over, is

> engaged in research work— co-operative labors endeavoring to transform a progressive art into a fixed science; therefore, preventive medicine is in the ascendency marching boldly on to Eugenics and the "Super-man" via Birth control.[3]" (Edwards 1923)

Edwards situates this global work to solidify eugenics as a scientific endeavor as a natural extension of the medical profession, so long as eugenics represents the preservation of life and the prevention of disease. This strategic linking of eugenic ends to the tenets of medicine depicts it as a natural extension of medical expertise and a clear component of medical practice.

As well as positioning eugenics as both a necessary extension of scientific progress and a return to more ancient and natural forms of population control, medical eugenics also posited medicine itself as a driver of progressive interventions. In January of 1911, William J. Robinson M.D., editor of the *Medical Review of Reviews*, wrote in an editorial titled "The Medical Profession in the Vanguard of Progress" that "the physician's broadening interests are naturally beginning to be reflected in our medical periodical literature". In it he describes recent publications about eugenics including an editorial on "The Birth-Rate and Racial Stability" in the January 7, 1911, *Journal of the American Medical Association*; on the same day, the *Medical Record* published an editorial on the "Decline of the Birth-Rate"; and two days previously, *The Boston Medical and Surgical Journal* an editorial on "Eugenics and Divorce." Robinson celebrates this recent uptake of eugenics by the profession, writing that "the world is moving, and let us rejoice that the medical profession is now alive to its opportunities and its responsibilities, and is the very vanguard of progress." (W. J. Robinson 1911) Robinson went on to celebrate that medicine could "no longer be justly accused of lagging in the rear" -- although there may have been some delay in medical engagement with such "medico-sociological matters", taking seriously their influence on the health and happiness of the human race. This was further solidified by public demonstrations of medical support for eugenics, such as a widely-covered pro-eugenics demonstration in which "several men from the bottom strata of life" were hired by the *Medical Review of Reviews* to march through New York City street bearing signs such as, "I am a burden to myself and the State. Should I be allowed to procreate?" and "Would the prisons and asylums be filled if my kind had no children?" (Fig. 1.1) (F. M. Robinson 1916).

[3] "Birth Control" in this case refers to any intervention designed to control reproduction, on an individual or population scale. Pharmaceutical birth control for women's private use was not yet developed.

Figure 1.1: "Eugenic Forces" Stage Street Theatre on Wall Street, 1915. Source: Wisconsin Historical Society.



The de-linking of science from the origins of eugenics while situating contemporary medicine as a natural driver of eugenic progress initiated the cycle of obscuring evidence for eugenics while claiming authority over it. I argue that a third piece of this process of legitimization is the organization of collaborative expertise. Throughout these processes of first defending medicine against the professional challenge posed by eugenics, and later defining and contextualizing eugenics as an extension of medical expertise, contributors to these medical journals drew on interdisciplinary accounts of this new science to emphasize its credibility. By mutually affirming the possibility of eugenic interventions, medicine engaged other disciplines like statistics and sociology in a process of expertise laundering that obscured the unsettled science behind eugenics while bolstering the legitimacy of an intervention that would assure medical authority.

A COLLABORATIVE EXPERTISE

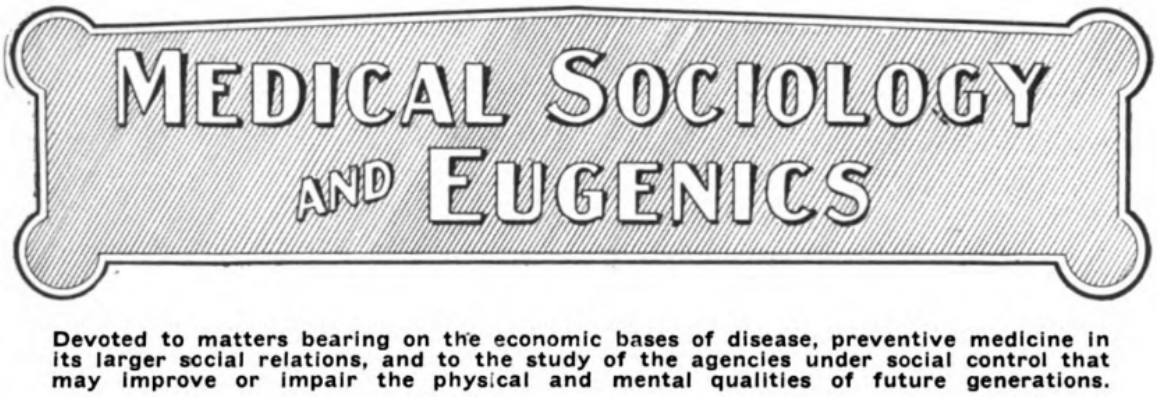
Medicine, facing a credibility crisis as eugenics offers more immediate and expansive solutions to a perceived population emergency, saw the incorporation of eugenic expertise as a way to expand its professional authority and benefit from the broad support eugenics received socially

and politically. In rendering eugenics a medical topic, the authority of treatment and control of the human body was centralized under medical authority. Physicians thus introduced eugenics into their professional writing as a natural extension of medical authority and normalized it as an intervention historically conducted by respected civilizations. Beyond this, eugenic intervention was framed as a medical responsibility- to avoid acting on such clear evidence would make medicine complicit in the inevitable population disaster. But what evidence was medicine relying on when justifying its commitment to the eugenic project? Despite sweeping claims about the efficacy of eugenics, the medical publications analyzed here do not draw on original data to demonstrate either the eugenic emergency or the efficacy of eugenic interventions.

In this section, I analyze how medicine outsourced the work of scientifically grounding eugenics while maintaining disciplinary control. This process, which I call expertise laundering, drew on other disciplines' constructions of eugenics and combined them with "common sense" medical logic, in combination with narratives of medical authority over the body and reproduction, to present the unsettled "science" of eugenics as actionable and legitimate. This worked by obscuring the origins of eugenic "expertise" to deny other disciplines authority over eugenics and avoid challenges to the primacy of eugenic interventions. Eugenics was thus laundered through other disciplines until it arrived, settled and usable, as a medical intervention. Other disciplines were willing to participate in this laundering process because their expertise alone lacked the institutional strength to transform eugenic expertise into professional authority. Medicine assembled these contributions from statistics, sociology, and demography into a cohesive set of eugenic knowledges that supported the demand for medical intervention. By lending their support to medicine, each discipline participating in expertise laundering elevated their status through attachment to the eugenic project.

Eleven months after the editor of the *Medical Review of Reviews* rejoiced at the increase in medical articles about eugenics, the journal announced that it would install as one of its main features a monthly "Department of Medical Sociology, devoted to matters bearing on the economic bases of disease, preventive medicine in its larger social relations, and to the study of the agencies under social control that may improve or impair the physical and mental qualities of future generations" (Fig 1.2). "The pill-and-potion doctor is not the modern doctor," read the announcement of this new section. "The sphere of the medical man has widened."

Figure 1.2: Medical Sociology Section in the *Medical Review of Reviews*. Source: University of Michigan.



This strategy of relocating extra-medical research on eugenics to within medical spaces, under medical authority, was the final step in ensuring that medicine became the main arbiter of eugenic interventions. I describe this process as one of expertise laundering, through which the origins of eugenic "expertise" were obscured by relying on other disciplines to provide the professional credibility behind the research, while the authority of this newly-legitimate science flowed back to medicine and bolstered its reputation. This process had begun even as medicine defended itself against the professional challenge and defined and contextualized eugenics within medicine. In early attempts to define and contextualize eugenics as a reasonable medical intervention, suggestions were made that the physician become more like any number of professionals whose work made them experts in heredity (Goldsbury 1913, 643; Taylor 1912, 833); however, these suggestions never went so far as to grant jurisdictional authority over eugenics to these professions. Instead, their role was to formally situate the application of their suggested interventions under medical control. In this op-ed, E.E. Southard claims that in comparison to other social issues, like alcoholism and venereal disease, feeblemindedness moves to the forefront because it is a problem that might actually be solved through reasonable interventions:

> "What chance has the problem of the feeble-minded with countless other problems of civilization? I should suppose, however, that statistics as a whole and the special kind of analytical statistics known as eugenics has gone far enough to prove that the social philosophy of prevention has wide scope…statistics tend to indicate that the problem is rather a medical than an economic one." (Southard 1914)

These interventions, Southard suggests, must come from medicine- not because medicine itself is demanding control of the new science of eugenics, but because the field of statistics- and eugenics itself, called here a special kind of analytical statistics- has proven that the problem is medical, rather than economic. As Southard was at that time an assistant professor of psychology at Harvard University and Bullard Professor of Neuropathology at Harvard Medical School, as well as a pathologist for the Massachusetts Commission on Mental Diseases, it was in his professional interest that eugenic interventions fall under medical, rather than economic, control.

But as medicine cemented its hold on eugenics as a form of expertise, it continued to defer questions about the follow-through of suggested eugenic interventions to other disciplines: in an address to the Cape May Medical Society in 1922, Dr. Alfred M. Gordon reckons with the divisions of labor in the implementation of eugenics: "The problem of race betterment embraces the two fundamental elements of eugenics, namely the knowledge of the laws of heredity and sterilization of the mentally unfit… The questions naturally arise. How and by whom should this education be carried out?" But, as Gordon went on to say, these are not medical problems, but rather "practical questions of sociologic dimensions". While they do require elaboration and discussion, this element of practical eugenics is beyond medical purview (Gordon 1923). Here Gordon delineates the professional tasks of medicine as they pertain to medicine— particularly in cases of negative eugenics, the structuring of eugenics policy, and the application of the interventions it entailed— and the professional tasks that might be jettisoned to other professions that would deal with the dissemination of positive eugenic messages. With questions of educational application and feasibility successfully deferred, the science of eugenics was kept firmly within the domain of medicine.

Although such discussion and engagement relied on extra-medical knowledge and data, these were construed as extensions of medical expertise that expanded, rather than infringed upon, medical turf. In a *Medical Review of Reviews* article on social diseases and public enlightenment, Dr. Irving Wilson Voorhees marked the "growing tendency" to study what had been previously thought of as strictly medical problems from a social and eugenic standpoint. He credited the medical profession with encouraging the study of prevention of disease, which was now "beginning to bear fruit." He specifically names local societies disseminating information on sexually transmitted diseases and the field of sociology as doing the most significant amount of work in this direction, but adds that still more must be done to pursue and eradicate anti-eugenic "social diseases" (Voorhees 1913). Voorhees' construction of non-medical eugenics work as the result of medical incitement positioned medicine at the head of the eugenic body.

These collaborations occurred during a particularly troubling time for many scientists, as the effects of the First World War (at that time the deadliest conflict in human history) became clear and the lofty ideals for a century of scientific collaboration and progress were dashed. "The loss of millions of useful lives has impressed the world anew with the value of life. And now the scientific world has roused itself," said Dr. Preston Edwards in a 1923 address. "The great research laboratories of France, England, Germany, and the United States have called to their assistance the chemist, biologist, and physicist, to aid in solving some of our problem of life preservation, knowing that life and health demand scientific cooperation" (Edwards 1923). Scientific collaboration itself was a strategy for continued peace, and the eugenics ends to which it worked promised more permanent solutions: as Dr. A.L. Goldwater of Central Park West wrote, voluntary sterilization, and the resulting limitation in the number of offspring among the middle, and especially among the poorer, classes, would solve economic and social problems that it would "end wars, do away with child labor, and incidentally solve the eight-hour day problem" (Goldwater 1917). Cooperation and collaboration with other sciences was to the social and economic benefit of all, and would ultimately secure a future free of the struggles of the early decades of the 20th century. Laundering eugenic expertise secured medicine's authority over the developing field and legitimized powerful new interventions as forms of actionable expertise.

Conclusions

This study traces the processes through which eugenics became designated as an area of expertise, with eugenic intervention as an expert task and medicine as its arbiter. In American medical journals, eugenics was introduced as a "new science" without a scientist; surgical sterilizations brought it under the purview of medicine without further examination of its ultimate goals. The framing of eugenics as a response to a pending population emergency immediate action and put medicine on the back foot. As the sources I examine here show, the demand for a "physician of the future" pushed medicine to define and contextualize eugenics as both a path to human progress and a natural extension of medical expertise. Where medicine lacked the data and theory to support eugenic intervention, it borrowed from the natural and social sciences to secure evidence of eugenic efficacy while positioning itself as the clear adjudicator of this new knowledge. Thus medicine's claim over eugenic expertise was strengthened as new disciplines' contributions to developing scientific programs cemented their disciplinary legitimacy. Medical accounts of eugenics as expertise facilitated a cycle of expertise laundering as medicine and the social sciences traded data and logic to cement the legitimacy of eugenics while affirming their expert domains.

Despite eugenics' emergence as a key driving ideology behind social and scientific interventions over just a few decades, there was scant evidence to justify its far-reaching reforms. Modern accounts of eugenics are often quick to reduce it to a pseudoscience, minimizing its influence on the disciplines and institutions that drove its success and the legacies of exclusion and control it left behind. Future research on the relationships between expert jurisdictional struggles and the legitimization of new forms of expertise should examine the role of outside forces (private industry, social sciences, state and political agencies) in funding or encouraging the adoption of new interventions in the face of medical reluctance. As I demonstrate here, the construction of eugenics as a solution to the impending emergency was the result of targeted social and political action around immigration anxieties and manufactured popular science. Narratives around productive and successful human life cannot be delinked from economic cycles of production and consumption or racist, xenophobic, and ableist population fears. As developing sciences are used to support harmful rhetorics such as "The Great Replacement" theory (Molteni, 2022; Slivinski 2022; Misra 2022), pro-natalist strategies to grow certain populations (J. Black 2022), and interventions into the human genome are researched and applied (Williams 2017; Obasogie and Darnovsky 2018; Comfort 2018), it is increasingly vital to critically engage with the harmful legacies of eugenics and the mechanisms through which such sciences are legitimized.

With this research, I add to the literature on expertise by demonstrating the relationships between experts, their expert jurisdictions, and the expertise laundering that enforces their boundaries while affirming their ownership of the expert tasks at hand. I also aim to challenge histories of medicine and the social sciences which fail to adequately account for the processes through which harmful expertise is generated. Scholars of race, ethnicity, and disability have also challenged ahistorical legacies of science, particularly as they influence ongoing debates about the ethics and viability of genetic engineering. In his account of race and ethnicity in biomedical research, Duster (2006) writes that no discipline, and thus no science, is ahistorical; to divorce our reason from our times is a disservice to good scholarship. how science and social theory

mutually constitute reality and reason; shifts in orientations within the sciences should be credited more to shifting dominant assumptions than scientific enlightenment. As possible applications of assisted reproductive technology offer increasingly expansive interventions into human populations, from billionaire-funded efforts to engineer the population of the future to Artificial-Intelligence driven embryo selection (Chow et al. 2021; Wang et al. 2019), a historical perspective on the mechanisms that drive the adoption of such new sciences offers important insight into potential outcomes. This work highlights the mechanisms that allow populist "pseudosciences" to gain legitimacy when the right cultural and institutional resources are present.

CHAPTER 2: "MISCONCEIVED, MISINTERPRETED, AND MISAPPLIED": HOW DISSENT SHAPES EUGENICS AND THE SCIENTIFIC PROCESS

> "We are not pessimistic but are sometimes led to the *Cui bono* argument. What is the use? They say we should cultivate the science of eugenics - improving the human breed - but what good has man been to the earth anyhow?" ("Eugenics" 1911)

Eugenics is the practice of calibrating reproductive decisions to particular human ideals, but it has historically been implemented in two forms -- negative, which focuses on minimizing the "wrong" kinds of reproduction, and positive, which focuses on maximizing the "right" ones. Why did the negative version, arguably much more difficult and expensive, receive so much more emphasis than the positive? In this paper, I argue that the emphasis on negative eugenics is in part the result of dissent among eugenics advocates. This work contributes to the historiography of eugenics by highlighting the heterogeneity among advocates. It also contributes to theories of developing sciences more broadly by showing the productive effects of dissent -- dissent does not just block (or fail to block) harmful scientific intervention, but, perhaps unintentionally, shapes and reorganizes it.

Since the term was coined in 1883 by British polymath Francis Galton, eugenics enjoyed a rapid rise to prominence across nations keen to shape and control their populations. Initially designed "to express the science of improving stock… especially in the case of man," eugenics was presented as a science through which certain human ideals might be achieved through strategic reproductive decisions (S. F. Galton 1883). Across medicine, politics, and social reform, eugenics became a popular catch-all solution for population "problems" from immigration to disability. This growing interest in eugenics was supported by growing numbers of scientists who endorsed eugenics as "the right tool for the job" and threw their disciplinary authority behind eugenic interventions as progressive and necessary (Pryma 2022).

However, accounts of this proliferation of eugenic research and policy during the first decades of the twentieth century largely fail to account for contemporary objections to it. Whether on ethical, scientific, or practical grounds, expressions of skepticism or outright rejection often accompanied support for eugenics. The presentation of eugenics as a monolithic enterprise both situates its proponents as participating in an unchallenged scientific and social movement and ignores the impact opposition to eugenics had on developing interventions. An absence of research around this dissent also suggests that any objections to eugenics were effectively meaningless, as laws supporting eugenic sterilization took hold in over thirty U.S. states. Thus, two questions emerge about dissent from eugenic claims. First, how and on what grounds were such objections expressed? And second, what effect did these objections have?

Here I catalog and analyze dissent from eugenics in American medicine between 1907 and 1927 in order to analyze the role of such expressions in shaping the development of new sciences. Transcripts of public addresses, responses to original research, accounts of society meetings, and even obituaries reveal a lively engagement with the ethics and efficacy of eugenics. I focus on multiple sites of dissent rather than a single dissenter, emphasizing the power and complexity of this disorganized movement. These rejections of eugenic hypotheses, on ethical, scientific, or practical grounds might have curbed some of the worst impulses within the eugenics movement.

Instead, I find this dissent instead redirects eugenic interventions in ways that may have resulted in more, rather than less, harm.

A large part of this argument hinges on how advocates of applied eugenics bifurcated their practices into "negative" and "positive" varieties. Positive eugenics aimed to control population growth by encouraging the "right" kinds of reproduction, or at least encouraging the multiplication of the "fit" at a rate that would outstrip that of the "unfit". These efforts ranged from public education to the transformation of eugenic participation into a kind of amateur sport; while some proponents advocated adjustments to school curricula that posited eugenic reproduction as an addition to home economics, others organized contests such as "Better Babies" and "Fitter Families" that incentivized the construction of heredity as pedigree (Stern 2002).

Negative eugenics, on the other hand, was concerned with the prevention of reproduction by those deemed "unfit". Early strategies included the segregation of those deemed to be unfit for parenthood (individuals diagnosed with mental illnesses, deemed sexually promiscuous, or possessing heritable flaws such as alcoholism) in institutions or asylums so long as they remained of reproductive age. As means of surgically sterilizing individuals became more widely practiced, negative eugenics underwent a strategic shift; more permanent methods defrayed concerns about the cost of long-term care while making less room for reproductive "error". Even so, these sterilizations required a full medical staff and evaluatory committees at each institution.

This emphasis on negative eugenics, rather than positive eugenics, is in some ways surprising, given the resources required to undertake mass institutionalization and surgical intervention compared to the relatively few resources required to encourage eugenic unions through public education campaigns and marriage licenses. With this research, I analyze the concurrent development of these strategies and show how objections to the state control of non- "defective" Americans, combined with frustrations over the speed of positive eugenic uptake, resulted in the promotion of negative eugenics as the most effective strategy for national improvement of the population.

As a violent, coercive form of population control, eugenics propelled a global movement of racism, ableism, xenophobia, and gender-based violence. These harms continue to be enacted through what many argue are continuations of eugenics, from the selection of embryos based on polygenic risk factors and selective abortion to nonconsensual sterilization and permanent birth control (D. Roberts 2011; Lou 2014; Hasson and Darnovsky 2020). By tracing the history of dissent to eugenics as a developing science, I show how deference to a hierarchy of American values opened some avenues for intervention while closing others. I argue that the prioritization of autonomy for some helped to constitute a eugenic agenda that undermined autonomy for others. This analysis also contributes to ongoing analyses of new technologies and the debates that unsettle or delegitimize them. Utilizing insights from sociologies of bioethical frameworks, I position this historical analysis of dissent as relevant to the advancement of new interventions and the shaping of the scientific process.

But these expressions of dissent from the eugenic project did not destabilize it, or the disciplines in which it was rooted, because they challenged the knowledge products of eugenics rather than

the institutional discourses that constructed it (P. R. Wolpe 1994; B. Martin 2004). Their challenges instead bolstered the projection of the "new science" of eugenics, positioning it as a critically investigated and debated contribution to the growing fields of population health, demography, and statistics. They also helped to structure the more punitive avenues eugenics pursued as being both more efficacious and less likely to face significant opposition. The early eugenics movement encouraged largely positive eugenic interventions, which encouraged advantageous reproductive unions through public education and local regulations around marriage certificates and premarital exams. This initiative was overtaken in the late 1910s by an emphasis on preventing the reproduction of those considered unfit, which faced significantly less objection and could be developed from segregation to sterilization as popular support for more permanent measures increased. It was this logic that resulted in the nonconsensual sterilization of as many as 70,000 Americans over the course of the 20th century, with untold more sterilized globally drawing in inspiration from the American case.

Theorizing Dissent As A Constructive Process

What can dissent reveal about the scientific process for legitimizing and implementing new sciences? And how can dissent from popular theories shape their trajectories and transmissions? In the following subsections, I discuss two bodies of literature that help make sense of how dissent contributed to the pivot of eugenic interventions from positive to negative: histories and sociologies of eugenics and genetics, and sociological accounts of challenges to medicine from inside and outside the profession.

Controversial Legacies

Studies of eugenics are often confined to the first half of the twentieth century, during which it emerged as an international phenomenon and was subsequently discredited in the aftermath of the Second World War (Grodin, Miller, and Kelly 2018). Despite evidence that the Nazis drew inspiration from American eugenics programs and that eugenics was itself a collaborative, international project, the Doctors' Trial at Nuremberg attempted to compartmentalize eugenics as a specifically German phenomenon that came to an abrupt end following the Second World War (Marrus 1999). Accounts of this influence, and of distinctly American eugenic projects, describe the power of eugenic logic across disciplines as it generated solutions to address nearly every fear about the future of the nation and promised progress during decades marked by war and economic upheaval (E. Black 2012; Kevles 1995).

These studies also largely overlook figures who objected to eugenics, with a few notable exceptions. Numerous individuals subject to eugenic institutionalization or sterilization, as well as their families, launched appeals or afterward criticized the systems that had harmed them (Stern 2016, 126). Among eugenic researchers, one account of women who worked as eugenic field workers for the Eugenics Record Office at Cold Spring Harbor Laboratory describes their doubts about the validity and ethics of eugenics research, while a history of biologist Edwin G. Conklin analyzes his objections to eugenics as being in defense of American individualism (K. J. Cooke 2002; Bix 1997). However, many more recent accounts of the development of genetics recognize the entanglements of modern research agendas with their historical predecessors (Comfort 2012; Roll-Hansen 2010; Hammonds and Herzig 2008). In many cases, departments of

eugenics were rebranded as departments of genetics, with researchers pivoting their work to blur the lines between heredity and genetics (Comfort 2006).

Medical sociologists also recognize genetics as being inherently controversial, due to its platforming of race scientists within behavioral genetics (A. Panofsky 2018), its effects on the diagnostic odyssey (Timmermans and Buchbinder 2013), and its influence on expanding disease categories (Navon and Eyal 2016). These accounts of how fields manage challenges from both within and beyond their jurisdictional boundaries indicate corresponding desires to both maintain control over the profession and preserve the autonomy of their clients.

However, neither historical accounts of eugenics nor sociologies of eugenics' disciplinary heirs present a satisfying account of the constructive possibilities of dissent, in this case resulting in the emphasis on negative rather than positive eugenics; thus I turn to the literature on dissent and advocacy within medicine.

Dissent and the Research Agenda

Despite the presentation of scientific and medical interventions to the public as being "ready-made" or "settled", research shows that these developments are consistently subject to revision or disavowal long after they are deployed as interventions (Latour 1987; Navon and Eyal 2016). However, dissent from within the field is an underutilized method for gaining access to such processes. Sociologists have used individual cases of dissent within medicine to gain access to the processes by which medical experts construct and defend their expertise. Latour (1979) introduces an imaginary dissenter through whom he examines the world of scientific knowledge creation; Fujimura and Chou (1994) and Martin (2004) investigate the case of Peter Duesberg, a Berkeley retrobiologist who continued to challenge the assertion that HIV causes AIDS long after the theory was generally accepted among researchers (Fujimura and Chou 1994; B. Martin 2004; Latour and Woolgar 1979). Duesberg's rejection of otherwise standard HIV/AIDS research lent itself to the construction of new policies that helped the South African government evade responsibility for the treatment and care of its citizens (Nattrass 2008; Chigwedere et al. 2008; Cohen 1994). This singular case of the effects of medical dissent highlights the possible ramifications for unsettled science and demonstrates the shaping effects of dissent on policy, investment, and future research directions. These studies also suggest productive strategies for would-be dissenters keen to affect the course of scientific research: promoting belief in a plurality of approaches, capitalizing on vested interests, and juxtaposing and transforming various "evidences" from different fields (Fujimura and Chou 1994; B. Martin 2004).

Other accounts center either external forces that have shaped the progression of medical investment and research or varying interpretations of medical guidelines as unsettled sciences are incorporated into practice. Medical research trajectories might be shifted due to pressure from patient activists or advocates, drawing on narratives of biomedical credibility or deservingness to appeal to medical authority. These actors (particularly those who were white, upper middle class, and college-educated) dissent from standard medical processes and practices from the outside, yet influence trajectories by taking on the language of experts to legitimize their claims or draw on flexible resources to divert funding to their causes (Steven Epstein 1995; Best 2012). These

analyses help make sense of the shifting directions of medical research, but not of the role of dissent from within medicine itself.

This framing of dissent as a valuable yet carefully controlled element of the scientific process requires further elaboration on the types of challenge to medical authority that might come from within its ranks (P. R. Wolpe 1994). Wolpe (1994) distinguishes between Zito's (1983) definition of heresy as an attack on science or medicine's institutionalized way of speaking about the world, and dissent, which instead attacks its knowledge products (Zito 1983). Although he argues that science's "adversarial ethic" legitimizes critical dissent, medical cohesion might be threatened a) if dissent is elevated to a value and b) the biomedical tradition of individual clinical autonomy, which allows for a spectrum of adherence to medical norms. This autonomy also has a unique history within medicine and bioethics. In his sociological account of the transformation of American Medicine, Starr (1982) suggests autonomy as an important driver of medical professionalization, first as a defense against standardization and government intrusion into medical authority, and later as a patient "right" that secured a multiplicity of revenues for private medicine. Autonomy also serves as one of the four principles of bioethics as put forward by Beauchamp and Childress (1979). Alongside beneficence, non-maleficence, and justice, a commitment to autonomy has been widely adopted across bioethics practice as a flexible framework through which to evaluate various outcomes and interventions. But as Wolpe (1998) argues, over time autonomy has been inappropriately prioritized over the other principles, disabling the mechanism of principlism. An over-emphasis on individual rights has devalued broader social well-being. This process, I argue, began before the development of bioethics in earnest during the 1960s and is articulated in the following data as the right to the self-governance of reproduction.

In this analysis of historical dissent, I build on these accounts of the historical development of eugenics, the fields that came after it, individual cases of medical dissent, and challenges to the medical establishment and its ethical values. To help make sense of how negative eugenics emerged as a popular intervention, I draw from a plurality of dissent from within medicine that shaped the development of interventions in such a way that elevated autonomy over non-maleficence. This contrasts with accounts of dissent that rely on single instances from inside the sciences or dissent that shapes practice from outside the sciences. I find that dissent from eugenics thus flourished for two reasons: first, it was framed as working within the sanctioned adversarial ethic of medical research; and second, it largely structured its resistance as being in defense of autonomy for both medical provider and patient. In the sections that follow, I outline the variance in expressions of dissent and analyze the effect that they had on shaping the development of American eugenics.

Case Selection, Data & Methods

The development of eugenics in the first decades of the twentieth century offers a unique perspective into the construction of scientific expertise and the expression and effects of dissent. First, eugenics emerged relatively suddenly as a "science" and the driving force behind social and surgical interventions. This resulted in a period of increased communication and research surrounding eugenics as practitioners and advocates scrambled to make sense of how eugenics fit into their agendas. Second, the breadth of dissent that occurred during this period across

ideologies and professions offers insight into broader discourses of dissent. Unlike some sociological accounts of medical dissent, which focus on an individual rogue actor within an existing matrix of expertise, this analysis includes a spectrum of aligned, if disorganized, objections to eugenic logic.

This analysis focuses on these developments in the field of eugenics between 1907 and 1927, a twenty-year period over which Indiana became the first state to legalize eugenic sterilization and eugenics became codified by the Supreme Court and 26 U.S. States legalized sterilization on eugenic grounds. I do not suggest that these years fully encapsulate the origins of eugenic logic as they proliferated at the turn of the century or the growth of eugenics through the Second World War and beyond. That eugenics has a storied history in national population-making struggles is clear (Stern 2016; Kevles 1995; Bashford and Levine 2010; Largent 2011). Rather, these years are particularly productive for analyzing dissent as they emerged alongside the "new science" of eugenics and shaped its most expansive interventions.

Understanding the legitimization of eugenics as a science requires an analysis of the professional discourse surrounding it. To investigate how this legitimization took place, this article relies on a mix of primary and secondary sources from medical journals published between 1907 and 1927. These years cover the early uptake of eugenics as an explanatory factor in individual- and population-level disease, the cultivation of eugenic intervention as a moral duty, and the interaction of eugenics with ideas of scientific progress and nationhood preceding and proceeding the First World War. This data has been collected primarily from American publications for several reasons. First, the publications examined here continue to hold varying levels of prominence in contemporary medicine, highlighting the legacy of institutions that played, and still play, a significant role in the legitimization of expertise. Second, because American eugenics has been historically de-emphasized in favor of eugenic regimes perpetrated by Nazis during the Second World War and the foundations of eugenic theory in genocide perpetrated against indigenous people in the Americas and anti-immigrant policies (Pegoraro 2015; Sanchez-Rivera 2023; E. Black 2012).

This article draws on a series of archival sources across medicine, public health, and eugenics. I draw largely from three medical journals representing a broad range of orientations to medicine and social intervention. The *New England Journal of Medicine* has been published continuously for 200 years and is currently recognized as the world's leading medical journal (Brandt 2012). During the period covered in this paper, the journal was known as the *Boston Medical and Surgical Journal*; it was only in 1928, after a period of financial difficulty, that it was purchased by the Massachusetts Medical Society and reverted to the title by which it is currently known (Campion et al. 2010).

The National Medical Association, the first national American organization of African American physicians, began publishing the *Journal of the National Medical Association* in 1908 with the support of the Tuskegee Institute and Booker T. Washington (Morrison and Fee 2010). The journal continues to be published today with the purpose of addressing medical care disparities among persons of African descent.

Finally, the *Medical Review of Reviews* began publication in 1824 (under the title "The American Medical Review and Journal of Original and Selected Papers in Medicine and Surgery") and evolved through a series of titles and was published at least through 1937 (Ebert 2012). The history of the journal was recounted by Frederic M. Robinson when he became editor in 1916: the *Review* was founded in 1895 to address the ballooning number of medical journals in the United States (over 200 per week, according to Robinson's account). In selecting and reprinting a selection of articles from other medical publications (although often with improper citations), the *Review* endeavored to keep up with the latest in medicine (F. M. Robinson 1916). The *Review* is also notable for its investments in public demonstrations and media that represented what it considered to be areas of extreme import for medicine.

In addition to these articles in medical journals, I drew on a wide-ranging set of supporting data. These include original research on eugenics between 1907 and 1927 in the American Journal of Sociology (eighteen articles), and the American Journal of Public Health (four articles). I also draw on accounts of the proceedings of the three International Eugenics Congresses and coverage of medical conferences and events in the *New York Times* and the *New York Herald*.

A review of these journals revealed a total of 131 articles (including research articles, reviews, commentaries, and letters) engaging with eugenics. I coded these articles for 1) the suggested response or intervention suggested in response to eugenic prompting, 2) expressions of doubt or uncertainty regarding intervention or logic supporting intervention, and 3) accounts of disagreement over eugenics. When doubt, uncertainty, or rejection of eugenic hypotheses occurred, I sorted these into categories based on the reasoning behind the dissent. I then organized these expressions of dissent chronologically to trace how they developed and built off each other and developments in eugenic policy or research, resulting in a clearer theory of how dissent had shaped the direction eugenics took during these decades.

I organize the results of these analyses into two sections. In the first, I demonstrate how logics of dissent emerged on various grounds: as an ethical violation (on religious, moral, or legal grounds), a rejection of the scientific methods used to assert the validity of eugenics itself, or because the interventions suggested were impractical or impossible to reasonably apply. In the second, I show how these expressions of dissent rendered some eugenic avenues impassable while clearing the way for others. This analysis of dissent, disagreement, and the scientific process illuminates the possibilities of pitfalls of expert skepticism in protecting the legitimacy of the scientific process and demonstrates the structures through which developing sciences organize their next steps.

Logics Of Dissent

On what grounds did objections to eugenic theories and applications arise? In this section, I discuss expressions of dissent from eugenics as an ethical violation (within which I include religious, moral, and legal reasoning) and rejections of the science supporting eugenics.

Eugenics as an Ethical Violation

Those involved with the eugenic apparatus, including researchers, legislators, and social reformers, took issue with the ethics of eugenics on several fronts. Some found eugenics to run contrary to religious values either to "be fruitful and multiply" or challenge God's plan for the population; others saw eugenics as perpetrating harm either on the vulnerable patients deemed "unfit".

One of the early institutional rejections of the eugenics hypothesis came in 1905 when Governor Samuel W. Pennypacker of Pennsylvania vetoed "An Act for the Prevention of Idiocy" that required state-funded institutions to hire surgeons for the purpose of selecting and sterilizing individuals who showed no probability of improvement. Pennypacker, in his veto message, emphasized the fallibility of scientists who might be "prone, in their love for technique, to lose sight of broad principles outside of their domain of thought." He concluded that "this bill, whatever good might possibly result from it if its provisions should become a law, violates the principles of ethics…To permit such an operation would be to inflict cruelty upon a helpless class in the community which the state has undertaken to protect." (Laughlin 1922, 36)

Pennypacker was not alone in his ethical concern about the surgical implementation of eugenics. From among the ranks of the prospective surgeons hired to carry out these sterilizations, a 1911 editorialist contrasts the strong feasibility of an Illinois marriage law ("This measure seems a wise and practicable step toward positive eugenics" with opposition to sterilization legislation:

> "Apart from the question whether Fallopian re-section — in this act incorrectly termed oöphorectomy — is a really efficient means of sterilization, the advisability of such a measure is at least still open to discussion… public opinion in the conservative East seems at present generally opposed to such procedures, as it is in England. Segregation of defectives is the alternative, and though more expensive, is probably now more practicable and ultimately as efficacious. (1911 Limitation of the Undesirable, p. 2)

This division in support of eugenic legislation— on the one hand in favor of tighter regulation of marriage, on the other critical of surgical intervention in reproductive capabilities— demonstrates the spectrum of opposition to eugenics. Pennypacker drew on the duty of the ethical state to protect its vulnerable citizens, while others emphasized the infeasibility of negative interventions in comparison to positive ones. But perhaps the most consistent and powerful arguments against the implementation of positive eugenics challenged the legitimacy of turning surveillance and constraint on innocent citizens suddenly facing hurdles to participation in marriage and family. Positive eugenic measures also interfered with citizens' right to reproduce; an account of one such interference led the anonymous author of a 1914 news bulletin in the *Boston Medical and Surgical Journal* that "one man who wished to marry a girl in order to legitimize his expected child by her, was refused a license to do so because he had no certificate. Apart from its bearing on eugenics, this action seems at least somewhat unjust to the girl and the child. (1914 Marriage & Eugenics in Wisconsin, p. 2) The bearing on eugenics that interventions might have was counted separately from the effect on the American citizen; a desirable social outcome (legitimate child, mother protected legally and financially through marriage) was undone by an immaterial scientific one.

Two weeks later, the same journal updated the case: a judge in Wisconsin had declared "the so-called 'eugenic' law" unconstitutional:

> "The law is praised because of its movement toward suppression of venereal diseases but is condemned because its enforcement is practically an impossibility. The court held that, if the state wishes to exercise its right for preventing undesirables from marriage, it should assume the burden of weeding out the unfit, and thereby not cast upon the fit an unfair demand and thus materially impair an inalienable right." (1914 Constitutionality of Eugenics, p. 3)

This right to marriage and reproduction, declared "inalienable" by the state of Wisconsin, overruled the eugenic impulse to prevent undesirables from marriage. As changing legislation readjusted the eugenic course, the medical profession was forced to navigate the evaluation and implementation of these new standards in accordance with their own moral and religious beliefs.[4] Dr. Andrew F. Downing, a physical examiner for the Massachusetts Civil Service Commission, reflected on the challenges this posed: "If it should become the law in this state, that feeble-minded and other low-grade human beings shall be surgically sterilized, those in the medical profession whose religious belief does not oppose such a measure will have a grave problem to solve. The sterilization of males and females, besides being attended with the usual risks of operation, gives to unprincipled men an opportunity to use our profession as a tool for injustice to others." Downing goes on to describe the various disruptions that this might cause to social and legal covenants, including broken wills and unscrupulous relatives preventing progeny across certain family lines. Was this threat to social morality worth the potential gains in the fight for population control? "The end in view is a noble one," he concludes, "but the ways and means that are being employed to attain this end are open to criticism and rebuke" (A. F. Downing 1917, 245; Massachusetts 1921, 16).

A good deal of this ethical concern was directed not at the possibility that the institutions designed to protect the most vulnerable might harm them, but rather that these institutions- and the bodies that governed them- might be turned back upon the average citizen. "Are we not all fit subjects in some sense for commitment to a school for the feeble-minded, if not for commitment to a hospital for the insane? Where shall the line be drawn?" wrote Dr. E.E. Southard, Director of the Boston Psychopathic Hospital and a pathologist for the State Board of Insanity (Southard 1914). This prioritization of individual autonomy- reproductive or otherwise- would consistently emerge as a factor in opposing eugenic legislation.

Challenging the Evidence

In addition to the ethical concerns raised against eugenics, there was also reason to doubt the expansive claims its proponents made about its capacity to solve a laundry list of population "problems". Much of the evidence that supported eugenic interventions was speculative at best,

[4] Although religion during this period was generally anti-intervention, an abrupt shift between 1929 and 1931 would result in many of the most prominent religious groups in the United States calling for laws restricting contraceptives to be rescinded; as Wilde and Danielsen (2014) show, this was a critical component of the racial project to reduce reproduction among Catholic and Jewish immigrants.

relying on a combination of obscured data and anecdotal evidence to appeal to common sense strategies of reproduction. Humans might be expected to behave as farm animals, or Mendel's pea plants, simply awaiting eugenic policies that would lead to the proliferation of "super-men" (Goldsbury 1913; Sergi 1912; Edwards 1923). However, "comforting and desirable as such an explanation would be, the biological evidence in its favor is lacking," reads a 1913 editorial in the *Boston Medical and Surgical Journal*. (1913 Heredity in the Hall of Fame, p. 2) The promise of eugenics was blinding both in its scope and the immediacy it demanded. With heredity as the key to human achievement and social stability, a path emerged through which utopian population outcomes could be secured. As Dr. Boris Sidis, founder of the New York State Psychopathic Institute, described the intellectual and scientific laziness that propped up eugenic theories: "When we are confronted with the miserable, degraded, crippled forms of our life, we fall back cheerfully on some remote grandparent and credulously take refuge in the magic panacea of eugenics…biology is misconceived, misinterpreted, and misapplied to social problems, and to individual needs and ailments." (Sidis 1915, 593)

For even as eugenic claims about the primacy of heredity in determining social outcomes proliferated, there was hesitation about the population utopia eugenics promised through intensive reproduction control. Another editorial in the *Boston Medical and Surgical Journal* expressed doubt that applied eugenics would offer any reasonably different outcome than simply letting nature take its course:

> "Bad though conditions may be, they are probably not worse in degree, though different in kind, than what have often existed before. It is at least questionable whether the suggested measures, even if carried out, would materially relieve the situation. Probably in the long run natural process can be trusted to settle the problems of humanity as it has settled them for centuries, generally for the best, though of course vast personal suffering may be involved and civilizations perish in the accomplishment." (1911 Limitation of the Undesirable, p. 1)

This contestation over the impacts of heredity vs. environment was in its early stages Massachusetts physician Bertha C. Downing wrote that "neither heredity, environment nor personal choice alone will explain the facts of social life. One of the most significant statements of Mr. Dugdale in *The Jukes* is, "The tendency of heredity is to produce an environment which perpetuates that heredity."[5] This seems to be largely overlooked, by the present students of heredity in man, who stand for eugenics in the United States." (B. C. Downing 1912, 595)

These cautionings did not necessarily result in more measured accounts of heredity from eugenicists. In a 1924 issue of the *American Journal of Sociology*, Joseph M. Gillman, a professor in the School of Business Administration at the University of Pittsburgh, wrote a

[5] Here the author refers to sociologist Richard L. Dugdale's 1877 book *The Jukes: A Study in Crime, Pauperism, Disease and Heredity*, in which Dugdale analyzes the family tree of a New York family with high rates of incarceration and poverty. Dugdale concludes in his analysis that a combination of hereditary predispositions and environmental factors were the drivers behind the family's outcomes; in a reinterpretation and expansion of his study published in 1915, Arthur H. Estabrook of the Eugenics Record Office at Cold Spring Harbor Laboratory argued that only eugenic sterilization would stop the family from draining public resources.

scathing review of a recent survey presented by Dr. H.H. Laughlin to the House Committee on Immigration and Naturalization. Laughlin, who had come to be recognized through his work at the Carnegie Institution of Washington D.C. as an "expert eugenics agent", had appeared before the committee in 1922 to share the results of a study he had conducted on the various qualities of recent immigrant groups to the United States, and more importantly, the "potentiality of the immigrant as a parent of desirable Americans of the future." Gillman, who had himself immigrated to the U.S. as a teenager from Ukraine, lambasted Laughlin's work as "an attempt to discredit the 'present and recent immigrant'" and argued that flaws in his analysis not only proved the unreliability of his data but also "remove(d) any possible support for his assumption that social inadequacies are racially inborn values." But in addition to these criticisms of Laughlin's motivation to present such distorted findings, Gillman also raises the issue of Laughlin's supposed eugenic expertise: "As a biologist," asks Gillman, "does Dr. Laughlin really care to go on record as claiming that deformity can be proven a race characteristic?" Gillman finds Laughlin's submission of this evidence as an expert biologist even more suspect given that the argument rests not only on his biological assumptions, but a statistical study built on elementary, but key, flawed statistical premises (Gillman 1924; J. J. O'Connor, n.d.). In this case, contestation over methodological jurisdiction, alongside accusations of biased science and a political agenda, supported claims that Laughlin could not possibly be the "expert agent" he claimed.

The Practicality of Implementation

Yet more objections arose from the specific means through which eugenic evaluations might be carried out. Doctors were more likely to express concern about a single element of the implementation of eugenics or challenge a method of evaluation. In this case, J.G. Wilson, a doctor working at Ellis Island, wrote of the limitations of current testing at the facility in the *Boston Medical and Surgical Journal*:

> "The influx of bad foreign blood would tend to undo whatever good the practice of Eugenics at home might accomplish. But while in no way advocating the lowering of the standard or a letting down of bars to the mentally unfit, I think we should be extremely cautious not to confound dense ignorance with inherent mental incapacity. The difficulties in the way of diagnosing the immigrant *moron* from the immigrant *ignoramus* are chiefly those which arise on account of differences in the language and the racial viewpoints of life's problems." (Wilson 1913)

Wilson goes on to share several examples of cases in which poor performance on any of the intelligence tests did not necessarily indicate "feeble-mindedness." He again argues for care to be taken when making such assessments, and then suggests an expansion of the eugenic project to new experts - "a larger force of trained men and interpreters" - with whom the eugenic project might be co-constructed. "While there seems no donut practicability as an aid to the diagnosis of the degree of mental ability of the average American," concludes Wilson, "when it comes to its application to the examination of immigrants there is a grave question as to its fairness when relied on alone" (227).

These challenges to unilateral eugenic adoption raised important questions for eugenic reformers who needed buy-in from the professionals designated to carry out eugenic interventions. After all, as Dr. Henry Fairfield Osborn remarked in his welcome address to the second International Eugenics Congress in 1921, "As science has enlightened government in the prevention and spread of disease, it must also enlighten government in the prevention of the spread and multiplication of worthless members of society" (Osborn 1921). These demands could only be carried out by agents fully on board with the eugenic mission, and the most skeptical of experts demanded a good number of disciplines participate in the process of eugenic evaluation. Maximilian Groszmann, an early figure in American special education, wrote that only when the educational and medical experts, the trained social worker, the psychiatrist, the nerve specialist, and the psychoanalyst had all conferred on a case, would one have an adequate picture of an individual's "personal and psychic endowment" upon which eugenic intervention might be based (Yoshii 2022; Mogilka 1989). "I fully appreciate the marvelous work done by our indefatigable geneticists and the tremendous vista of research and knowledge they have opened up," wrote Groszmann, "but this is a young science. Things may be very different from what we think they are." (Groszmann 1922)

Dissent Shapes Intervention

The above sections detail dissent from eugenics on the grounds of ethics, evidence, and implementation. While these objections represented a minority of published opinions on eugenic research and intervention and were never formally organized into a critical movement against eugenics, they nevertheless had an impact on the development of the field of eugenics. I argue that dissent both strengthened the case for eugenics as a legitimate science, having undergone debate through the kind of adversarial ethic medicine used to construct expertise and helped to turn the movement for eugenic intervention from positive to negative eugenics.

Dissent from eugenic interventions was construed as indicative that the science was being rigorously investigated and that emerging strategies to apply eugenics originated from a place of compromise and moderation. Dissent indicated that negative eugenics had survived the legitimating process of rigorous scientific debate. In one account of scientific conflict over eugenics at the fifteenth International Congress on Hygiene and Demography, Dr. Lightner Witmer of the University of Pennsylvania argued that eugenics was a problem of extremely small interest and that it was impossible to prove human stock as animal stock, while a Dr. W.M. Hays, assistant secretary of the Department of Agriculture, expressed belief that the human family might be revolutionized by scientific guidance over reproduction. The account of this disagreement suggested that their disagreement on the utility of eugenics likely meant that "the truth lies somewhere between the two views" and that "a large part of the essence of human value lies in aspects and attributes that are hardly amenable to scientific handling". Nevertheless, the author decides that "at present, the most promising field is probably that of negative eugenics- the prevention of breeding from notoriously bad stocks." Even when the legitimacy of eugenics was in doubt, the benefits of involuntary sterilization were not. ("Topics of Hygiene and Demography" 1912) This suggestion that somewhere between the positive eugenics enthusiast and the skeptic might be common ground was echoed by Leonard Darwin, son of Charles Darwin and president of the Eugenics Education Society, in his introduction to the proceedings of the First International Eugenics Congress in 1912: "In so new a field, wide

differences of opinion as to the methods to be adopted are certain to exist, and it is only by tolerant consideration of all these divergent views that the true path of progress will ever be discovered." (Eugenics Education Society (Great Britain) 1912)

If these differences in opinion persisted, dissenters would at least appreciate continued research on the topic in the name of common scientific good. In an obituary for James Ewing Mears, an eminent surgeon who pioneered a series of mouth and jaw surgeries in the late 19th century, a friend recalls his enthusiasm for eugenic interventions:

> "Few still fail to agree with our friend on the importance of the new science of eugenics and all will doubtless welcome a gift for research, in the light of constantly increasing knowledge of physiological processes and social problems, from new points of view which inevitably will present themselves from time to time." (J. 1919)

Thus dissent was framed as a natural byproduct of the scientific process. Since dissenters questioned knowledge products, rather than institutionalized ways of speaking about the world, their objections provided value instead of destabilization for their fields. However, their consistent concerns about the constitutionality and ethics of positive eugenic measures, along with the legal challenges that these measures often faced, pushed medicine to choose the path of least resistance. In a speech read before the American Public Health Association in 1912, Dr. Woods Hutchinson sketched out the logic behind a pivot to negative eugenics after controversial and unsuccessful attempts to further positive eugenic policy:

> "So the next line eugenics decided to take up, was the negative side, preventing the reproduction of the obviously and clearly unfit. Here we had the advantage of having a criterion about which there could be no two opinions." (Hutchinson 1912)

Hutchinson, then a professor of clinical medicine at the New York Polyclinic, elaborated on what he argued was a relatively straightforward matter; it was "perfectly possible" to establish general criteria by which to measure "normality" and thus establish clear categories of individual unfit for human reproduction. Ultimately a consensus would be reached across lay and professional bodies that the right course of action was to reproductive control at the "average man", or as he quoted Abraham Lincoln, at "the great, plain people whom God Almighty must have loved, because he made so many of them." This appeal to statistical evidence from various interventions, underscoring debate within the field and the resulting compromise and drawing on the religiosity and legacy of trusted American leaders situates negative eugenics as the natural result of a rigorous scientific campaign.

In the spring of 1914, the American Medico-Psychological Association engaged in a series of seemingly paradoxical votes following a symposium on eugenics: "The Association defeated by a large majority a proposed resolution favoring the enactment of so-called eugenic marriage laws." That same day, "resolutions recommending the segregation of the feeble-minded, imbeciles, or other mental delinquents, and the establishment of separate institutions for their care, were adopted unanimously." (June Medical Notes, Boston Medical and Surgical Journal) The symposium had the intended effect of underscoring the importance of eugenic intervention,

but one strategy emerged as a favorite: the force of eugenics fell on "mental delinquents" and their reproductive threat, rather than the average American and their reproductive potential.

Evidently, the barrage of concerns about the implementation of positive eugenic measures, whether on ethical, religious, or practical grounds, had influenced the willingness of members to endorse such measures. Though there were still challenges to negative eugenic measures, these might be addressed by engaging with dissent as part of the scientific process. Above all, proponents of eugenics favored decisive action over reflection. As Leonard Darwin acknowledged at the First International Eugenics Congress, "No doubt the paramount necessity of maintaining a moral code introduces vast difficulties in the case of man which are unknown in the stockyard, and unquestionably the possibilities open to us are thus greatly limited. No doubt also our ignorance imperatively commands us to be cautious of our advance. But stagnation is to be feared as well as error, and when we see good reason to believe that some step could now be taken tending to benefit future generations… our fears must not be allowed to stand too much in the way of our actions."

Conclusion

The first decades of the 20th century saw eugenics emerge from a fringe theory into a legitimized science and an international movement for population control. This process required buy-in from various stakeholders— doctors, politicians, and social reformers— to enact the eugenic project. Accounts of this process of legitimization have emphasized the broad acceptance and promotion of eugenics during this period without recognizing the range and impact of their dissent on the burgeoning movement. Actors involved in this process did, however, raise objections to eugenics on various grounds. Legislators saw demands for eugenic compliance as being at odds with their duties to protect their vulnerable constituents. Doctors questioned the safety and efficacy of eugenic sterilizations. Evaluators doubted the measures by which they were called to make categorizations, citing faulty statistics and a biased presentation of the data. Despite this, between 1907 and 1937, thirty-three states passed laws allowing for sterilization on eugenic grounds, and in 1927, states' right to continue these sterilizations was protected by the Supreme Court. In his infamous ruling in the case of *Buck v. Bell*, Oliver Wendell Holmes Jr. wrote in his infamous opinion that "three generations of imbeciles is enough" (Buck v. Bell 1927). Despite little evidence that Carrie Buck's infant daughter, born out of wedlock and likely the result of sexual assault, was in any way disabled, Carrie was sterilized and lived the rest of her life in an institution (Lombardo 2022).

Through examining this case of eugenics dissent in the first decades of the 20th century, I have demonstrated the role of dissent in validating and constructing courses of action for controversial sciences. By raising objections to the challenges positive eugenic interventions would pose to individual autonomy, dissenters encouraged a tactical pivot from positive to negative eugenics. This prioritization of independence for the "right" kind of citizen, at the expense of the "wrong" kind, demonstrates that a disabling of the bioethical mechanism began far earlier than a conscious development of an ethical framework within American medicine. It also highlights the unintended consequences for dissenters who focus their challenge on the knowledge products, rather than the institutional discourse, of their disciplines; challenges to eugenics were leveled at

the specific expressions of eugenic rhetoric, rather than at a model of medicine that sought to level difference and achieve specific state goals for the population.

With this research, I contribute to theories of dissent in medical sociology and engage with sociologies of controversial sciences as dissent shapes their development. Future research on the relationships between expertise construction, dissent, and the scientific process should continue to examine historical cases for insight into organized and disorganized movements within disciplines that critique both knowledge products and institutionalized discourses. Although dissent in the early 20th century may not have prevented eugenics from taking hold, it represents the beginning of a long tradition of dissent from reproductive interventions that target vulnerable or marginalized populations. As I show here, some expressions of dissent were more complete in addressing the harms of eugenics than others. To be effective as an ethical critique, dissent must take a broader view of harm, not only for the population but for the individual, and seek to incorporate perspectives from every population that might feel the effects of medical authority. It must also seek engagement beyond institutional discourses to critique the process by which harm might become justified, rather than focusing on the internal processes that privilege the potential of intervention over the responsibility of managing it. As developments in genetic technologies offer increased possibilities for reproductive control, dissenting actors are pushing back both within and beyond science against measures to remove differences from our populations (Obasogie and Darnovsky 2018; Yee and Cokley 2022; Benjamin 2016). By engaging with histories of scientific movements, a broader picture of dissent emerges that demands not only reckoning with injustice in developing technologies but of the directions dissent encourages.

CHAPTER 3: "EUGENICS BROUGHT HOME": WHITE WOMEN PHYSICIANS AND REPRODUCTIVE AUTHORITY

Introduction

The degeneration of the American population became a major source of concern in the first decades of the 20th century. Among these supposed threats to population quality were increased immigration, mass casualties in the world wars, and shifting social realities that threatened to destabilize dominant hierarchies in politics, the economy, and the home (Roosevelt 1911; Wilde and Danielsen 2014; Lasch 1976; Murphy 2017). These population anxieties had been a popular topic in literature and politics through the end of the 19th century. By the 1910s, growing interest in the "new science" of eugenics was helping to present new strategies through which these concerns might be addressed (Caron 2008; Stern 2016; E. Black 2012). The early eugenics movement advocated a spectrum of interventions and arguments about how the family might be reorganized to contribute 'correctly' to the development of future generations, the nation, and the race (S. F. Galton 1883; F. Galton 1904; Lovett 2009). This renewed interest in controlling the family conflicted with growing movements for women's rights.

Proponents of eugenics perceived women's increasing professional and educational independence as a challenge to new eugenic metrics for fertility and childrearing. College education among women had rapidly increased from 1870, when thirty percent of colleges were coeducational, to 1900 when seventy percent of colleges also accepted women (Antler 1982, 19). Women's representation in professional life likewise grew, as did claims that these changes were heralding a new era of womanhood in which motherhood came second to a career. As the headline of the August 29, 1915, *New York Times Magazine* stated, "The Woman Movement and the Baby Crop: Effects of it are Becoming so Appalling as to Threaten the Perpetuation of the Nation." The "perpetuation of the nation", synonymous with "race suicide" and other phrases referring to the decline or degeneracy of the population, referenced a broader movement to privilege and protect whiteness (Stern 2022; King and Ruggles 1990; Caron 2008). The so-called "woman movement" that threatened it was the direct result of rising women's educational attainment and contributed to declining rates of marriage and fertility; so long as women were "enticed to sterility" through education and careers, the authors conclude, "we are to establish an unnatural selection of the fittest to die and the unfittest to survive" (Martin 1915).

One area in which white women sought education and careers was in the field of medicine, where many of the strongest advocates of eugenics were located. As these women sought to normalize their participation in medicine, they would thus have to contend with these identity-based and professionally oriented critiques against their participation in medicine. Although women's representation in the medical field had increased since the end of the nineteenth century, there were still few opportunities for women physicians and even fewer for women physicians of color (Skinner 2014; Hine 2020; Vigil-Fowler and Desai 2021). White women physicians centralized their professional authority in associations and alumni clubs that provided professional resources for members and organized regular meetings at which they discussed challenges to their professional ascent. They also organized conferences at which they addressed the challenges they faced based on their gender: as Dr. Kate Mason Hogle remarked in her 1908 Annual Address to the Iowa State Society of Medical Women, "The history of women in

medicine has been an interesting one in which there have been many pathetic pages" (Hogle 1908).

This challenge to women's education and participation in professional life on eugenic grounds was just one of these pages. Not only was the continuation of women's occupational advancement at stake but so too was their professional authority- if women physicians were participants in a demographic scheme to commit race suicide, they could hardly be trusted as authorities on healthy reproduction. But surprisingly, they were able to not only defend against the allegations that their professional achievement was a detriment to population quality, but that it was necessary to improve it. How did these actors use identity help to generate ownership over emerging expertise? Here I use the case of historical eugenics to make sense of how white women physicians leveraged their identity to claim professional security and jurisdictional primacy over an emerging science. In framing womanhood as a perpetual patient state of past, future, and present motherhood, white women physicians organized a gender-based "disease constituency" of which they were a natural part.

Existing scholarship roots the experience of the disease constituency under medical authority, with the inclusion of lay or patient expertise a relative newcomer to the field. The effects of these new expert voices have been differently assessed as lending power to organized movements of patient advocates, dangerously empowering an ignorant public when it comes to the sciences, and influencing both particular and universal health outcomes (S. Epstein 2016; Banaszak-Holl and Levitsky 2010; Prior 2003). This case complicates these narratives because the actors I evaluate here were both members of the disease constituency— that is, women, wives, and mothers— and trained experts within the medical field during a period of transformation for both genders and the field. Their strategic navigation of eugenic challenges to women's professional advancement requires an analysis of professions and expertise to make sense of how white women physicians positioned themselves as obvious authorities on medical oversight of the home.

Building on studies of disease constituencies and identity-based advocacy movements within science and medicine, this research examines how white women organized their claims to medical authority in response to the challenge of eugenics to women's professional advancement. I find that the response of many women physicians during this period was to propose that their expertise was the solution, rather than a challenge, to eugenic demands on the family. Here I analyze how these women navigated this challenge to their careers and leveraged their identity to position themselves as natural authorities over scientific motherhood. Although accusations that women's reproductive decisions were behind a pending population emergency were not new, these concerns only ballooned through the First World War, which saw mass casualties at higher rates than any previous conflict and resulted in a distinct gender imbalance among those of reproductive age (Fraenkel 1917; Thacker 1915). Topics relating to women's reproductive control like abortion or contraceptive access, while popular among many women physicians and special interest groups, were seen more broadly as further threats to the family. Eugenics, on the other hand, claimed to present alternative scientific interventions for reproductive control.

Eugenics drew from medicine, statistics, and sociology to demonstrate the immediacy of the threat to white demographic domination and summarily offered the tools through which this might be resolved, with "positive eugenics as the encouragement of the parenthood of the most desirable persons; negative eugenics as the discouragement of the parenthood of the least desirable" ("What Is Meant by Eugenics?" 1912). Where positive eugenics began with education about "eugenic marriages" that considered the health histories of both parties and emphasized the duty to have as many children as one was able, these projects soon branched into more practical territory. Eugenic education campaigns emphasized the importance of a good diet and regular exercise, along with proper moral and civic training for young children. At the forefront of these efforts were women physicians, who had successfully organized these approaches within the women's sphere. Their strategic reformulation of the eugenic argument to underscore the importance of women's education and participation in the medical field positioned them as arbiters of reproductive improvement for both women and the nation. How did they leverage their identities as women and mothers to capitalize on the popularity of eugenics and carve out increased professional autonomy?

Here I show how women physicians were able to head off the challenge to their professional advancement at the same time as incorporating it into an argument for increased authority and autonomy within medicine itself. I argue that white women physicians reframed declining population quality as not an attack on fertility or reproduction, but on motherhood itself; if motherhood were protected and made more scientific, fertility outcomes would improve. I then show how they positioned themselves as the agents of this transformation by professional advancement with eugenic advancement, making the case for women physicians as the ultimate safeguarders against reproductive transgression. I demonstrate that in constructing motherhood as a disease constituency with themselves as necessary experts on its treatment, white women physicians engendered a lasting legacy of surveillance and control over reproduction.

Linking Identity And Expertise

How did white women physicians leverage their identities to claim authority over the emerging science of eugenics? This process through which expertise is scientifically claimed and politically leveraged requires more extensive analysis to formulate the distinction between in-group practices of identity-based knowledge and external strategies to concretize group authority and autonomy. I explore two possible hypotheses in the subsections below: the construction of womanhood as a disease constituency and the designation of white women physicians as innate experts on motherhood with eugenics as their expert tool. Together, these explanations account for the unique intersection at which white women physicians operated as both the subjects and directors of reproductive control, extending accounts of identity-as-expertise.

Women as a Disease Constituency

Sociologies and anthropologies of medicine have analyzed patient groups who organize to influence medical diagnosis and treatment for their conditions as "disease constituencies" (Cohen 1993; Heath, Rapp, and Taussig 2007; Epstein 2016). This approach has been most notably taken by researchers tracing the evolution of patient engagement within HIV/AIDs and breast cancer movements (Epstein 1995; Kolker 2004; McCormick, Brown, and Zavestoski

2003; Best 2012). These approaches reckon with the growing influence of these disease constituencies since the 1990s, presenting them as innovative approaches to medical reform that target medical treatments, research funding, policy, and public perception of disease states. There have also been some accounts of this process historically, such as the work of the Black Panther Party on medical access (Nelson 2011) or the influence more broadly of social movements on improving public health (Brown and Fee 2014).

These lay participants in the process of medical knowledge construction find that their expertise (via experience) offers them the opportunity to re-contextualize their medical histories and construct professionalized and politicized identities (Jones and Pietilä 2020). Lay expertise has also been described as a kind of resistance through which marginalized patients can participate in the process of disease construction and direct research and treatment strategies from the outside. However, as Prior (2003) points out, there is a danger in attributing too much expertise to the lay experience; while the layperson does have a unique set of knowledge to share with the expert, their technical experience does not extend to the complexities of medical management (Prior 2003). Collins and Evans (2002) caution against this extension of expertise to the layperson because, as they write, "the public can be wrong" (Collins and Evans 2002). Yet other critiques focus on the scope of movements' challenge to existing systems. Epstein (2016) rejects the bifurcation of social movements in healthcare into particularistic demands and universalist narratives (Banaszak-Holl and Levitsky 2010) and instead encourages a more nuanced evaluation of real and potential pathways of influence that these social movements might have (S. Epstein 2016).

The case of white women physicians and eugenics poses several challenges to these existing analyses of lay or patient participants in the process of medical knowledge construction. While existing literature shows patient activists drawing on the above framings to argue for increased control over the direction of research and exert pressure over expert bodies, in this case, these patient advocates and expert bodies intersected with women physicians. Likewise, while some participants in their own medical construction allowed them to organize and manage newfound identities, these women moved from identity to expertise rather than from expertise to identity. White women physicians laid claim not only to the technical expertise that came from their medical training but also to the moral expertise that came from their experience as women.

How did motherhood come to be defined as a disease constituency? To claim authority over the science of reproduction, womanhood first had to be constructed as a perpetual state of semi-patienthood through the potential of pregnancy. This process of risk becoming patienthood has been well documented by sociologists studying genetic testing and the potential of disease, highlighting the consistency of medical anxiety around the right kind of reproduction (Mukherjee et al. 2022; Timmermans and Buchbinder 2013; Waggoner 2017; Dorothy E. Roberts 2009) Then the construction of womanhood, via reproduction, as a disease constituency blended the disease category (rendered loosely here as the potential for reproduction) with identity (white womanhood). Sociologies of public health and medicine analyze these constructions of risk among vulnerable groups (Healy 1999; Shim 2005). While these concepts have directed funding and research in medicine and public health for decades, they have also drawn criticism for rooting inequality in biological difference, rather than recognizing it as a social product (Link and Phelan 1995; Duster 2006). In this case, however, white women physicians intentionally

linked unequal outcomes to biological differences to solidify womanhood as a perpetual risk state. This was framed to account for any experience of womanhood, from the unfit mother who should be prevented from reproducing, the willfully sterile woman who should be encouraged into motherhood, the young girl as a future mother, and the aging mother influencing the next generation of women in their reproductive duties.

Ultimately the construction of this disease constituency by white women physicians themselves blurred the lines between medical and non-medical participants in the project of expertise construction and deployment. The "problem" women's advancement posed to eugenics was thus turned on its head, first by the reclassification of the damaged social institution to motherhood, and secondly by the emphasis on women as the natural agents of eugenic intervention.

Expert Tools in Expert Hands

With motherhood a medical project requiring scientific oversight, there was a need for expert authority to protect and defend it. The next tasks set to women physicians were contextualizing their natural maternal instincts as in line with eugenic goals and highlighting the unique advantages they had in delivering these eugenic outcomes. When white women physicians took on eugenics as an expert tool by articulating themselves as the natural experts over a modern, scientific version of reproduction, the eugenic assumption was made that all women should be either encouraged or discouraged from giving birth. In taking control of the mechanisms of eugenic education and surveillance, white women physicians drew on their concurrent lay and professional expertise to influence perceptions of the "disease" and gain control of narratives around women's professionalization, fertility, and civic duty. This professional alignment with the new tools of the biopolitical state, which controlled population through the application of political power over all aspects of citizens' lives, provided important legitimization for the growing number of women in medical fields (Foucault, Davidson, and Burchell 2008; Nikolas 2001).

How did eugenics become the expert tool that white women physicians might use to achieve these goals? Pryma (2022) examines the processes through which opioids became designated as "the right tool for the job" of pain relief in the 1980s and 1990s, finding that they linked a new field (pain specialists) with political, financial, and social resources (Pryma 2022). Likewise, eugenics connected white women physicians with the political, scientific, and social movements that promised increased airtime and the legitimation of their unique perspective on reproduction. Their argument hinged on the suggestion that women are endowed with special qualities or knowledge just by being women. This argument connects the theory of the lay or patient expert with the case of identity-as-expertise; to what degree is the diagnosis of illness comparable with being part of a marginalized population? They might have gone about this by linking women's knowledge to the ongoing practice of midwifery but instead chose to pose their expertise not as a recovery of centuries of woman-led practice, but as an extension of modern science (McGregor 1998). This research thus builds on work in women's studies that problematizes dominant historical narratives about the role of women in medicine and the medicalization of gender; medical discourse was shaped by women's "subjugated knowledge" at the same time as creating a medicalized female subjectivity (Theriot 1993, 24).

These physicians drew on this co-construction of medical knowledge, shaped by women's identities as expertise on the one hand, and the other cutting-edge science in the form of eugenics. These claims positioned women physicians as natural leaders in certain areas of medicine and public health. They also set women up to speak authoritatively on issues of population, reproduction, and the family. This conversion of reproductive expertise into political and professional power was made possible because these white women physicians configured their identities as instrumental to the promotion of the white race and brought on the new science of eugenics to help articulate their commitment to a medically controlled reproductive future.

Eugenics at the beginning of the twentieth century provides a unique case through which to analyze the relationship between identity and expertise for two key reasons. First, it contributes to theories of social movements' effects on medicine. Second, it helps to make sense of how an identity group with little power might reconfigure identity into a requirement for, rather than a barrier to, authority.

Case Selection, Data & Methods

To investigate how white feminists' advocacy and identity entanglement and alignment with eugenics, this article relies on a mix of primary and secondary data sources from women's organizations and eugenics societies in the fifteen years following the first state's legalization of sterilization on eugenic grounds (Indiana 1907). This period covers the broad uptake of government legislation on eugenic sterilization, the First World War and its aftermath, and the ratification of the 19th Amendment, which gave women the right to vote. In selecting these years I do not make the case that the process of entangling white womanhood with reproductive authority began or ended during these years, but rather that they were a uniquely productive period in this process.

My main source of data from this period is *The Woman's Medical Journal*, a monthly journal "published in the interest of women physicians" founded in 1893 by Dr. Elmina M. Roys Gavitt in Toledo, Ohio (Bond 1893). After the founding of the American Medical Women's Association in 1915, the journal became known as the *Medical Woman's Journal*. I analyzed 180 monthly issues and identified articles that pertained to eugenics, women physicians, population concerns, and motherhood. I analyzed this journal because it represents the first, and at the time only, regular journal dedicated to women physicians and their research. Because the journal served a unique organizational role within the community of medical women, it also provides insight into the work being done to recruit and connect women with medical education and share the details of their activities, strongly shaping the development of a collective ethos among women physicians (Skinner 2014). The average issue contained an editorial, several original research articles, updates on various women's lives and careers, a classified section, and several pages of advertisements for medical treatments and supplies. During the war, a section titled "American Women's Hospitals" shared details of the war effort, including fundraising numbers and letters from women serving abroad.

While the *Woman's Medical Journal* was not explicitly described as only publishing the work of white women, very few Black women physicians published with the journal during these years.[6] Although the journal emphasized solidarity and support among women physicians, this did not extend beyond white women (Fancher, Kirsch, and Williams 2020). During the period examined here, there were very few Black women physicians working in the United States due to exclusion from most women's medical schools as well as most Black men's medical schools; nearly all Black women had graduated from the Woman's Medical College of Philadelphia, Howard University College of Medicine, or Meharry Medical College. Vigil-Fowler and Desai estimate that just 170 Black women graduated from medical school between 1867 and 1938. Thus I have focused on this journal as primarily a site of white women physicians' engagement with eugenics and reproductive control.

Understanding the pressure on women to correctly manage their reproduction and family life requires an examination of the public, popular discourse directed toward them. To construct an account of the popular messaging around women physicians and their relationship to motherhood and racial safeguarding, I conducted a review of the *New York Times* for original articles and letters to the editor that dealt with these topics. I also drew on issues of *The Ladies Home Journal*, the most popular women's magazine of the period, from between 1907 and 1922 to help expand on notions of scientific motherhood, popular understanding of eugenics, and depictions of women physicians and women's education.

I organize the results of these analyses into two sections that indicate their simultaneous and mutually reinforcing nature. In the first, I show how white women reoriented eugenic concerns about declining fertility away from critiques of the mother and towards a movement for the mother; if women could not be shamed into undertaking their reproductive responsibility, then perhaps they might be encouraged to do it with proper support and reforms in the interest of maternal health. I then show that once successful reproduction was linked to the oversight of women physicians, eugenics was coupled with professional advancement as more jobs became available for the woman physician. In reorganizing reproductive and eugenic expertise as a natural extension of the woman physician, and vice versa, identity became linked to expertise in such a way that maximized white women physicians' professional authority.

Protecting And Promoting Scientific Motherhood

Throughout the first half of the twentieth century, eugenics grew in popularity as a global movement through which unwieldy populations might be controlled (Bashford and Levine 2010). Changing demographic and social norms at the beginning of the 20th century resulted in anxieties about population change and women's increasing demands for political, educational, and professional independence. These shifts were linked by critics who connected women's lives outside the home and family planning. Long term, they argued, this would mean that white, Anglo-Saxon, Protestant fertility would drop off as immigrant fertility continued to rise. One such critic of the reluctant mother was Theodore Roosevelt, who was a frequent commentator on "race suicide". He saw this as the natural outcome of declining fertility and women's dereliction

[6] One notable exception is an editorial by Dr. Isabella Vanderwall, who wrote of the racism facing Black women medical students as they sought newly-required internships (Vandervall 1917).

of maternal duties. In a 1911 magazine editorial, he compared the mothers to soldiers: "Exactly as the measure of our regard for the soldier who does his full duty in battle is the measure of our scorn for the coward who flees, so the measure of our respect for the true wife and mother is the measure of our scorn and contemptuous abhorrence for the wife who refuses to be a mother" (Roosevelt 1911). Blame readily fell on women who were not "doing their duties" to the race by reproducing at rates that would ensure population growth among the right kind of citizen (Emerick 1909; Weyl 1909); .

The nineteenth-century conception of separate spheres, in which men and women inhabited completely distinct domains in family and social life, was challenged in the early 20th century by changing gender norms and opportunities for women (Kerber 1998; Laslett 1991). Women's entry into higher education challenged notions that women reasoned purely through emotion, while the proliferation of spaces for both genders broke down the boundary around the "woman's sphere." However, the gradual weakening of this boundary also contributed to concerns over an unsettled future for gender relations. To gain control of the narrative around motherhood and "race suicide", white women physicians repositioned themselves as the solution, rather than the problem. Although eugenics was a racist project that privileged white reproduction, scholars of this period note that eugenics was almost exclusively targeted at controlling white reproduction (Bridges 2019). This is perpetuated in the data employed here; white women physicians write almost entirely about white motherhood, with exceptions for immigration across groups who might change the makeup of whiteness (such as immigrants from northern or eastern Europe). White women physicians positioned themselves as having unique access to white women and white families through their natural inclinations towards family care and resulting pediatric specialties; the emergence of eugenics during this period conveniently offered a new scientific paradigm through which white women physicians might frame the necessity of their contribution.

White women physicians countered this argument in two ways. First, they contextualized women's education, and particularly medical education, as contributing to qualitatively (if not quantitatively) better offspring. Second, they reoriented this critique of prospective mothers into a critique of the social realities of motherhood. If wealthy, educated women were choosing to have fewer or no children, what else might be to blame? To promote women's education as in line with eugenic ideals and counter to the logic of "race suicide", physicians first tried to discredit the notion that education would somehow weaken or distract from natural maternal inclinations. A series of statistical analyses claiming to link college education for women to declining fertility rates had resulted in a barrage of op-eds and headlines that pointed to women as the source of "race suicide" (Nearing 1914; M. R. Smith 1900). Even women's magazines critiqued the focus of scientific training in college as prioritizing lab work over practical eugenics (Rickert 1912b). Women physicians thus had to contextualize education, and specifically medical education, as contributing to a higher standard of motherhood than aligned with eugenics ideals:

> "No college course could kill the mother instinct, but it can add wisdom to that instinct. Higher education means higher motherhood. A knowledge of eugenics will do much toward the production of healthy children. Certain truths must be more generally taught. They are vital to our welfare as a nation. Whether a woman is a good mother or not is a

> matter of individual temperament. The college woman, however, understands the importance and responsibilities of motherhood, and does not underestimate its rewards." (Rockhill 1913)

These apprehensions about what women might do with newfound political and economic power only increased first as women took over new jobs during the First World War and later gained the right to vote (Grayzel 2002; Cott 1998). Women physicians speculated on women's power, or perceived power, and the role that their reproductive capabilities would play in post-war nation-making. Dr. Charlotte Abbey wrote in 1921 about the burden on women to continue with their maternal duties even as their political influence increased: "Women, being the mothers of men, upon women, is placed the responsibility of the uplift or downfall of a nation. Once again in the history of the world women have risen as a self-conscious power… I believe that many men did not want women to have the vote for fear that women might lose the maternal ideals belonging to family life." (Abbey 1921) Yet some argued that the changing times were matched by an evolving understanding of how women might serve their nations in and beyond the family:

> "The old idea that motherhood is incompatible with self expression, that in yielding to the demands of marriage a woman renounced her individuality, has given place to the larger conception that she who is best prepared prepared, physically, mentally, ideally, for the duties of home, also is prepared for all her obligations as an individual, as a citizen, and as a member of the industrial and social order…There is no antagonism between her duty to the race and her own development." (Mosher 1920)

In the decade before the 19th amendment, women's activism around increased civic participation and rights outside the home had steadily increased. In 1912 Dr. C.A. Nelson wrote to the New York Times with "A Woman Physician's View" in response to its recent coverage of a suffragist demonstration. She juxtaposed the editorial's claim that women's demands would soon get out of control and that they had no need of further rights with an article that ran that same day in the New York Times Magazine detailing the challenge that rampant venereal disease among men posed to healthy reproduction (*The New York Times* 1912). "In view of these facts put forth by 'a well-known physician of New York', why, in the name of womanhood and motherhood, should there not be 'an uprising of the women'?" (C. A. Nelson 1912) Any charge of failure to do one's duty ought to be directed at men, rather than women, and remedied with increased support for the institution of motherhood. This narrative was supported elsewhere with an emphasis on reform. In a 1914 article titled "Side Lights on the Social Peril," Dr. Maude Glasgow criticizes low age of consent laws and the lack of prosecution for sexual violence, as well as the failure to pass legislation requiring financial support for the woman who becomes pregnant through prostitution or assault: "The tone of legislation bearing on these questions has changed but little, and there is an undercurrent of indifference to the need of protection for women as mothers of the race, woven into the fabric of our social and industrial life" (Glasgow 1911, 140).

This demand for the protection of "women as mothers of the race" opened the door to a series of suggested reforms, both for mother and child. The political mobilization of social reform groups during the progressive era resulted in some of the most sweeping changes to health policy, including measures to support access to toilets, street cleaning, and food and drug standards (T. M. Brown and Fee 2014). By adding motherhood to the list of vulnerable constituencies in the

United States, white women physicians were creating a new standard to which maternity might be held and improved. Thus the healthy growth of the next generation was dependent on an increasingly scientific construction of motherhood, promoted and protected by those who knew best the intersection of medicine and womanhood. Issues of reproduction and parenting were given pride of place in the *Woman's Medical Journal*, with medical advice given not only on immediate matters of pregnancy and birth but also on protecting women's health in the long term. Dr. Young, who had written the year previously had advocated for women's economic independence as a benefit to her future motherhood, argued for periods of rest in between children and adequate care for new mothers:

> "One more point should be made in giving instruction in practical eugenics. The woman who is required to produce rapidly, with short intermission between children, and no time for recuperation or self-development, cannot bear strong children." (Evangeline Wilson Young 1915)

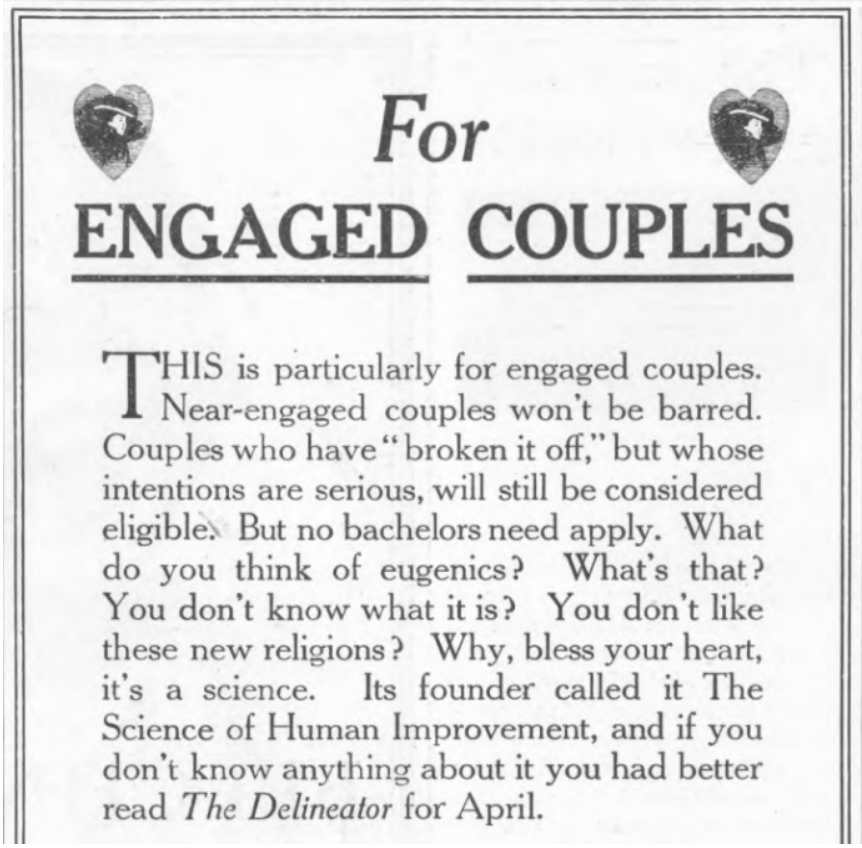
Here Young again places responsibility for the protection of motherhood (and the future of the race) on the father, rather than the mother; with the sharing of birth control or contraceptive advice illegal in the United States until 1936, physicians could do little to support the woman who came to them looking to manage her fertility (Chesler 2007). This infringement on medical authority was seen by some physicians as contributing to "race suicide"; it not only prevented women from taking the breaks they needed to produce and raise healthy children, but it resulted inworse health outcomes. At a 1915 address organized by the Committee on Birth Control and delivered at the New York Academy of Medicine, Dr. Lydia Allen de Vilbis of the New York State Department of Health said of these "babies born only to suffer and die," "What for? Because we are so stupid that we still believe a pound of cure is better than an ounce of prevention" (Knopf 1915).

While legislation stood in the way of this particular scientific aid to women and mothers, women physicians were at work researching other ways that the burden of reproduction might be eased. Women physicians researched and advocated the use of anesthesia during childbirth in an attempt to alleviate the pain that they argued prevented many women from pursuing motherhood. In tying pain relief to broader national and scientific goals, they were able to demonstrate their unique contributions to medicine while promoting a new scientific, and perhaps more enticing, motherhood: "If there could be a way to alleviate this suffering without injury to mother or offspring, I believe that the greatest obstacle in connection with "Race Suicide" would be removed and the most difficult part of the problem solved" (Branson 1908).

As much as the woman physician did to improve the mother's experience of medically assisted reproduction, there was still a demand for the mother to take her role seriously and scientifically. A 1912 article in the *Ladies Home Journal* on how the women's college might be improved suggested "raising housekeeping to a science" as one way to more efficiently prepare women for their future lives and promote motherhood as a serious "profession" (Rickert 1912). Yet more articles encouraged the incorporation of eugenics into the courting process: "Sign of the Times are Consulted, Not Signs of the Zodiac, and Eugenics Take the Place of the Constellations—Here is Where Cupid Takes a Scientific Degree in Match-Making" (Smith 1912). An

advertisement for women's magazine *The Delineator* promoted its article on the importance of eugenics in marriage, promising a complete scientific education for the reader (Fig. 3.1).

Figure 3.1: Advertisement for *The Delineator* in *The Ladies Home Journal*, April 1912 (79).



Reforms and advocacy for a scientifically-informed motherhood would require a combination of the woman's supposed instinct to create and protect life and a willingness to be educated on how to best contribute to the race.

> "In the name of the future of the race, motherhood demands recognition as a profession not surpassed in importance in all the activities of life. More and more the responsibility of the future race rests in the hands of women. Woman knows as men never can know the cost of human life. As woman is working out her economic independence she is making a higher status for her natural function as a mother. It behooves every young woman to acquaint herself with the findings of science as they bear upon her work as the creator of the future." (Evangeline W. Young 1914)

A woman encouraged to economic independence would become a better mother, argued Young, as long as she was helped along by the science of reproduction and childrearing. This is just one example of the arguments women physicians used to allay concerns that an increase in independence would result in a decrease in fertility while making the case that improved educational and economic opportunities for women would result in better families. Women's advancement was not a threat to a eugenic future, but a means of achieving it. Who would better

provide these "findings of science" that would teach "the responsibility of the future race" than the white women physician, seeking professional authority and the uplifting of the educated woman?

Coupling Professional Advancement with Eugenics

Women, it was argued, had a special relationship with reproduction and morality that gave them inherent expertise over the organization of reproduction. A breakdown in reproductive responsibility was not necessarily the fault of women, but rather an emergent problem that women (as experts) might be brought in to address. Eugenics, a new expert tool, would equip white women physicians with the specific expertise they needed to direct reproduction to the benefit of the state. Thus white women physicians were able to couple their professional advancement with eugenics.

Women's access to medical education was in a period of transition. Medical schools had proliferated toward the end of the nineteenth century, and by 1890, nearly thirty percent of medical school attendees were women. However, transformations in medical education dealt a blow to women's growing participation in the field. The Flexner Report, published in 1910, was a scathing indictment of the quality of American medical schools. Alleging fraud, improper licensing, and disturbingly unstandardized training for medical students, the report resulted in the closing of many medical schools due to increased training requirements and rising tuitions (Flexner 1910; M. Cooke et al. 2006). Although Flexner himself had advocated equal medical education for women, these school closures and higher costs strongly limited the number of women (as well as poor, Jewish, and Black Americans) able to attend medical school (Joseph et al. 2021).

If motherhood were centered in the fight against "race suicide", women physicians had a case for jurisdictional authority as natural inhabitants of the woman's sphere. As Dr. Kate Hogle, president of the State Society of Medical Women of Iowa remarked in her 1908 address, "The true woman will not go out of her sphere but will take her womanliness with her wherever she is, and whatever she does. Unnatural standards, both on the part of the public and of the medical woman are giving place to more natural ideas." As a later review of her address concluded, "The day that surely comes to those who intelligently wait, has come to the woman physician" (Root 1908, 151).

Early on women physicians had noted their unique abilities to provide vital education in matters of sexual health and hygiene. However, professional institutions and organizations were slower to recognize their potential and had unrealistic expectations of how women physicians might meet this need: "Although animated by the noblest of motives," wrote Dr. Margaret A. Cleaves in 1908, "they say it is a very delicate subject, and by discussion (of sexual physiology) more harm than good is done. 'Not until the ideal woman physician arrives can it be done, and how we shall welcome her! But she will have to be ideal'" (Cleaves 1908, 223). These unrealistically high expectations could only delay this "opportunity for medical women"; as Cleaves argued, "in so far (sic) as young women of the working classes are to be reached, outside of their mothers' teaching, instruction can best come from competent medical women."

The emergence of eugenics provided the kind of emergency that might spur the reluctant employer to bring on female physicians, backed by a new demand for motherhood informed by science rather than pure instinct. By recasting the threat to reproduction, in which women were complicit, as a threat to motherhood, in which women were victims, women physicians were able to position their perspectives as uniquely important to the eugenic effort. In a 1911 article titled "Eugenics or Deficiency", Dr. Isabelle Thompson Smart, a medical examiner of "defective" children for the New York City Department of Education, argued that the woman physician had a special role to play in ensuring eugenic outcomes:

> "How many times is it possible to advise against bringing into the world children who must invariably carry the stigma of serious degeneration, yet how infrequently is such advice given… There is a great wave of indignation sweeping over the country at large at the appalling number of deficient children found each year in our schools, and of special indignation at the fact that so little prevention is being done that is really worthwhile, and it is just here that the physicians who have the right sense of altruism, the right sense of justice and truth can be of the greatest service. Personally, I think there is a big work in this special field for the woman physician."

These women possessed skills Smart found lacking in the general medical population, namely, "the right kind" of altruism, justice, and truth. In addition to these supposed interpersonal qualities possessed by the woman physician, there was also the question of access. Several authors remarked on the unwillingness of young women to share the complete details of their condition with a male physician, preventing accurate diagnosis, or commented on the impropriety of a male physician providing girls an education in sexual hygiene. An article published the following year by Dr. Isabelle Delaney-Barbour discussed an issue of particular concern in her article "Sex Hygiene in Relation to Eugenics": the reproductive care of the new immigrant. "The destination of these girls makes it imperative that something should be done," writes Delaney-Barbour, as "the majority of them go into American homes as a nurse, housemaid, or laundress, handling our children, our food, and our clothing. Many of them have been infected morally and physically while coming to this land of the free." She goes on to describe their eventual destinations in the brothel or the maternity hospital, in poor health and contributing negatively to the population. "There is only one solution to the problem, and that is that every ship carrying such girls should have a woman physician, responsible only to the State" (Delaney-Barbour 1912). The woman physician might, through eugenics, be able to stem the tide of immigrant misbehavior that threatened the future of the nation- but to do so, she must be permitted institutional power and increased training.

In 1913 Dr. Eleanor C. Jones, president of the Alumnae Association of the Woman's Medical College, emphasized another area of demand for women physicians: the institution.

> "I believe the outlook for women physicians was never so bright as the present time. There is a positive demand for their services in public and private institutions for women and children— such as insane hospitals, feeble-minded institutions, and reformatories… there is a crying need for women physicians who can lecture on eugenics, sex-hygiene, and allied subjects in preventive medicine to women's clubs, girls' schools, factories, and social centers." (Jones 1913, 159)

Jones went on to emphasize the possibilities that the field of pediatrics held for the aspiring woman in medicine, as "the skillful care of children" would be "particularly attractive to the average woman". She described the numerous unsolved problems contributing to child and infant mortality, from nutrition to infectious diseases; "to solve these", she argues, "we must first obtain a higher standard of motherhood; but how? We need women physicians as investigators." As Jones concluded, "all signs are pointing to a glorious era for the woman physician, for the time is marked by a progressive humanitarian spirit which necessarily calls on the very qualities of mind and heart that distinguish women." (160)

Increasingly public linking of women physicians to the care of mothers and children was influencing the career paths of the next generation of women medical students. Dr. Jane Blechman wrote later in 1922 of the influence of previous women physicians on public perceptions of their work in pediatrics: "The new attitude of the public is not only to admit this specialization of woman in the diseases of children, but to publicly proclaim it as their rightful domain" (Blechman 1922). The participation of the woman physician in pediatrics represented their commitment to their reproductive duty, indicating their contribution to the national project of race formation even if not directly contributing to it themselves; "it is easily seen that the profession which interests itself in the child offers to the woman physician the full development of her maternal instinct, be she a mother or not, and transforms this instinct into an active and useful power" (Blechman 1922).

The appeal of pediatrics to the woman physician's "maternal instinct" also made them ideal agents of a more publicly accessible form of eugenics: Better Babies and Fitter Families contests (Figure 3.2).

Figure 3.2: “Fitter Families for Future Firesides & Eugenic and Health Exhibit” at the Kansas Free Fair, 1925. Source: American Philosophical Society.



American Philosophical Society. Noncommercial, educational use only.

These contests were popular demonstrations of eugenic education and public engagement at fairs across the United States in the 1910s-1930s and represented a very public engagement of white women physicians with the eugenic project (Lovett 2007). These contests had been devised by women physicians promoting child welfare and the concept of eugenic birth as a human right (Stern 2002). Promoting heredity as pedigree, these contests juxtaposed the evaluation of human babies and families with the pageantry of animal breeding and awarded certificates and cash prizes to the highest-scoring participants. In a 1911 account of one such contest, three women physicians served as judges, with four more giving “addresses on hygiene” in conjunction with the event (“A Biological Baby Exhibit” 1911). Mothers submitted their infants and young children for evaluation in categories such as “height, weight, circumference of chest and abdomen, quality of skin and fat, quality of muscles, and shape and size of heads”. Mental acuity was measured with an attention test, and disposition on instinct. These public connections of women physicians with the eugenic mission increased their demand within medicine and developed inroads to influence previously difficult-to-reach populations. An evaluation of these contests ten years later noted their continued popularity, as would-be participants were turned

away for lack of time, and their lasting influence: “It is eugenics brought home to the individual, seeking rather than sought, a practical application of a heretofore rather remote abstract philosophy. If not to the medical profession, who shall the public turn for instruction and guidance in community health interests?” (Earnest 1922).

Thus women physicians were able to draw on their dual identities as women (undistinguished from mothers) and physicians to stake a claim on eugenic expertise. First, women physicians made the case that women’s higher education would enable a more eugenic motherhood that ultimately aligned with state goals for the population. They also drew on constructions of gender to defend against attacks on women’s growing presence in the medical profession by arguing that women contributed innate, gender-based expertise to the eugenic project and had unique access to the sites where eugenics might be most judiciously applied. In bringing together professional and gender identities, white women physicians constructed new inroads for eugenic expertise.

Conclusion

At the turn of the century white women physicians gained new prominence in the medical field through increased educational opportunities, but concerns about declining population quality, in combination with unease over changing gender dynamics and transformations in medical education, challenged their credibility as medical authorities. The future of white America, argued many politicians and social reformers, was threatened by unchecked immigration and a growing class of dependents on the state. In this period before, during, and after the First World War, the makeup of populations became one of the key metrics in determining the strength of a nation, with fertility calculations dominating many discourses about the future of geopolitics. Eugenics emerged during this period as a scientific intervention to address these concerns, making it a strategic point of engagement for white women physicians seeking to capitalize on their identities as a form of expertise.

Focusing on how white women physicians gained authority over new scientific motherhood and coupled their professional advancement with eugenics, I show how actors use identity to generate ownership over emerging expertise. These strategies allowed white women physicians to defend against challenges to their advancement within the profession of medicine by positing their unique perspective as women and as medical experts as a eugenic intervention in itself. In this way, white women physicians designated themselves as authorities over the governance of reproduction, complicating theories of disease constituency and the adjudication of professional expertise.

The effects of this strategy had wide-ranging effects on the development of reproductive frameworks. White women physicians cast themselves as representatives of progressive maternalism, upper-class conduits of maternal health information, and spokeswomen of the reproductive experience (Michel 2013; Ziegler 2008). They leveraged their “expertise” on reproduction, motherhood, and the family for increased political power in these subjects, most successfully when they expressed alignment with predominating discourses around nation-making and race suicide. In combination with previous decades of shifting demands on the family and home, this positioned the educated professional woman on precarious political terrain while creating a new position of power for the expert able to address the danger of falling

fertility. This in turn shaped approaches to surveilling and administering to populations that did not conform to ideals of race, ability, and cooperation with the national project.

However, there were significant consequences for this increased power. The long-term effect of linking women physicians to the medical project of reproduction and childrearing kept them from gaining authority in other areas of medicine which might have more directly challenged the hegemony of male physicians. Another more pessimistic view is that the footwork of reproductive governance was to some degree willingly given over to women physicians with the knowledge that women would be far more effective at policing other women than their male counterparts. As my data show, a part of women physicians' argument that they could best address issues of reproduction hinged on their access to women's spaces and the trust they could cultivate with female patients. They also drew on their identities as white women to signal their participation in the project of racial exclusion and create a new ideal of motherhood and womanhood that conformed to racist and ableist ideals. Finally, the historical domination of women's medical spaces by white women engendered lasting institutional approaches to motherhood that prioritized and centered white women's reproductive experiences at the expense of women of color, all while subjecting women who did not conform to ideals of motherhood to increased surveillance and scrutiny. Recent scholarship has linked these projects to ongoing legacies of racism in housing (Bartram 2023), prenatal and postnatal care (Prather et al. 2018; Scott, Britton, and McLemore 2019), and the development and deployment of social services (Williams-Butler 2023).

Identity no doubt serves to provide some expertise on the experience of life. Yet this process through which expertise is scientifically claimed and politically leveraged requires more extensive analysis to distinguish between in-group practices of identity-based knowledge and external strategies to concretize group authority and autonomy. This case exists at the intersection of patient and expert, creating a new paradigm through which identity and authority might be analyzed. It also provides insight into the particular construction of reproductive authority and oversight by white women, whose monopoly over first-wave feminist narratives has obscured the damage they caused and the harmful projects in which they participated.

CONCLUSION

Although this dissertation examines eugenics as a historical phenomenon, its reach was not limited to the years presented here. Eugenic logics (such as the belief in an ideal physical and mental standard to which populations and individuals should conform) and interventions (like nonconsensual sterilizations) still proliferate in contemporary science and medicine (Ghandakly and Fabi 2021; Devlieger et al. 2016). As I described in the introduction, the Nuremberg trials attempted to signify a clean break between the evils of eugenics in the Third Reich (conducted, supposedly, in total isolation from other sciences) and continued scientific interest in heredity. But as many scholars have attested, eugenics extended through the end of the 20th century and its influence persists in beliefs about population control and the construction of normalcy (Obasogie and Darnovsky 2018; Williams 2017; Wiener, Ribeiro, and Warner 2009; Davis 2016).

Today, one of the most direct lines from eugenics to contemporary medicine is through genetic interventions (Comfort 2012; Dorothy E. Roberts 2009; Benjamin 2016). Promises that germline editing will create a future humanity free of disease quickly become promises to create a population devoid of difference. In the more immediate term, these attempts to intervene at the level of the human genome are proceeding without serious engagement with their possible ramifications or sufficient international discussion about how best to regulate them (Baylis 2019; Coller 2019; Hasson and Darnovsky 2020; Howard et al. 2018). Even before genetic editing becomes mainstream, as seems likely, genetic screening is becoming increasingly commonplace. Bioethicist Hank Greely cautions against blindly accepting the use of NIPD (non-invasive prenatal genetic diagnosis) without critically considering its implications for consent, intervention, and reproduction:

> "Most importantly, we need to start conversations, between all those concerned, about the limits, if any, to place on this powerful technology. Whether we view NIPD gladly as a way to reduce human suffering, warily as a step towards a eugenic dystopia, or as a mix of both, we should agree that the better we prepare, the more likely we are to avoid the worst misuses of this potentially transformative technology." (Greely 2011)

Greely is correct to warn about the dangers of an impending "eugenic dystopia." While there is cautioning against the widespread application of designing "better" human beings through genetic editing, there are those who argue that this new arm of science presents opportunities for human enhancements that outweigh the risks and ethical challenges they present (Sparrow 2011; Savulescu 2001; Savulescu, Kahane, and ter Meulen 2014; Koch 2010). The ongoing centering of genes as the true indicator of human potential has been consistent since eugenics' initial popularity. As Barton W. Currie, then-editor of the *Ladies Home Journal*, wrote in his 1921 editorial "Human Junk":

> "Heredity is at once our greatest hope and our most relentless leveler, for it is above all the great conservator— conservator of all that is bad as well as of all that is good… Like brake upon the wheel, heredity holds us powerfully from slipping back when things are going badly, but there is also a drag against the rapid progress we might otherwise make when conditions are favorable for progress."(Currie 1921, 4)

As the history of eugenics shows, positive and negative incitements to ideal reproduction are inextricable from one another. Encouraging human enhancement is naturally accompanied by the discouraging of any trait deemed, at the time of its interpretation, to result in a lesser quality of life. These traits- which are increasingly constructed as disease constituencies- are subject to various flexible diagnostic criteria that convert differences into illness (Navon and Eyal 2016; Lakoff 2005). The flexibility of disease constituencies again lends itself to the extension of surveillance and control of reproduction.

This surveillance and control are increasingly enabled by the growth of genetic technologies that offer new access to the reproductive process. Sperm and eggs can be screened before the creation of an embryo, which can then be tested for the viability of a "good birth" (Amor et al. 2018; Xu et al. 2016). Then during gestation, the fetus might be screened again, depending on cultural norms and resources available to the pregnant person (Getz and Kirkengen 2003; Greely 2011). Newborns are screened again, sending parents on a diagnostic odyssey in the event of any slightly unusual result (Raz, Amano, and Timmermans 2018). When a fetus is screened, doctors are looking for abnormalities, itself a deeply problematic concept that presupposes the existence of a normal standard (Davis 2016)(Timmermans and Buchbinder 2012)(Davis 2016). The existence of such standards allows for divergence to be measured against it, uncritically categorizing people with standards that, like eugenics, are informed by racism, colonialism, and capitalism. By weaponizing these classifications of normalcy, eugenics has been historically used to prevent and punish differences, both in appearance and ability. For example, research suggests that the widespread implementation of fetal screenings has resulted in a significant reduction in babies born with Down Syndrome; after receiving a diagnosis, many expecting parents opted for selective termination (de Graaf, Buckley, and Skotko 2021). This is just one of the ways in which increased oversight over the reproductive process, combined with contemporary notions about quality of life, continue to organize populations. Thus eugenics and its descendants continue to shape contemporary scientific notions of race, ability, and the duty of medicine to intervene in human reproduction and the valuation of future life.

This work operates at the crucial juncture of past and future eugenics. While the unique conditions that allowed eugenics to proliferate are irreproducible, the fears that drove the creation of the eugenic emergency persist. Recent elections have been characterized by statements that capitalize on racist and xenophobic anxieties about changing national demographics, highlighting uneven fertility rates across groups and rising immigration as indicators of an attack on whiteness (Astor 2024; Gonzales and Delgado 2006; Albiston et al. 2020). Even more alarmingly, some on the alt-right (including the mass shooter in Buffalo) have drawn on studies in genetics to support their arguments that non-white people are contributing to racial and national degeneration (Stern 2019; Molteni, n.d.).

However, movements for disability and reproductive justice are operating at the forefront of harm reduction. Reparations have been secured for various groups of individuals sterilized without their consent, while activists and whistleblowers draw public attention to ongoing violations of reproductive rights (State of California, 2021; Stern et al. 2017; Mennel 2014; Manian, 2020; Ghandakly and Fabi 2021). There have also been tremendous strides in the inclusivity of medicine and the recognition of past harms, as well as safeguards in scientific

research and experimentation, that would prevent the horrors of early twentieth-century eugenics from occurring again. But as the saying goes, "History doesn't repeat itself, but it does rhyme." In organizing the enactment of eugenics through discrete theories rather than explicit markers, I hope to assemble tools with which future harms might be recognized as such before they occur. This work also comments on the complex and often murky process of knowledge creation; it is my hope that the reader can recognize in these accounts the struggle to improve the world and do good through the expansion of expertise, and recognize just as keenly that this struggle is impossible to disentangle from the political projects of our times.

Analyzing Eugenics as a Case of Expertise

This dissertation examines the case of eugenics in the first decades of the twentieth century to explore how a "new science" was negotiated through processes of legitimization, dissent, and professional authority. Using archival materials including medical journals, conference proceedings, newspapers, and magazine articles published between 1907 and 1927, this research builds on studies of American eugenics and its entanglement with science and medicine (Comfort 2006; Black 2012; Hammonds and Herzig 2008; Spiegel 2019). Each of the three chapters provides new insight into the agents, institutions, and structures that organized the legitimization of eugenics and allowed for its proliferation in early 20th-century America. Here I briefly summarize each chapter and its findings before presenting an account of contemporary eugenics and how this research might inform future challenges to its normalization.

The first chapter shows how medicine legitimizes unsettled science using the case of developing eugenic science. I draw on three major medical journals published between 1907 and 1927 to trace physicians' engagement with eugenic hypotheses, their original research pertaining to eugenics, and the growth of eugenics as an explanatory medical factor. I begin by demonstrating the professional challenge eugenics presented to the rapidly transforming field of medicine. Next, I show how physicians defined and contextualized eugenics as both a historical norm and a new science, reinforcing it as part of their domain while protecting their skepticism. Ultimately I present a new concept that I call "expertise laundering": by obscuring the origins of eugenic "knowledge" the legitimacy of medical intervention gained interdisciplinary credibility. This chapter demonstrates the dynamic interplay between networks of expertise and professions under threat and builds on studies of how expertise is assembled (Eyal 2011; Abbott 2014; Pryma 2022). It also highlights how analysis of historical expertise formation might structure future investigations into embattled professions. Future research on this topic should investigate how expertise laundering functions in the development of contemporary technological advances that afford their collaborators increased professional authority and resources in exchange for legitimization.

The second chapter reckoned with objections to the development of this eugenic expertise. Drawing on the same three medical journals during the same years as the first chapter, I analyze expressions of dissent as they emerged alongside the legitimization of eugenics. Historical accounts of eugenics often present the eugenics movement as monolithic, made up of misguided social reformers and enterprising politicians looking to solve contemporary population "problems" with pseudoscientific interventions. However, these records of rejection of the eugenic hypothesis pose a challenge to this account: how does dissent over developing sciences

shape research and intervention? In this article, I organize rejections of eugenic hypotheses according to motivation and trace the reactions and responses to such expressions. I find that opponents of eugenic interventions differently drew on various frameworks to dispute the legitimacy of eugenic logic, cautioning against too rapidly employing eugenic strategies to address the numerous social challenges that emerged during this period. Finally, I suggest that the rejection of positive eugenics as a reasonable intervention that resulted in negative eugenics- through sterilization and segregation- becoming the favored eugenic approach. This work demonstrates how conflicting views on the incorporation of new sciences into existing institutional frameworks can shape the direction these interventions take.

In the third chapter, I extended these analyses of expertise to a unique group of stakeholders in the development of eugenics: white women physicians. How did these actors use identity to generate ownership over eugenic interventions and the power that came with them? Here I argue that white women physicians were able to reframe critiques of women's increasing independence as supporting a unique, identity-based alignment with the eugenic project. By analyzing the discussion of eugenics in the *Woman's Medical Journal*, the *Ladies Home Journal*, and newspapers between 1907 and 1922, I show how these physicians adopted tactics to position themselves and their causes not only in accordance with eugenic values but as authoritative arbiters of eugenic intervention and expertise. I theorize the construction of women as a disease constituency with their reproductive capabilities uniquely linked to the eugenic project of population building; white women physicians, I argue, utilized this framing to link their professional advancement with demand for increased eugenic interventions. The resulting relationship between white women physicians and authority over reproduction shaped the rise of women in medicine and the intrusion of statecraft into reproduction.

Together, these three chapters offer a perspective on eugenics that goes beyond the condemnation of the horrors that it historically enacted and offers a theory of unsettled sciences targeted at future prevention and a more complete accounting of disciplinary responsibility. In reckoning with the complexity of expertise formation and the forces and mechanisms that drive legitimization, this work contributes to a more complete account of eugenic legacies.

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