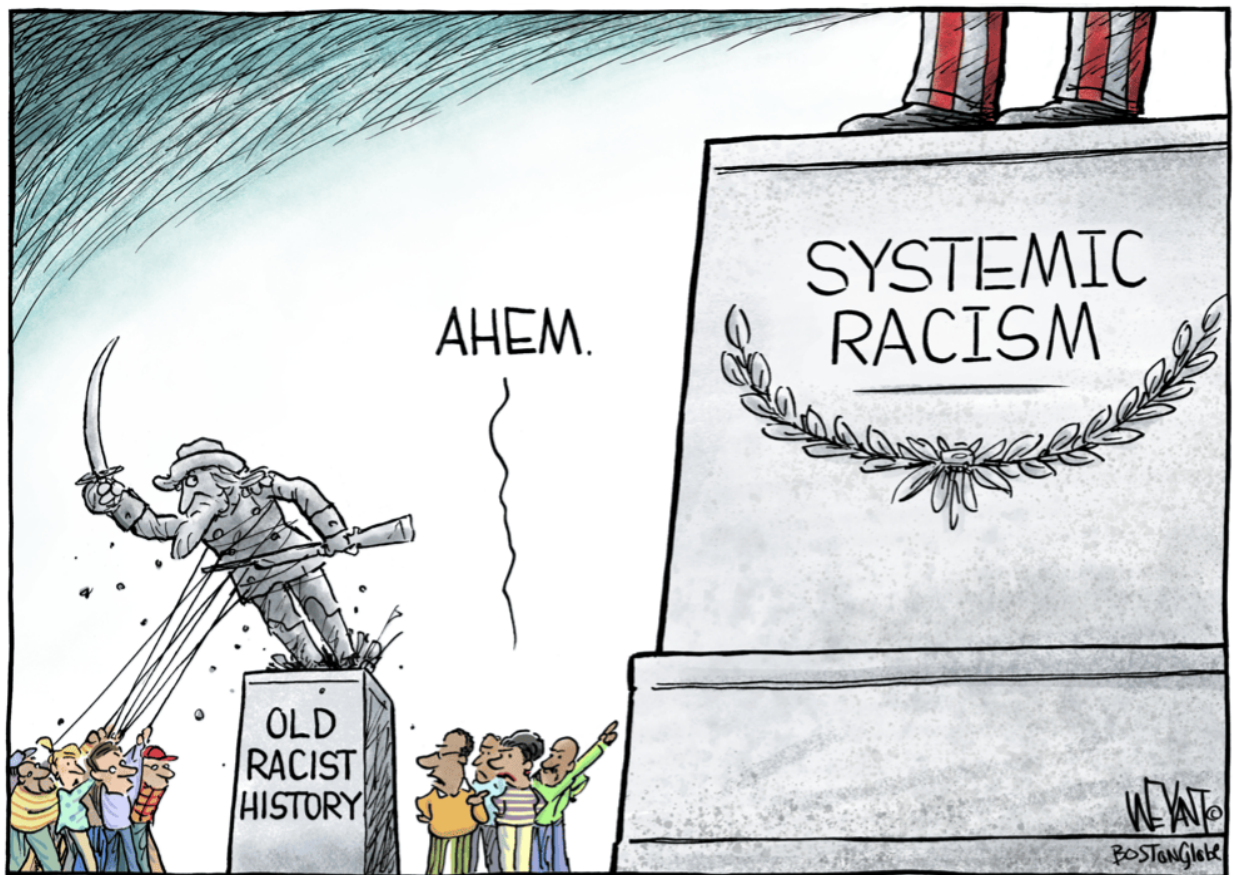


A People's History of Structural Racism in Academia: From A(dministration of Justice) to Z(ooology)

An Open Educational Project Created by the People for the People
Susan Rahman, Prateek Sunder, and Dahmitra Jackson



Cover art courtesy of @Christopher Weyant, Boston Globe. Boston Globe 5-17-20 © 2020 by Christopher Weyant is licensed under [CC BY-ND 4.0](https://creativecommons.org/licenses/by-nd/4.0/)

A People's History of Structural Racism in Academia: From A(dministration of Justice) to Z(oology) © 2022 by Susan Rahman is licensed under CC BY 4.0. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>

The contents of this book were developed under an Open Textbooks Pilot grant from the Fund for the Improvement of Postsecondary Education (FIPSE), U.S. Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

Table of Contents

A People's History of Structural Racism in Academia: From A(dministration of Justice) to Z(ooology)	1
Table of Contents	3
Introduction	6
A Tipping Point	12
A Look at Structural Racism by Discipline	15
Administration of Justice	15
Anthropology	18
Architecture	24
Art-Dance	28
Art-Drama	31
Art-Visual	38
Art History	45
Astronomy	49
Biology	51
Business	56
Career Counseling	58
Career Technology Education (CTE)	61
CTE-Fire Technology	62
CTE-Graphic Design	65
CTE-Multimedia Studies	69

Chemistry	73
Communication/Film/Speech	76
Computer Science	80
Early Childhood Education	81
Economics	89
Engineering	93
English	98
English as a Second Language	103
Environmental Science	106
Ethnic Studies	112
Geography	115
Geology	118
Health Education	123
History	128
Human Sexuality	132
Languages	138
Library and Information Science	143
Mathematics	148
Mathematics-Statistics	150
Music	153
Music/Musical Performance/ers	157
Philosophy	161
Physics	163

Physics-Astrophysics	166
Political Science	171
Psychology	177
Sociology	184
Zoology	189
Conclusion	192
Acknowledgements	205
Reflections from the Authors	206
Dahmitra Jackson	206
Prateek Sunder	208
Susan Rahman	210
A List of Resources For Further Exploration	215
References	217

Introduction

*"Not everything that is faced can be changed, but nothing
can be changed until it is faced"*

- James Baldwin

Higher education is a place where many of us call home. It has opened our minds, given us valuable life lessons, led to pathways that have been transformative, and given us hope for a better tomorrow. It is truly a place where magic happens. It is also a product of the larger social structure and as such rife with a shameful past and problematic present that cannot go unnamed. Structural racism has shaped all social institutions in the creation of these United States. A legacy of disparity that has existed since its founding must be acknowledged in order to progress towards dismantling structures that have perpetuated ongoing discrimination and inequality. Decades of historical whitewashing and pretending lived opportunities are equal for everyone has led to a boiling point which has once again exposed the massive inequalities we face as a culture. Although the criminalization and targeting of young Black men are definitely not new, with the increase in social media, the ongoing police murders of unarmed Black people in the US, coupled with a global pandemic, have seemingly ignited a new flame of anger in some individuals and a resolve to create a more perfect union.

Higher Education was built to serve wealthy white men (Thelin, et al. 2021). It was not originally intended to educate the masses nor to create a level playing field with upward social mobility for everyone. Structural racism in the form of Anti-literacy laws like the Alabama Slave Code of 1833 denied Black Americans access to reading and writing (Literacy as Freedom, n.d.). Despite this, enslaved Africans taught themselves to read and write in the dark of night, all the while knowing if they were caught by their white enslavers there would be violent repercussions including death and dismemberment (Cornelius, 1983).

This unfortunate truth is something we do not often discuss in the halls of higher education. Instead, we imagine that we have simply moved on from or are above issues surrounding racial and gender biases and that we are the good guys so to speak. While these efforts may be well intentioned, we are in desperate need of some truth telling. The goal of this Open Educational Resource (OER) is to briefly introduce the reader to the role structural racism plays in each of the academic disciplines discussed throughout it, with the caveat that there is much more to tell. The goal of this book is not to tell the whole story, merely to invite further investigation, as a primer is intended to do. It is also not meant to serve as an introduction to each discipline. There have been a multitude of books dedicated to that purpose and we imagine as subject area experts that would be the role of the reader. We will briefly define each discipline and move into a sampling of the impact structural racism has had on that specific area. We hope the reader will take it upon themselves in a true OER philosophical approach to

build on, remix and reuse this content to serve their educational needs (Butcher, 2011). This is by no means meant to be all encompassing as we cannot claim that authority, nor is there space here to do so. While much of this book is historical, it also looks at present day effects and sadly, incidents of individual and structural racism that are still happening today. In some cases we also highlight great thinkers of color, LGBTQIA+, or women who were overlooked, or ways in which individual academic fields are confronting this historical legacy in hopes of changing it. Unfortunately, for now it seems that structural racism in academia will continue to occur long after this book is published. However, we hope that with this potentially new knowledge, a push for policy changes, and a recognition of the value of different perspectives and ways of thinking a truly inclusive higher educational system in the United States can soon be realized. As this is an Open Educational Resource (OER) it is available free of charge and the reader is welcome to reuse, retain, revise, remix and redistribute as they see fit. We hope this primer serves as an opportunity to take a deeper dive into various academic disciplines and explore how higher education excluded some groups and individuals who sought an opportunity to be included.

As the reader examines their respective sections, certain content and information may seem like common knowledge depending on each individual's educational background. However, we believe that knowing the historical development of your chosen field and its failure to be inclusive matters. Placing ourselves as individuals into the field of study can also

involve critical self-reflection, of ourselves, our respective fields, and the ways in which exclusion plays out. For educators, we invite you to ask yourself, if the role of structural racism in your field of expertise dictates or informs the information and content you provide to your students. Do they understand the implications of an unlevel playing field? If the answer is no, we challenge you to reflect on why it is omitted from what is otherwise most likely an outstanding course. We believe that students might appreciate this level of transparency, and the opportunity for innovation within academic courses or classrooms is only strengthened by honest discourse. Great social change, technological discoveries, and policy shifts are often born in the classroom. “The classroom remains the most radical space of possibility in the academy” (hooks, 1994,12). The role of the teacher in the classroom and beyond can be one that excites and encourages critical thinking and a love of learning.

If it is hard to conceptualize how this information may be inserted into your course or if you are questioning whether or not you are capable of doing a good job teaching it, please reach out to people on your campus who are doing diversity, equity and inclusion (DEI) work. There are various resources dedicated to helping faculty teach difficult topics that can help create an effective pedagogical model.

As previously mentioned, this reader is being put together during a time of great social upheaval. We are in the midst of a global pandemic the likes of which most people currently living have not experienced. We have been required to adjust much of our lives and the

suffering and ever changing landscape has not left anyone untouched. However, people of color have been especially hit hard as the pandemic has further highlighted the structural racism in areas like healthcare, politics, and education (Maxwell, & Solomon, 2020). Structural racism goes beyond individual prejudice. As defined by the Aspen Institute, structural racism is:

a system in which public policies, institutional practices, cultural representations, and other norms work in various, often reinforcing ways to perpetuate racial group inequity. It identifies dimensions of our history and culture that have allowed privileges associated with “whiteness” and disadvantages associated with “color” to endure and adapt over time. Structural racism is not something that a few people or institutions choose to practice. Instead it has been a feature of the social, economic and political systems in which we all exist (The Aspen Institute, 2016).

As a feature of social structure, racism at the structural level reveals itself in a variety of ways. Recent police murders of Black men, women and children became highly visible to many White Americans who, for years, did not consider the ways in which law enforcement’s underlying racist procedures disproportionately killed Black and Brown people, and they were forced to examine the realities of the system. How is it that police can kill Black people so freely and not be held accountable? What is inherent in the system that allows for this genocide to go unchecked? How do systemic policies in policing permit such use of force? How does racism play a role? If we can answer questions like this with an eye to right what has been so

devastatingly wrong, we can start to unpack and examine how we as a society got to this point and what, if anything can be done (Smelser, Wilson, & Mitchel, 2011).

Institutions of higher education can serve as a place for these types of dialogues to take place with actionable outcomes. First we must acknowledge and address our own hidden biases within the walls of the academy. Transgressing status quo conventions in academia is a foundational requisite of an effective, and equitable pedagogy. By uncovering the ways in which structural racism is deeply embedded in higher education and learning ways to create a more equitable institution, the potential for healing, innovation and change is possible. As educators, we are charged with teaching the next generation of thinkers, to help them become self-actualized members of society. What we have the potential to do goes far beyond the walls of the academy. "Professors who embrace the challenge of self-actualization will be better able to create pedagogical practices that engage students, providing them with ways of knowing that enhance their capacity to live fully and deeply" (hooks, 1994 p 22).

A Tipping Point

The murder of George Floyd in May of 2020 served as a perfect storm. Highly visible police actions that were clearly racially motivated, excessively forceful, and criminal, along with a populace forced to shelter in place often with more time on their hands to follow popular culture and react to it. The reaction was overwhelming outrage. People were moved to speak out and demand justice against a legal system steeped in systemic racism. Cries were heard to defund the police, demolish the broken carceral system, and recognize that Black lives do matter in the hopes of creating a nation where all people have the same rights, protection under the law, and access to opportunities.

In this time where much of the world has acknowledged that structural racism provides advantages to some and disadvantages to others, we have an opportunity to contribute to this ongoing conversation. We are working to share examples of how structural racism shapes the function and form of higher education and actively take steps to build equity in our hallowed halls. In a 2021 interview conducted by Sarah Brown in the *Chronicles of Higher Education*, Professor of History at Georgetown University, Marcia Chatelain describes the unique positionality of the university and its role:

The university can be two things at the same time. First, it is a place in which leaders have to be held accountable for their decisions by a larger public — not just students, parents, and donors, but the larger public that often subsidizes the university and feels the consequences of its

choices. Second, universities are uniquely situated because of their pursuit of knowledge. So what role do they play in terms of racial justice? They should be held accountable in the same ways that we hold government entities, banks, and private businesses accountable. Their responsibilities to repair are vast, because they've been able to exploit certain types of inequality in our society. We can't just be observers, saying, "There are all these movements happening, that's interesting or novel." We are always indicted in these cycles of history (Chatelain, 2021).

However, like many social movements of the past, the urgency and attention wanes with the next attention grabbing headline. As prevalent the need for structural change is in many minds throughout America, we have begun to see diminishing support in the culture at large for the Black Lives Matter (BLM) movement and a desire to "get back to normal." In fact, support for BLM is lower now than it was prior to the 2020 murder of George Floyd (Chudy, & Jefferson, 2021). So if this book feels like an urgent call for radical change, that's because it is.

There have been multiple moments in history where it felt as if real change would come, only to find that momentum had died off and white supremacy and patriarchal social structures had once again prevailed. Humanity only has a finite amount of time on this planet. We are being called by nature to be better stewards of the Earth if we wish to make our time here habitable. But holistically, what does that look like? What are the changes we wish to see and who will benefit from them? Once we reckon with our past, we can start to put those pieces in place in order to make academia a place where we all have a comfortable seat at the table.

A Look at Structural Racism by Discipline

Administration of Justice

Studying Administration of Justice can lead to a career in law, law enforcement, or corrections. Students at the college where this book was written who are considering this field are asked, “Are you committed to upholding justice?” Administration of Justice includes how laws and the legal system help provide public safety and maintain order (College of Marin, n.d.). Due to the problematic history of law enforcement, this field is prone to be tainted by the structural racism that was built into the original goal of policing in the United States. This field is also known as Criminal Justice or Criminology, both of which lead students into fields that deal with issues connected to the legal system.

The first criminal justice program was established at the University of California, Berkeley, by Berkeley Police Chief August Vollmer, in 1916. In the 1920s, criminal justice emerged as an academic discipline. The criminal justice system includes three distinct components: (1) Law enforcement; (2) The Judiciary; and (3) Corrections. All of these parts operate independently as well as together under the Rule of Law (City of Berkeley police, n.d.).

To study this system effectively, a student must know the racialized history of the creation of the United States as a decreed democracy. Without this knowledge, the tasks surrounding the administration of justice cannot be carried out effectively. The history of policing in the United States developed unique characteristics specific to the institution of chattel slavery via the

creation of rules and punishments to maintain racial segregation. Its roots can be traced to some of the earliest forms of white supremacy, in the enforcement of rules and punishments associated with slavery by the use of slave patrols (Lepore, 2020). During the mid 1800s to the early 1900s, police were white men armed with guns who used their power to kill Blacks, Asians, indigenous Indians and Mexicans in the name of their laws (Lepore, 2020). Policing as an institution was created to maintain the structural order of white supremacy and some may argue that nothing much has changed since its inception. The use of the law as a tool of oppression applies to the other fields under which Administration of Justices falls as well, the legal system and corrections. In her book, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness*, Michelle Alexander, 2010 discusses the ways in which the system is designed to trap people of color in a cycle of legal battles that strips their ability to participate fully in the democratic system their white counterparts thrive in. Our legal system is historically rooted in these slave patrols and the creation of this nation was built in the enforcement of this hierarchy. As most versions of American history point out, slavery formally ended just over one hundred and fifty years ago except as stated in the Thirteenth Amendment, as punishment for crime. We then moved into the Jim Crow era which purported *separate but equal* which it never was. After the Civil Rights movements, Professor Alexander identifies the New Jim Crow era as mass incarceration, yet another iteration of the Administration of Justice (Alexander, 2010). As students flocked to these fields that promised safety for their communities and a

good paying job, they often failed to learn the racialized history of the field. Alexander's work became a prominent read for those studying the sociological branch of criminology and further discussions of this information can be found in certain fields within Administration of Justice, yet there still remains a deep financial tie to the roots of government funded U.S. policing once known as slave patrols. "Academic criminology became more sociological while applied criminology became more administrative. Criminal justice university programs increasingly grew by the middle 1960s because of federal monies from the Law Enforcement Assistance Administration" (Morn, 1980). Understanding this backdrop allows us to identify ways in which programs centered around public safety are also tied to upholding racial bias.

A glance at U.S. incarceration rates as compared to the U.S. population at large demonstrates that there is a disproportionate amount of Black and Brown people incarcerated and the lasting effects of a criminal record make pursuit of the American dream nearly impossible. As a tool for oppression, the law serves to sustain racial hierarchies. "No area in American life is more volatile than the point at which charges of racial injustice intersect with the administration of criminal law" (Smelser, Wilson, & Mitchell, 2001).

Anthropology

Anthropology is defined as the “study of humanity,” (Östör, 1998). It is commonly concerned with aspects such as the biological history and evolution of human beings and their ancestors, archeology and fossil records, as well as the societies, cultures, and traditions of humans and their ancestors. When viewing, researching, and analyzing different cultures and social norms, it is important to do so with an open mind and an effort to remain objective. Core concepts learned in introductory courses are *Ethnocentrism*, a belief that one’s own culture is superior, and a judgment of other cultures in comparison to the anthropologist’s own culture (Ethnocentrism, nd). and *Cultural Relativism* which views the study of culture through its respective lens and on its own terms, rather than making judgements or using the standards of one’s own culture (Cultural Relativism, nd). Both help those studying anthropology consider how a researcher's cultural beliefs can shape how they undertake their study with some recommendations about the importance of understanding culture with greater context. Unfortunately, this expectation often falls short and Anthropologists may fall victim to their own ethnocentrism. Since academia is a Western dominated field, ethnocentrism causes other non-European societies and cultures to be viewed through a white, Eurocentric lens. Those other cultures are viewed as foreign, strange, or at their worst, subhuman.

In its nascent stages, the field of Cultural Anthropology frequently viewed the world through differences, and anthropologists were always North American or European in these

early years of the discipline. Societies that did not mimic patterns of modernization like Western Europe and the United States were commonly labeled with terms such as tribal, traditional, preliterate, savage, or primitive (Mercier, 1999). These labels were applied frequently to small, *nonwhite* populations, and allowed for the justification of the dehumanization of countless peoples, which led to further atrocities and genocides.

However, as time has progressed, society as a whole tends to view itself as more accepting and open. Anthropology prides itself as a field that practices Cultural Relativism. It is the premise that all cultures are equal and need to be viewed through their own unique perspective (Lewis, 2020). However, when accounting for factors such as Implicit Bias, this viewpoint is virtually impossible. As human beings will have unconscious ideas without being able to see that they help influence and guide our perspectives and studies. Furthermore, ethnocentric beliefs, prejudices and biases that are not uncovered and acknowledged by researchers appear to simplify the nuanced and intricate differences between cultures. This often leads to microaggressions and other indignations through ignorance and a lack of social and cultural awareness.

This reader highlights in various sections how the disregard for BIPOC bodies on the part of academics has allowed for study, interrogation, and disregard of Black and Brown lives. A most grievous example of racism in the field is the study and use of Black, Indigenous, People of Color's (BIPOC) bones without consent in Physical Anthropology courses. As an example, in

2021 both Princeton University and University of Pennsylvania were found to be using bones from a 1985 police fire bomb of a home that killed a Black child. These bones were used as material for courses at both institutions but these bones were essentially stolen from police property and used without consent from the family of the victim. University of Pennsylvania Anthropologist, Alan Mann was asked to help with the police identify remains from the 1985 fire and kept the bones for use in his courses and for some at Princeton University (Pilkington, 2021). Princeton University has since issued this apology:

As anthropologists we acknowledge that American physical anthropology began as a racist science marked by support for, and participation in, eugenics. It defended slavery, played a role in supporting restrictive immigration laws, and was used to justify segregation, oppression and violence in the USA and beyond," the department said in a statement. Physical anthropology has used, abused and disrespected bodies, bones and lives of indigenous and racialized communities under the guise of research and scholarship. We have a long way to go toward ensuring anthropology bends towards justice (Princeton University, 2021).

This type of cultural appropriation of human remains exemplifies the ways in which many anthropologists throughout history saw BIPOC as specimens to be examined and studied rather than seeing their humanity and treating them with dignity and respect.

Another example of how structural racism lives within Anthropology occurred in 2018, at the American Ethnological Society Conference. Keynote speaker Sherry Ortner had previously focused her work on questions of class, specifically among her predominantly white, Jewish

peers in Newark, New Jersey (Parikh, 2018). In this presentation, Ortner presented her findings after studying police violence. Her research also led her to the idea of *Purity and Danger*, a concept first introduced by anthropologist Mary Douglas in her 1966 book of the same title. Per this concept, Douglas identifies a concern for purity lies at the heart of every society and that in white western societies, cis-gendered, able bodied, heterosexual white men are the template for purity in the United States, and all who deviate are impure *others* (Douglas, 1966, p.23). Ortner argued that a primarily white, primarily male police force perpetuates a law enforcement system that uses violence and abuse on women, people of color, LGBTQ people and people with disabilities to uphold the binary system of pure and impure described by Douglas. This allows for the oppression and mistreatment of those seen as *impure*.

Ortner primarily cited Douglas' work, as well as Didier Fassin's research on policing in urban France. However, when presenting a lecture on policing, race, gender, and patriarchy, Ortner failed to cite a single black scholar, nor did she cite any intersectional feminist research or literature. Her presentation even included the use of racial slurs and epithets while citing documents. When asked about how class may have a role to play, Ortner faltered and stumbled, stating that the possibilities were overwhelming her (Parikh, 2018).

Historically, Anthropology viewed race as a biological construct. Until the 1900's, research was conducted through a white supremacist lens, and racial hierarchies were the norm. This began to transition when Franz Boas, a German American professor, began to teach

and argue that race is a social construct, rather a biological one. Boas is commonly known as the father of modern Anthropology and Cultural Relativism (NPR, 2019). Despite Boas' efforts in the 1900's, ethnocentrism still runs rampant in Anthropology, as displayed by Ortner. Ortner continued using racial epithets throughout her presentation. Her choice of words and delivery often shocked and disturbed younger scholars, while older academics sat largely unfazed. Ortner was bookended by two speakers of color, and was followed by a roundtable discussion on social justice in anthropology. The discussion panel was focused on gender and racial inequality in education and strategies for "pursuing social justices in workplaces and research"(Parikh, 2018). The final keynote concluded with a speaker who quoted W. E. B. Du Bois, who stated, "how does it feel to be a problem?" (Parikh, 2018).

Within the field of Anthropology, being concerned with differences between varying societies and cultures may be the starting off point, but there should also be a commitment to racial justice. Anthropology (and all disciplines for that matter), can shift focus to include an anti-racist lens as a means to strengthen their work. Rather than focus on *free speech* as a justification for offensive comments, a speaker may choose to focus on ethical and equitable speech. Rather than try to provoke students or audiences with provocative language and ideas, one can opt to be a purposeful educator. Institutions can seek to represent scholars of color as well as other underrepresented demographics in their hiring practices, and hold one another accountable for problematic behaviors and actions. Remember that in spite of the best

intentions, there is still potential for a negative impact, and good intentions do not negate the effects of problematic actions.

Architecture

Architecture is a combination of art and science, combining the imagination and creativity of the human mind with the science and mathematics needed to create secure and stable structures. Through studying architecture, one may expect to work in fields such as urban planning, interior or spatial design, architecture, or other occupations related to the built environment. In one way or another an architect works with the foundations and structures people interact with on a daily basis (Collier, 2021). There are always cultural connotations involved with the architecture of a given society, civilization, and time period. *Britannica* differentiates between architecture and other similar fields such as construction, by comparing architecture to an art form of designing and building, rather than the skills required for construction. Architecture can also serve practical utility, providing shelter and other use, while also being aesthetically appealing, and an expression of the architect and their creative imagination (Collins, nd). The architecture and design of a society will vary based on environmental factors, such as climate, and weather, while also reflecting the history and traditions of the civilization. New innovations will frequently be included or reflected, and architecture serves as a lasting monument to the past.

In 2021, the New York Museum of Modern Art (MOMA) had an exhibit titled, "Reconstructions: Architecture and Blackness in America". This exhibit featured the ways in which structural racism is intentionally built into our physical environment. Throughout history,

design has cemented our prejudices by expelling the oppressed to undesirable structures and neighborhoods. This exhibit highlights the ways in which Black Americans were denied housing options White's had access to, from early slave quarters, to present day housing projects or low income neighborhoods (Sanderson, 2021). Redlining of neighborhoods in the 1950's and the GI bill that put White GI's into homes and Black GIs (who all fought in the same war) into housing projects further cemented housing segregation and the disproportionality of home ownership between Blacks and Whites. Gentrification over time further complicates this with wealthy (mostly White) people moving into poorer neighborhoods, displacing Blacks and other people of color, forcing them to relocate often further away from their jobs or their children's schools.

As the designers of civilization, architects play a key role in shaping the world around them as well as the built environment that everyone is required to interact with on a daily basis. In a world and more specifically, a nation that was built on the backs of discrimination, racism, and the exploitation of labor, no industry or academic discipline can claim that they have a truly inclusive and accepting community *and* history. The *Architects' Journal* conducted a Race Diversity Survey in 2018 which demonstrates that architecture is no exception to this fact. In a survey of 1,000 architects, technologists, and students, results actually showed that racism has gotten worse for BAME (Black, Asian and Minority Ethnic) individuals. When comparing results from the 2018 survey to the 2020 edition, the results indicated greater experiences of discrimination and racism. 33% of respondents said that racism was widespread in architecture,

and 27% of respondents agreed with the statement, “I have been the victim of racism at my place of work” (Architecture and Racism, 2020). Among individuals who identify as Black, African, and Caribbean, the percentage of people who reported that racism was widely prevalent was 43%. All of these metrics were higher compared to the 2018 edition of the survey.

From an academic perspective, there is a level of faculty acknowledgement regarding architecture and its inequities. An article that recorded a panel conversation between architecture faculty, historians, and individuals working within the field elaborated on such inequalities. Louis Nelson, professor of architectural history, as well as the vice provost for academic outreach at the University of Virginia, stated that, “Because architecture is part of the Western tradition of power, it is not acultural but white” (Architecture and Racism, 2020). Another panelist, Dianne Harris cited a statistic that over the past 40 years, racial demographics within the profession and architectural offices have remained relatively stagnant and unchanged (Architecture and Racism, 2020). White men still dominate the field, especially within leadership roles.

By excluding people of color from this educational pathway and corresponding career paths, people of color are also excluded and unrepresented in the creation of the built environment. How neighborhoods are designed, structures of houses and city layouts all impact people of color, and disenfranchised people of color are more likely to inhabit less desirable

spaces of the built environment. By allowing for greater representation for people of color, there may be a path to reconciliation which may also help rectify injustices such as housing inequality and environmental racism.

Art-Dance

Dance as a discipline in higher education serves to educate students in becoming, “an artist/citizen with a depth of expertise in the physical forms as well as the historical, cultural, political and scientific aspects of dance” (Romita & Romita, 2018). An abstract of systemic racism in dance education begins with acknowledging that most schools in the U.S. require rigorous study of Western forms of dance. This would not be an issue, as most developed countries center their own forms of dance as well; however, as the population of America has shifted over time to incorporate many other racial identities, the curricula remain strictly Western-based, with cultural appropriation of hip hop on the side. The ways in which dance education has been historically systemically racist towards people of color is by invisibility or not prioritizing anything other than Western dances, by appropriating cultural dances over time, and by not offering financial aid to students of color, thereby creating unequal access. Not to mention the cost of developing skills through classes and coaching at a younger age, which is not accessible to all students at all K-12 schools nationally, thus making those who can pay for lessons a leg up on those who cannot.

Going back further in time, prior to European colonizers arriving in Virginia, Indigenous people used dance education as a meaningful and sacred practice to share culture, medicine, and spirituality. During the 17th and 18th centuries before the Civil War, African American, Asian, and Indigenous enslaved people danced only in secret, perhaps at reported late night

hidden social gatherings. They also used food and song to keep each other's spirits up; and even held dance competitions, all of which could be viewed as applied dance education amongst themselves.

Dance was first introduced into the education system as a form of physical education and in 1926, the first dance major was approved in the Women's Physical Education Department at the University of Wisconsin/Madison (National Dance Educational Organization, n.d.). At around the same time, legislation such as Title IX in 1972 and Equal Educational Opportunity in 1974 passed, which caused PE to focus on coeducational sports, thus dance artists were encouraged to get degrees in teaching dance (National Dance Educational Organization, n.d.). This is what led dance to become a respected formal collegial program now defined as a fine and performing art.

However, the resurgence for decolonizing has led to Black Indigenous People Of Color (BIPOC) dancers speaking up about their shared experiences in the age of social media and blogging. For BIPOC dancers in the dance education world, interactions with microaggressions can include inability to be casted based on race, not being allowed into class based on skin color due to the teacher's need for "symmetry," and refusing to hire teachers of color (Mullikin, 2020). For example, refusing to hire a hip-hop teacher at a university because they do not have a master's in dance when hip hop is not offered broadly at a collegiate level and certainly not at a master's level - is a systematic set up to keep BIPOC folks and their dance forms out of

colleges and to continue to invalidate their contributions to the dance world (Mullikin, 2020).

Many contemporary dance educators refer to Western dances as “technique” in a way that assumes every other genre of dance does not require formal training, skill, or technique; and placing white European cis males at the center of expertise (Mullikin, 2020). Many young BIPOC ballerinas join the same classical companies as their white counterparts but are faced with the unfair reality that the path isn't equally set. Frequently, they're pushed to consider non-ballet dance options. Preston Miller, a Master ballet teacher, says, “I regularly have to hold uncomfortable conversations with my students of color...If you are ever in a predicament where you feel resistance in a classical ballet setting due to the color of your skin, speak from your perspective exclusively and express how you feel. You may not change your director's beliefs, but you will change their thought process” (Spears, 2020). Dance departments across universities in the United States can embrace a more inclusive system by devising curricula that do not validate any particular dance form over another. Instead these departments can demonstrate a commitment to exploring and understanding the many forms of dance worldwide, some belonging to their diverse students whose culture has had a hand in shaping the history of dance.

Art-Drama

Earning a degree in Drama prepares students to become actors, art consultants, set designers, visual artists, and scriptwriters, along with other professional theatre skills (Foster, 2011). Students studying performing arts learn multiple forms of performative creativity such as drama, music, and dance. In providing a framework for understanding the relationship between the performing arts and white supremacy, we must examine how racism operates and how racial hierarchies are constructed within the arts and in theater education in the United States. To make the case for understanding the arts as white supremacy property, a dual-lensed framework that defines “the performing arts” as both an inclusive and exclusive educational experience based largely on student testimonies can be analyzed. From the top down, performing arts institutions are largely private not-for-profit and this privatization makes it all the more difficult to hold these approximately 473 United States institutions accountable (“General Drama and Theater Arts”, n.d.). New York University awards the most degrees in General Drama & Theater Arts in the US, but Portland Actors Conservatory and American Academy of Dramatic Arts-Los Angeles have the highest percentage of degrees awarded in General Drama & Theater Arts (“General Drama and Theater Arts”, n.d.). Tuition costs per term for General Drama & Theater Arts majors are, on average, \$7,070 for in-state public colleges, and \$36,680 for out-of-state private colleges. (“General Drama and Theater Arts”, n.d.).

An abstract of systemic racism in theatre begins with the origins of stage drama, traced back to the slave trade and colonization period. The cultural appropriation of Middle Eastern, Asian, African, and Native American performance traditions was dominated by white European writers, directors, and actors. In the early years of the slave trade, Black, Indigenous, People of Color (BIPOC) were only able to put on private performances at plantations and the homes of the slave owners (L, 2019). The first characters of color to appear on stage in the 17th and 18th centuries were white people wearing 'blackface' makeup, appearing at intervals in white productions as comic relief, usually playing dim-witted servants (L, 2019). The use of blackface characters grew in popularity in the early 1800's, with BIPOC characters portrayed as racist caricatures: lazy, buffoonish, superstitious and slow (L, 2019). The performances were typically burlesque and aimed at a low-brow audience, but they soon infiltrated the opera house, first as entr'actes and eventually taking over completely to become America's first national art form (L, 2019).

According to Howard University, people of color have been an integral part of theatre and drama since its beginnings in colonial America, with the first American production of a play taking place during the middle of the seventeenth century (Howard University, n.d.). The play, *Prince of Parthia*, patterned its form from neoclassicism which entailed rigorous adherence to decorum and grandiose spectacle, as all theatre in America would until the Minstrelsy period beginning in the early 19th century. The minstrel show was an exploitative form of theatre that

belittled and made light of the Black experience and was performed primarily by white actors wearing what was commonly known as black face (Howard University, n.d.). A West Indian slave played a character known as Mungo who was a profane clown of little authenticity in the 1769 play, *Padlock* (Howard University, n.d.). In early productions featuring Black actors, they were given two options: accept the comical, minstrel type role or create their own theatre (Howard University, n.d.).

The first professional Black theatre group in America, founded by Mr. Brown (who's first name is said to be unknown) in 1820-1821, was the African Company, and their theatre was the African Grove, located in lower Manhattan (Howard University, n.d.). The African Company's repertoire was primarily made up of Shakespearean dramas, but they also showcased the first play written by African Americans called *King Shotaway*, while performing for diverse audiences (Howard University, n.d.). Unfortunately, The African Grove closed in 1823 after it was vandalized by white hoodlums, so Black actors had to resort back to minstrelsy (Howard University, n.d.). During this time there were still Black theatre companies being formed and finally, in the 1900's Black actors completely stopped performing minstrelsy (Howard University, n.d.).

The growth of theatre by other ethnic groups has been primarily a product of the 20th century in the United States. Asian-American theatre did not surface until the 1960s and has grown to around forty groups today. Early productions often had Asian themes or settings;

"yellowface" was a common medium for displaying the perceived exoticism of the East in American performance (Morgan, 2018). Professors Sidoni Lopez and Hanane Benali write that Native Americans were largely left out of the theatre industry, despite their rich history of storytelling until the later 20th century. The stories that inspire Native American Theatre have been around for hundreds of years but did not gain formal recognition by colonial America until Lynn Riggs, a playwright of Cherokee descent, brought Native theatre into the spotlight through the Six Nations Reserve Forest Theatre in Ontario in the 1930's (Lopez & Benali, 2016). Through these events, Native Theatre has been introduced to mainstream society and contemporary Native American Theater was born. Arab-American theatre dates to 1909, growing out of a small repertoire (Ali, 2017). The events of 9/11 and their ramifications have largely shaped Arab American theatre, with the current political climate further galvanizing it by reinstating a "clash of civilization" discourse (Ali, 2017).

In 2020 some light was shed on the history of performing arts colleges, with many students coming forward to tell their stories. As many institutions attempted to make vague statements about supporting the Black Lives Matter movement, students called out these hypocrisies, demanding real change. Contemporarily, students of color continue to face hostility and rejection from the people in power at performing arts universities. In a 2020 article written by Erica Batres, a theatre major student, she recounts first-hand knowledge of how the musical theatre and acting BFA audition process is set up to keep low-income students from

auditioning in a series of calculated steps. First, to receive a callback, students must film a high quality prescreen audition in which some students invest hundreds of dollars in studio and audition coaches. Students who are privileged to have attended private performing arts high schools have an upper hand in this process because of the training they received and access to space and technology needed to produce the submission materials. Secondly, there are fees attached to audition submissions on top of the school application fees. The last step of auditioning requires students who have received a call back to have an in-person audition, in many cases this requires last minute airfare which isn't always feasible for students who are not upper-middle class (Batres, 2020). Today, schools across the country vary in quality of resources due to the location and area of where they are placed, and racial segregation has played a destructive role. In predominantly BIPOC neighborhoods, there is a significant lack of funding within extracurriculars and even classroom supplies (Batres, 2020). This directly affects theatre education, for it is common practice that theatre be the first to go when budget cuts are proposed (Batres, 2020). Many theatre programs exist with no facility or budget, with students left up to fend for themselves to get fundraising, a teacher to donate their time, and request to use the cafeteria after school (Batres, 2020). The problem of access leads to less and less BIPOC performers auditioning for college theatre programs. As if access and preparation doesn't set them back, the audition hurdle of getting accepted almost certainly will (Batres, 2020).

Not surprisingly, lack of representation is an issue for the field. The population of the United States is 63 percent white, yet 81 percent of performing arts graduates are white (“Artists Report Back”, 2014). The population of the United States is 12 percent Black, yet only 4 percent of performing arts graduates are Black (“Artists Report Back”, 2014). Every theatre department in every institution of higher education should be reckoning with the discussion of how to create a more diverse, equitable and inclusive community for students while recognizing that work on these issues is far from finished.

When BIPOC students do make it into the program and onto the stage, they often receive microaggressions and discrimination from the faculty, via stereotyping in casting and difficulty accessing coaching. One African American student in Syracuse University’s theatre program was told she “passed the ‘paper bag test,’” an infamous measure that upholds colorism by excluding those whose skin tone is darker than the color of a brown paper bag (Diane, 2020).

It is commonly said that “if you want to be the best you must train with the best,” but what happens when the “best” is virtually impossible to access (Batres, 2020)? Training schools influence what our Broadway stages look like. To advocate for diversity in the theatre industry, actionable steps must be taken, such as supporting nonprofit organizations like The Fund for College Auditions (TFCA) (Batres, 2020). TFCA provides information and support to students and parents, funds for workshops and camps, grants for traveling fees, and much more (Batres, 2020). Another step to be taken is to organize free theatre performances and workshops in low-

income communities to create an accessible industry (Batres, 2020). There are many directions that can be taken to implement change within the theatre and drama industry, and those in powerful positions in the field have an opportunity to start demanding them.

Art-Visual

A studio arts major will apply creativity, problem-solving, and design-based solutions to different forms of media, including sculpture, ceramics, painting, and jewelry (art, n.d.).

Every person possesses creativity and the act of making art is available to all of humanity. It is when an artist seeks validation for their creative work that cultural standards of beauty and value come into play. Whether this creativity gets nurtured or judged is steeped in structural racism. Racism in art takes place in the public forum, via evaluative practices in art schools and universities that are focused on a Eurocentric aesthetic, which dictates what makes something artistically appealing. Is beauty in the eye of the beholder or is there something larger at play that serves as a tool to critique art based on an industry standard? Often it is white folks in the academy, gallerists, and art critics who set the barometer to dictate what is classified as art in U.S. Art departments and schools, and in the culture at large. Traditionally the frame is Eurocentric if something is to be considered classic artwork. A historical lens focusing on Art from Europe as the premier form shapes how Art faculty teach students to draw, paint and sculpt. When there is instruction on styles or methods that originate from non-Euro/North of Mexico cultures, it is often labeled “primitive art” which basically translates to anything non-white (Primitive Art, 2021).

Financial barriers that preclude students in other types of art discussed in previous sections serve to perpetuate western, upper class, imperialism by limiting access for those who

cannot pay. Art school, materials and portfolio curation are all expensive which keeps many from pursuing this field. The capitalist ethic is also closely tied to whether or not something is considered art. While art as a creative endeavor is possessed by all humanity in one form or another, in Western culture, art is something that sells. There is a belief that someone who makes art is not an artist if their art is not generating capital. Museums and galleries are the landing points for artists who wish to gain exposure and gaining access to those places is not available to all. Street artists whose work is not found in galleries face a big barrier towards a career as an artist by not being featured in galleries. If it is not in a gallery it is not art. Poet and author Rene Ricard wrote, *The Radiant Child*, highlighting up and coming street artists, in 1981 in which he states, “to support oneself by the work is the absolute distinction between the amateur and the pro” (Ricard, 1981). Real artists don’t need side jobs and art as a way to level up is something that is part of the appeal.

What’s with art anyway, that/We give it such precedence? Most basic is the common respect, the popular respect for living off one’s vision. My experience has shown me that the artist is a person much respected by the poor because they have circumvented the need to exert the body, even of time, to live off what appears to be the simplest bodily act. This is an honest way to rise out of the slum, using one’s sheer self as the medium, the money earned rather a proof pure and simple of the value of that individual, The Artist. This is a basic class distinction in the perception of art where a picture your son did in jail hangs on your wall as a proof that beauty is possible even in the most wretched; that someone who can make a beautiful thing can’t be all bad; and that beauty has an ability to lift people as a Vermeer copy done

in a tenement is surely the same as the greatest mural by some MFA. An object of art is an honest way of making a living, and this is much a different idea from the fancier notion that art is a scam and a ripoff. The bourgeoisie have, after all, made it a scam. But you could never explain to someone who uses God's gift to enslave that you have used God's gift to be free (Ricard, 1981).

While Ricard's sentiment regarding art as a pure form and a way to uplift is inspiring, he is keenly aware that the commodification of the art and the artist cannot be removed from this analysis or the industry itself. Art appreciation and curation is a way for a person to exhibit their cultural capital to others. Those who can purchase and display, or donate art are often of the privileged class, and their aesthetic dictates who can profit from their labor. Work done by the individual artist in the studios and classrooms are evaluated by Art teachers and institutions of higher education who, in large part, decide what makes a creation, art.

Perhaps even more complicated but still rooted in structural racism is the identity of an artist, their type of art and their links to the legacy of cultural appropriation in their work. While art outside of Euro/North of Mexico America is labeled "primitive," it is also a source of inspiration for many Euro/North of Mexico American artists. So when a Banksy pops up in East Anglia it is all the rage but when an unnamed Black or Brown youth turns a dark alleyway into a colorful landscape it is a crime. Hip-hop culture in the 1980's grew in response to racism in New York, and the onset of graffiti art as a valuable commodity was found there. Prior to validation

received by art critics, graffiti art was not always recognized as art and there are still discrepancies as to what is labeled art and what is labeled vandalism, and in many cases, it boils down to the artist's skin color. Once the art world validated its merit as an art form, a rebrand of graffiti took place but the racial, classist hierarchies still remain. Activists employ art to send a message as a medium for change. Whether it is a Palestinian activist creating a message on the separation wall in the occupied Palestinian territory or a street artist tagging a box car somewhere along the Southern Pacific Railway, these acts do not often merit the label art. It is only when more notable often white artists mimic this type of street art that it becomes worthy of the label. Banksy's rogue socially just artwork comes with a hefty price tag but affords the buyer the great cultural capital of owning such a piece affording them "woke" status. While technically anonymous, Banksy is presumed to be a white male, and thus is afforded the privilege of being labeled a radical and not a criminal. One painful irony of Banksy's ability to be in such high demand is on full display at [The Walled Off Hotel](#) mere feet away from the separation wall in the occupied West Bank town of Bethlehem where the wall serves as a canvas for oppressed Palestinians to speak their truth with little recognition. This type of cultural appropriation of street art is just another way structural racism plays a key role in Art as a field.

While there remains a huge hierarchy regarding art that is held in high esteem by those who have the privilege to make those values judgements, Art is created by much of humanity for

various reasons. Art and activism (artivism) have always co-existed. Many artists use their platform to speak truth to power on varying social issues, and activism has been central to social movements and cultural critique.

Perhaps one of the most famous examples of market driven valuation of activist street art can be seen in the life and work of John Michelle Basquiat. His value as an artist relied at first on tokenism (Jean-Michel Basquiat, 2021, Schnabel, 1996). His rise to fame came in 1981 when Rene Ricard wrote his famous piece, *The Radiant Child*. Were it not for this validation of sorts, this prolific artist who created over 3000 paintings and drawings may have gone unacclaimed (Jean-Michel Basquiat, 2021). Posthumously his work has increased in value which sadly also highlights the commodification of pain in the art world (Jean-Michel Basquiat, 2021). Basquiat's work was activism in that his pieces spoke to the foundational issues of racism. He was keenly aware of the art community's reaction to him, knowing that those reactions were based in their own preconceived notion of who they thought he was (Jean-Michel Basquiat, 2021, Schnabel, 1996). The connection between racism of all forms in American history and art was clear to him and his work like so many others reflected it. In describing this connection, Ricard writes:

To Whites every Black holds a potential knife behind the back, and to every Black the White is concealing a whip. We were born into this dialogue and to deny it is fatuous. Our responsibility is to overcome the sins and fears of our ancestors and drop the whip, drop the knife (Ricard, 1981).

An honest assessment of history will do nothing but strengthen and diversify the art world. Decentering whiteness and the white gaze from the recognition of something being defined as art is in practice by many, but the dominant evaluative measure still lies in a white Eurocentric aesthetic. While the rise to fame of Basquiat is predominantly posthumously, there is an opportunity (as in all of the other fields described in this reader) to spotlight, recognize and learn from artists of color and less visible artists whose art is not featured in galleries or museums. Art teachers introduce their students to the act of art and reference those who came before them. They can play a pivotal role in the creation of their students as artists and the cultural valuation of diverse forms of art.

An example of shining a light on artists who have not been heralded as an acclaimed artist is Pearl Fryer, topiary artist and sculptor who brought international attention to his depressed South Carolina hometown, Bishopville with his incredible topiary work. Fryar is a self-taught artist, most known for topiary artistry and sculpture who uses everyday “junk” and discarded plants from local nurseries. Not only has he put Bishopville on the map with his amazing 3 acre topiary garden visited by thousands annually, he serves as teacher and mentor to South Carolina students both young and old. Fryar is an artist in residence at Coker College, a small liberal arts college in South Carolina (Pierson and Galloway, 2006). This gives these students an invaluable opportunity to learn from an acclaimed artist and demonstrates to the predominantly white students there that the artistic community, at least at that institution,

values his artistry. Fryar has been commissioned to create gardens similar to his own in spaces in South Carolina, including the McKissick Museum in the capital city of Columbia. Additionally, Fryar has donated many topiary pieces to various museums and the Bishopville city government (Pearl Fryar, 2021). His topiaries are featured on main street in Bishopville as part of their “Streetscape” project. Preservationists are looking for a way to preserve his garden well into the future. As of this writing, Pearl is 81 and still going strong.

Art History

Art history is the study of objects of art considered within their time period. Art historians analyze visual arts' meaning (painting, sculpture, architecture) at the time they were created (International studies in history and business of art & culture 2021). For many who take what is considered a survey course as an introduction to Art History, they would likely be exposed to art and artists who come from or resided in Europe and Euro-America. Positioning what is often called western art as normative and placing other art in relation to it is another form of privilege that sets the standard for valuing certain types of art, humans, and cultures, over others. Scholars such as Edward Said have long argued that the term non-western itself is pejorative (Said, 1979). Additionally the term "western" in regard to art when discussing a geographic region is inaccurate. In most survey art history courses, a study of "western" art would include European and Euro-American artists which leaves out much of the geographical west which includes multiple indigenous western people (Kerin & Lepage, 2016). Many scholars in the field of Art History are grappling with this centering of whiteness and seek to move the discipline in a different direction. There is a move to create what is called a multi-survey model (MSM) approach. This would decenter what has historically been taught in the standard general education (GE) art history classes and instead offer multiple art history courses that focus on different geographic regions and highlight the type of art historically created there (Kerin & Lepage, 2016). Considerations for transitioning to this model would

depend on the size of a school and departmental faculty trained in these areas of art history. Departmental hirings and future course creations can also be part of a move in a direction to de-center white art as the only art of historical significance. While the traditional survey art history course is one piece of the history of Art as an academic discipline, it is not the entire history. Positioning European and Euro-American art works as the standard content of what is art worth appreciating in the GE course college, means that students learn about the history of art which privileges white art over all others. Yale University has decided to revise the traditional course taught there on art history. They made this move based in large part on student response to what they saw as an idealized “Western canon, a product of an overwhelmingly white, straight, European and male cadre of artists” (Hedeman & Kristoffersen, 2020). While there are critics of a less Euro-centric approach to art history, the Art History faculty see this as a way to be more expansive and less reductive (Greenberger, 2020). Adding to the complexity of what is considered historically significant to the world of art, is the art historians themselves and how they hold beliefs about what was seen as artistically pleasing to early artists. Case in point is early Greek and Roman sculptures often highlighted as artistic greatness and as a window into what was held as beauty for the people of those eras. When learning about these sculptures, we are often presented with stark white images sculpted out of stone. Archeological discoveries of statues in ancient Greece reveal that in fact, many of these sculptures were painted to reflect features such as red lips or black coils of hair. These

findings change the way art historians interpret perceptions of worth and beauty, and according to Mark Abbe, professor of Art History at the University of Georgia, the notion that pure white sculptures were used to represent the human form were the ideal artifacts of the time “is the most common misconception about Western aesthetics in the history of Western art.” It is, he said, “a lie we all hold dear” (Talbot, 2018). The notion of whiteness equating beauty and purity has led to an act of what he sees as collective blindness which leads historians to tend towards understanding art through a lens which privileges art that aligns with whiteness as beauty and even misidentifies how ancient sculptors meant for their pieces to be seen. A process to resurrect what some art actually looked like can serve as a tool to debunk this notion that whiteness was the standard of beauty and that in fact, polychromy, the art of painting or sculpting in many colors, was used in much of ancient artist rendering of beauty.

This clip shows the resurrection process on the *Treu Head*, a Roman sculpture:

<https://youtu.be/gRMPYh2QdSM>

The art history department at Yale is not alone in its thinking regarding representation; a move to decolonize higher education is also taking place in many art departments nationwide and there is a great deal of art being done by BIPOC artists both in the US and abroad that deserve study and recognition. By searching for those who are not found in many standard art history texts, Art History teachers have the ability to introduce students to a wide variety of up and coming artists as well as those historical artists who did not get a place in the standard history books yet whose work is no less significant. Students can also engage in the process of finding

new artists they are excited about and share with their classmates. Access to information is so prevalent at this point, students can easily access artists they find compelling and assignments can be tailored to encourage searches that find diverse artists. One artist of note is Irene Antonia Diane Reece <https://www.irenereece.com>. A self-described intersectional womanist visual activist, her use of art as both message and catharsis bring voice to the often voiceless. Her celebration of “Black Everything” is a welcomed reprieve in an art world filled with a predominance of white voices dominating art history.

Astronomy

Astronomy is the study of everything in the universe beyond Earth's atmosphere. That includes objects we can see with our naked eyes, like the Sun, the Moon, the planets, and the stars. It also includes objects we can only see with telescopes or other instruments, like faraway galaxies and tiny particles (What is Astronomy?, n.d.). This discipline, like many others, has had a problem with inclusivity. Currently, astronomers are 90 percent white, about 1 percent black, about 1 percent Latino and 0 percent Native American. Students of color do not see themselves represented in Astronomy faculty and that is one reason for most students of color who enter as Astronomy majors to change their major. Like other fields of study, some of the issues creating this lack of diversity in faculty include representation in the field at large, and a long path to tenure. (McCrea, 2020) The Banneker Institute, named after Benjamin Banneker, creator of the *Farmer's Almanac*, and the first Black Astronomer, was formed for undergraduate students of color to pursue graduate programs in astronomy, focusing on research, graduate coursework, and social science education. In their summer workshop they work to train astronomers of color in currently white dominated fields while simultaneously addressing social issues surrounding racism and social justice. Effective approaches to a focus on both Astronomy as a field and an emphasis on social issues involve asking questions as simple as, how are planets formed, and where are all the Black people in the field (Sokol,

2016)? The program was started by John Johnson who left a position at Caltech due to the institution's disinterest in diversifying the field.

There are countless unanswered questions in the field of Astronomy, and there are underrepresented groups such as women and minorities, who would be valuable additions in attempting to answer those questions. The institute seeks to help students find a sense of community in the field. In addition to a lack of inclusivity, sexual harassment has also plagued the field further marginalizing students. The governing body for the field, American Astronomical Society (AAS) failed to make a statement in support of Black Lives Matter which appeared disrespectful to its Black astronomers. It has also not as of yet, added a social justice focus to its charge which is something many see as a failing. There have been conversations to address these and other issues of discrimination. Advice from these discussions for white astronomers in the field who wish to ally in creating a more diverse field is to “calm down, it’s been bad for a long time, this isn’t new phenomenon even if it is new to you, [sic] listen to their colleagues of color, and learn about the discipline’s racist history” (McCrea, 2020). Actions to attract and retain more students of color are happening with a goal of diversifying the field. Both the Banneker Institute and a program at Vanderbilt University have taken the charge to do so. Vanderbilt has been identifying promising students in HBCUs and supporting them entering the doctoral program at Vanderbilt.

Biology

Biology is the study of life. There is much to be learned from this discipline, and so many advances we have made as a nation are traced back to work done in the Biology laboratories on college campuses. Despite this, the roots of biology are deeply intertwined with structural racism. From experimentation on enslaved Africans to experimentation on Black bodies post slavery, Biology has a past steeped in racist ideologies that led to gross misconduct and exploitation of African Americans (Nurridan, Mooney, & White, 2020; Savitt, 1982). In response to this history, there is severe distrust of scientist's motives by Black Americans present day, which may explain why some African Americans have decided not to receive the COVID-19 vaccination. The troubled history is not lost on many Black Americans who, when surveyed, as a group are the least inclined to express an interest in getting the vaccine and this hesitancy is born out of a history of being betrayed by science (Jones, 2021). Examples of abuse and exploitation range from well known Tuskegee and lesser known Guatemala syphilis studies by now defamed physician John Charles Cutler, to the harvesting of body parts for scientific exploration without informed consent (Centers for Disease Control, n.d.; Park, 2017; Reverby, 2012; Rodriguez et al., 2013). In 1951, a full four years after the Nuremberg code, Henrietta Lacks, a Black woman from Baltimore MD with cervical cancer, had cells taken from a tumor that could be grown easily in the lab and proved to be transformative to the field of cell biology. Numerous institutions profited financially through use of her cells. The cells were taken without

consent and Ms. Lacks and her family were not informed or compensated in any way (Beskow, 2016; Nature, 2020). The exploitation of persons who have been devalued by white culture is a theme throughout history. Indigenous peoples on this continent were also used as science experiments and treated less humanely than animals for slaughter. Lifesaving medicine was used as a bargaining chip for more compliant tribes during the smallpox pandemic.

Similarly in terms of access to present day life-saving COVID-19 vaccines, it is clear whose lives matter most and what populations had to wait to get access to lifesaving testing and vaccines (Hampton, 2020). The mere fact that the United States Government and Big Pharma were debating whether or not to remove the patents that could get more vaccines out quicker worldwide highlights the inhumanity we face when medicine for profit over people is the national model. Use of public funds for research that then turns private companies into multi-billion dollar enterprises while pricing out those most vulnerable of life saving medication is something we should be taking a hard look at.

No more devalued in this culture presently are the millions of incarcerated people held hidden from view. In *Acres of skin: human experiments at Holmesburg Prison. A true story of abuse and exploitation in the name of medical science*, Tom Wilkie writes of the medical experimentation on 75 Black prisoners in Holmesburg prison (Wilkie, 2000). From 1951-1974, also well after the Nuremberg ethical code had been established, these studies tested the effects of a known contaminant, dioxin, without the informed consent of the 75 men (Wilkie, 2000).

Biology has also been used as a tool to justify racial hierarchies. Scientific racism has been employed as a tool for white supremacy. From the 4 races of man in the mid-1700's to the Eugenics movement of the early 1900s, both put forth the claim that there were distinct differences in humans based on race (Timeline of Scientific Racism, n.d.). The Eugenics movement laid bare the dangers of using a false scientific rationale to justify the superiority of a race (Miller, 2014). This use of science to justify unequal treatment has been employed by leaders of nations in order to fight the abolition of slavery, to commit genocide, to forcibly sterilize the mentally ill and incarcerated men and women to this day, and to defend unequal cultural practices (Manian, 2020; Stern, 2020).

Despite the understanding that Eugenics is a pseudoscience, we still find remnants of it in the scientific data; highlighting the fact that science is not without its failings and that sometimes data is inaccurate and used to support an agenda that is not scientifically valid (Bhopal, 2007; Eigen, 2005; Kevles, 2011; Michael, 2017). The justification of differential treatment based on biological traits has contributed to unequal access to resources including medical care. One example is the differential of prescribed pain medication for Black patients by doctors of all races under the assumption that they “feel less pain” than their white counterparts (See also the section on [Human Sexuality](#) for a discussion of presumed racial pain differential) (Hoffman, Trawalter, Axt, et al., 2016). Structural racism plays a role in federal, state and local funding for housing, healthy food, and protection of clean water, all items

needed for our biological well-being (Bank, 1996; Branson, 2017; Miller, 1994; Williams & Eberhardt, 2008). Implicit bias on the part of practitioners (also discussed in the section on [Health Education](#)) and governmental leaders coupled with years of structural racism has led us to a place where the lived experience of (specifically) Black Americans, but also other people of color in the United States is vastly different from Whites (Mende-Siedlecki et al., 2019; Metz, 2009; Oliver et al., (2014).

Similarly, the Indian Vaccination Act of 1832 has an eerily familiar theme to the Tuskegee and Guatemala studies (Reverby, 2012). While nowhere in the literature does it state that the vaccine trials caused Native deaths, many Native Americans recount the history about how the government forced the trials on them with this act, and kept a list of all the Natives who were vaccinated. The belief is that the shots they were given did not vaccinate from Smallpox as it was claimed to do, but instead gave Native Americans the disease and was akin to murder. It is not hard to imagine this taking place based on the attempted smallpox transmission via blankets handed out to Native Americans during forced relocation as a form of genocide (Brands, 2005). According to tribal elders, the list of names of those who received the smallpox vaccine was lost some time ago so tracing these claims has proven impossible. It is interesting that many academic papers discuss the smallpox genocide was caused by not being given the vaccine, when another argument is that it was caused by the vaccine itself (Pearson, 2003). Because of a well-documented track record of unethical practices on the part of white scientists

and practitioners, a severe mistrust of white medicine further exacerbates equitable access to care for many Black, Indigenous and other People of Color in the United States.

The irony behind the amount of ways in which Biology has been used to maintain structural racism and exploit people of color is it is also the key to identifying the truth about race (Kevles, 2011). As a social construction, race and its consequences are quite real but there is no biological basis in racial differences (The Biology of Skin Color, 2015; Public Broadcasting Service, n.d.). Just as in other academic disciplines, the diversification of scholars in the field likely will lead to a more robust anti-biased field. The current numbers still are on par with other STEM fields in terms of diversity of students and faculty but are gaining ground in terms of representation. Although biology boasts a higher number of non-white doctorates awarded, it is still not representative of the population at large so there is much work to be done (National Center for Science and Engineering Statistics, 2017).

Business

A business is an organization that strives for a profit by providing goods and services desired by its customers (Gitman et al., 2018). The administration of a business includes the performance or management of business operations and decision-making, as well as the efficient organization of people and other resources to direct activities towards common goals and objectives (Thuis & Stuive, 2019). Business students learn about leadership, management, financial knowledge, communication, collaboration, and marketing skills through studies in business administration and can also receive hands-on training to start their own venture through courses in business entrepreneurship (Business, n.d.). In a society organized under capitalism, business students learn to operate businesses within the capitalist system. Inherent in capitalism is racism. In an effort to identify and address this, there is a growing demand for business students of color to call out the racist systems in the discipline. In the current era where white supremacist policy are subordinating people of color, things will not change unless they are called out and dismantled. In their 2020 article, *The Business School Is Racist: Act up!*, Dar et. al. explain that business schools per se do not acknowledge race as a salient factor in understanding business, "In the Business School specifically, knowledge production has erased race from business scholarship, resulting in the continued omission of the roles of Indigenous genocide, extractive settler-colonialism and Black chattel slavery in contemporary capital accumulation and wealth disparity" (Dar et al., 2020). Scholars of color must survive in

educational environments where their knowledge is seen as not worth knowing. The emotional toll this takes on students of color makes thriving in school differently difficult than of their white counterparts. Finding activist scholar spaces helps students of color identify the systemic racism they face in business schools and create a space for healing. The physical and emotional toll the present system places on students of color are vast and unacknowledged.

In a global marketplace the business school must rise to the challenge of teaching effective business processes beyond borders. There is an absolute need to work alongside scholars in the global south and seek out diversity of voice in innovation. An expansion is overdue on the narrow understanding of a discipline that has left so many out of idea production and solutions generation in order to move towards a business model that re-imagines success and questions the status quo (Dar et al., 2020). In a globalized marketplace, diverse knowledge about commerce, trade and consumerism can only strengthen the field.

Career Counseling

Career Counseling is a process that helps an individual know and understand themselves, and the world of work in order to make career, educational, and life decisions. Oftentimes, this type of work is done in the college setting for students who are trying to decide on both their college and career pathways so career counselors in an academic setting have great influence on students. They are usually part of an institution's student services department. Career Centers/Career Services support students (and sometimes alumni) in their career development process. The career development process includes self-exploration/reflection, career & major decision making, and support with everything needed to obtain post-graduation goals: resume/cover letter/interview support, internship and job search strategies, and support.

The field of career services/career counseling in higher education is deeply entrenched in white supremacy and patriarchy. The field as a whole is only beginning to consider the ways in which those in it perpetuate systemic & individualized oppression. One example of how students are counseled centers around student's presentation of self. Many college career centers state their aim is to support their students in becoming what is often termed "professional." Research into the use of the focus on professionalism has demonstrated that the idea of professionalism itself is a white, western, patriarchal ideal, which when employed perpetuates unequal access to opportunity for students of color (Gray, 2019).

Additionally, beyond the goals and aims of a career center, they are one of the departments on campus that has access to employers who hire students. Because of their access to employers, counselors have the opportunity to help level the playing field in a mindful and positive way. This unique role creates a huge opportunity for true student advocacy focused on dismantling systemic issues. At present, there are clear and identified hiring practices that are harmful and/or discriminatory to people of color, specifically Black individuals (Rios, 2015).

Many career centers and career counselors state that they believe in and prioritize diversity, inclusion, and equity, however, the focus is mainly on creating resources and best practices for working with *diverse students*. This positions these students in relation to whiteness which in and of itself keeps structures in place (Gerdman, 2017). These types of policies or advocacy statements do little to actually advocate/educate employers on how their hiring practices may be racist or discriminatory. Many in the field of career counseling, have started getting requests for access to “diverse students” (Anderson, 2020). The purpose of this may be an attempt at equity, but it also begs the question of how universities and career centers are protecting their students and ensuring those workplaces are actually inclusive, as opposed to doing further harm by sending them into environments that are at best, tokenizing, and at worst, racist and discriminatory (Dali, 2018). Decentering whiteness as the norm for gauging professionalism in students can be done intentionally by career center staff and faculty

without tokenizing, if staff commits to self-reflectivity and ongoing anti-bias work (Anderson, 2020).

Career Technology Education (CTE)

Career and Technical Education (CTE) prepares students for career pathways in the global marketplace by offering experiential learning, post-secondary credits and industry certifications.

CTE Students gain technical and high-level academic skills, equipping them to be lifelong learners. CTE provides each student with the opportunity to develop and refine skills and applications necessary to be productive citizens. The mission of CTE is to provide industry linked programs and services that enable all individuals to reach their career goals in order to achieve economic self-sufficiency, compete in the global marketplace, and contribute to a Nation's economic prosperity (WHAT IS CAREER TECHNICAL EDUCATION?, n.d.).

These certificate based programs are often thought to be equity measures to help students find a path that can provide them with sustainable skills that will garner them steady employment without high cost enrollment fees associated with some for profit CTE programs. Community Colleges nationwide offer a variety of programs to certificate students.

Career Technology Education (CTE) may include a diverse selection of certificate programs that allow the certificated person access to employment opportunities that require specific credentials. Because this field is so large and diverse, it is difficult to describe it as one succinct

field. We have chosen to discuss just three specific fields offered at many community college CTE programs: Fire Technology, Graphic Design and Multimedia Studies.

CTE-Fire Technology

A certification of completion in Fire Technology is designed for those who wish to make the fire service a career but do not intend to pursue a 4-year degree. Fire Technology Certificate Programs prepare students for careers in the fire service, either public or private. A basic understanding in fire protection, prevention, combustion and behavior, fire company organization and procedures, and wildland fire behavior among other areas are the basis for the curriculum (College of the Canyons, n.d.). The role of a firefighter in society is critical for maintaining public safety. Those in the field take risks most others do not, and their life saving jobs are a critical part of a smooth functioning community. While they are rightfully heralded as heroes for their bravery and dedication, the field of firefighting has a past and present steeped in racism that also deserves acknowledging. To include perspective, institutional racism is just as prevalent within the fire service as it is within law enforcement. As an academy, agency, and industry that operates under paramilitary rules and regulations, fire departments and individual firefighters work hand-in-hand with law enforcement as “first responders.” Historically, the fire service was constructed out of a place of need. The earliest evidence available marks the first female firefighter as African-American woman Molly Williams, who was held under slavery by a

New York City firefighter in the 1780's. Devastating fires occurred frequently and fingers were being pointed in every community across the nation. Action was taken by the local governing bodies to officially organize people (Milligan & Ballew, n.d.). White Fire Commissioners were appointed to take charge at any fire and to conscript any and all bystanders and assign them to service, both free and slave. In 1833 New Orleans, four companies were documented: Volunteer No.1, Mississippi No.2, Lafayette No.3 and Washington No.4. It was noted in the government documentation that Lafayette and Washington were made up of "two squads of negroes, with a colored man named Johnson at their head" and it also noted that new equipment had been purchased and placed in use by the Lafayette and Washington companies (Milligan & Ballew, n.d.). The other two companies led by whites felt they should have received the new equipment and were jealous of the black companies and filed a complaint with the city. Throughout the 1800s, people of color were documented as firefighters enlisted to white fire companies, requiring twice the amount of training time required for white firefighters. Post Civil War, firefighters of color were treated like second-class citizens and were not afforded the same opportunities as their white counterparts, despite their proven ability to outperform them (Milligan & Ballew, n.d.). In 1886 Philadelphia did hire its first black firefighter, but it was not until 1974, when Club Valiants, an organization for Philadelphia's black firefighters, sued the city in federal court for more proportional representation that Black firefighters gained access to what historically had been a white-dominated organization. Firefighters of color

remained segregated until the 1960's, and once integration was in place, documented acts of racism against firefighters of color have been numerous. Firefighters of color have had to endure microaggressions and life-threatening racist acts across the country, such as finding that their oxygen tank has been mysteriously emptied.

In 1970 the International Association of Black Professional Firefighters was founded and as a result, first-time hires and promotions for firefighters of color were well documented across the country throughout the 80s and 90s (Milligan & Ballew, n.d.). Despite the rise in numbers of Black firefighters, racism against these heroes continued. Even as recently as 2018, a black firefighter found a noose in his locker at work. It was reported and was an expose to the New York Times followed with the headline, "I Was a Firefighter for 35 Years. Racism Today Is as Bad as Ever" (Stewart, 2018).

Today, fire academy students can find abundant racism resource pages published by fire departments across the United States, including news about how racism has been demonstrated in the fire service, as well as lawsuits and disciplinary actions related to alleged racist behaviors by fire service personnel. Racism in the fire service will be destroyed when men and women of character, devotion, and courage sit down and talk about issues that are hard to talk about. Company officers who are willing to put their crews on notice that intolerance has no place in their firehouse are more likely to successfully navigate the minefield of a race issue (Seicol, 2020). Company officers first should educate themselves about the challenges

associated with taking on a discussion about race and then gather the troops around the kitchen table and actually have the conversation. Unchecked hate and discrimination obliterate essential trust that first responders need and ultimately, unchecked racism puts all firefighters in great danger.

CTE-Graphic Design

Graphic Design Certificates at Community Colleges prepare individuals to apply artistic and computer techniques to the interpretation of technical and commercial concepts, in preparation to design websites from concept to completion. This may include basic design principles, website architecture and promotion, graphic design, web animation, audio and video production, instruction in computer-assisted art and design, printmaking, concepts sketching, technical drawing, color theory, imaging, studio technique, still and life modeling, multimedia applications, communication skills and commercial art business operations. (Cuesta College 2018).

According to the 2019 design census created by American Institute of Graphic Arts, Black people make up just 3% of the graphic design industry, while White people make up 71%. Native Americans make up 0.2%, Asian Americans 9%, and Multi-Racial reported 5%. (GRAPHIC DESIGNER Demographics And Statistics In The US, 2021). To place these numbers in perspective, note that in the 1960s only 1% to 2% of designers were Black, and that number has only

increased by 1% as of 2019 data. In 1991, a landmark symposium titled, “Why is graphic design 93% White?” by the Professional Association for Design began to ask difficult questions regarding racial disparities. (The Black Experience in Graphic Design: 1968 and 2020, 2020).

When we look at upper level leadership in the graphic arts industry and academies those numbers dwindle even more. In line with our country’s culture for the past 250 years, the history of graphic design stems from one dominant and white supremacist voice. The inability to bridge the gap is a failure of equity across educational institutions, industry organizations, and the design profession as a whole. To break the cycle, we need a more diverse mix of industry gatekeepers. Leaders must address the structural racism abound, in order to support disenfranchised youth who are facing these ongoing difficulties yet still have the will to succeed. The continued psychological trauma of always feeling as though they are being tied down and constantly suppressed by teachers, colleagues, clients, and the media makes their ability to create that much harder. The history of graphic design is frequently traced from the onset of moveable-type printing in the 15th century, yet earlier developments and technologies related to writing and printing can be considered as parts of the longer history of communication. After the Second World War, with the emergence of new color printing technology and particularly the introduction of computers, the art of poster-making underwent a new revolutionary phase. Unfortunately, the high costs associated with sophisticated printing processes can only be afforded largely by government entities and elite corporations, which

means communities with less wealth, often those of color, have been left out of the graphic design industry altogether. While people can create color posters on their laptop computers and create color prints at a relatively low cost, the costs associated with paper, printer, ink, and design software are still considered expensive for students living on limited incomes. With the emergence of social media and the internet, the role of the infographic in conveying information among groups of ethnicities has played history-changing roles in movements like Black Lives Matter (#BLM) and Missing and Murdered Indigenous Women (#MMIW). By searching hashtags like, #SocialJustice or #MeToo, a wealth of online creators of all ethnicities are freely sharing their work on social media for the first time in history. Graphic design has become a part of daily life for people of color who engage with each other online and seek to work toward common goals. Websites like Patreon offer graphic designers a place to sell their artwork and custom created content to the general public for nominal fees, allowing a small side income to be established for artists. However, K-12 education is still based on levels of resources available, and many students of color do not have access to computers which became evident when the 2020 COVID-19 pandemic forced students to continue their education remotely. Graphic design software companies like Adobe Inc. and Canva charge fees and make money from each user. Adobe Incorporated is owned by an Indian American, and Canva is owned by an Australian woman, and both companies promote the idea that graphic design should be accessible to everyone.

Graphic design is about communication. It is about access to information. To get more information to more people, we need a greater understanding about making that happen in an equitable fashion (Korsunskiy, 2020). We need the communicators, the designers, to better represent the people they're talking to. "Better representation means better communication, which means information is more equitably shared and knowledge is power" (Korsunskiy, 2020). The makeup of the industry needs to better reflect the makeup of our country. We need disenfranchised youth to get involved and we need design writers to seek out more inclusive stories and to help script the new equitable narrative. We need awards shows to open up entries, open up judging, and celebrate craft in all its many permutations (Korsunskiy, 2020). Ultimately, we need the people that do the hiring of agencies and companies to do the work of seeking out representation at every level of design. Contemporarily, white graphic designers appropriating designers of color with phrases like "bae" and "on fleek" is rampant across the graphic design industry as brands attempt to stay relevant to the growing racially-mixed population (Korsunskiy, 2020). As the recent #BLM protests have put more pressure on civil authorities and white-owned companies to acknowledge humanity towards people of color, this is the time for white graphic designers in influential positions to reach out to look inward to seek to address their own racial biases that prevent young designers of color from proceeding further. The people who make up the graphic design industry need to better reflect the makeup of the United States population.

CTE-Multimedia Studies

Multimedia expression involves storytelling at its most advanced, whether it be for Hollywood big screens, apps on our smartphones or shiny and bright online advertising, a multimedia studies certificate affords a student entry into the world of cultural creation. According to the College of Marin Career Technical Education website,

Multimedia Entertainment Designers use design skills, equipment and technology to produce audio/video content, visual effects, 2D and 3D animations for use in video production, video games, presentations, marketing materials and educational training. They create moving visuals that excite, explain and entertain.

Multimedia Entertainment Designers may work in the entertainment industry in video production, modeling or visual effect creation for movie, television, and game development. Or, they may work for schools, corporations or organizations to create eye-catching motion graphics and animations for use in presentations, marketing materials and educational training.

(Multimedia – Entertainment, n.d.)

The variety and scope of what a certificate in Multimedia studies can lead to is clearly vast and highly relevant in our ever more digitally accessed world. Often, the type of imagery and storytelling afforded those who create media can and do fall prey to the tropes and stereotypes that so often perpetuate racist, sexist and heteronormative narratives. A 2015 study by Kassia E. Kulaszewicz at the School of Social Work at St. Catherine University and the University of St. Thomas St. Paul, Minnesota discusses just this and how the media influences perceptions on racism and racial biases. Historically, people of color (POC) were largely unable to portray themselves in the media. POC representations were not first-hand accounts of their own stories, beliefs, opinions, culture, or identities, rather an imagined creation by those who controlled the industry. The media was, and in most parts, still is, controlled by white elites at the head of media corporations, who have been able to solely dictate how people of color were portrayed in films, the news, literature, and other forms of media. The research done by Kulaszewicz also incorporates Bandura's Learning Theory to understand how media messages can influence beliefs and values in the same way Bandura (and many others) postulates that social behaviors can be learned through others. (Kulaszewicz, 2015).

It is important to know what information is available to media consumers, and how the information consumed shapes, influences, and impacts individual agency, as well as thoughts, beliefs, and behaviors towards people of color. Kulaszewicz specifically focuses on the perceptions, stereotypes, racial microaggressions, and perceived racial differences of African

American males and finds that the skewed or limited information provided by media about a group a viewer otherwise does not have contact with leaves them only with what is provided in the media they consume which is often partial and filled with racial stereotypes (Kulaszewicz, 2015).

Language or word choice is also of significance in terms of how stereotypes and racists beliefs are constructed in the media. The use of identifier word patterns, using the words “black” and “white” to depict things either seen as positive or negative help shape racialized beliefs. On average, the word “black” is used three times more than the word “white” in the news. The constant usage of the word “black” in a negative connotation can extend into a microaggression, as it conditions and socializes the mind to correlate the word to negative thoughts and ideas (Kulaszewicz, 2015). Black men are often criminalized in the media, and the research revealed patterns of criminalization and justification for this criminalization in the stories we are told. In contrast, in the case of police brutality, when a White officer shoots or commits other excessive and unnecessary acts of violence against a Black man, the officer and their actions are supported regardless of their own criminality. The research suggests that a correlation exists between the media and racism; specifically, media that reinforces racism and perpetuates racial stereotypes, thus exacerbating systemic inequality and racism (Kulaszewicz, 2015). As multimedia students and scholars undertake reimaging imagery and storytelling, they have an obligation to commit to changing the narrative so often found in mainstream media.

Only then can we move past the damaging ways in which our systems of media have solidified the structures of racial and gendered inequality.

Chemistry

Chemistry is the branch of science that deals with matter and how it changes. This includes the identification of substances composed of matter, the investigation of atomic and molecular properties and the ways in which they interact, combine, and change, as well as the use of these processes to form new substances. The field of Chemistry, as with the majority of the Science, Technology, Engineering and Math (STEM) fields, is permeated with an historical legacy of structural racism.

In 2020, a conversation took place during #BlackInChem week about the lack of representation in the field and microaggressions felt by Black Chemistry students. Looking at ways to address this involved surveying students of color in the field of chemistry about their experiences and what steps they perceived would be helpful. Many students cited a need for effective mentorship not just from faculty, but peer mentorship as well. They also stressed the need for greater financial support to allow them to devote time studying rather than working side jobs in order to survive. When students come from families that do not have prior experience with higher education, perhaps they are first generation college students, they also need help navigating the educational system (Remmel, 2020 12:15). Mentorship can come from internships in industry or research with faculty members in their academic labs. There has been funding put in place to target diversity in STEM via both of these types of mentorships. Also knowing about scientists of color is empowering for students. Teachers have an opportunity to

highlight those individuals as a part of their curriculum. The Marberger STEM Center at Lawrence Technological University (<https://www.ltu.edu/stem-center/>) is a great resource for STEM faculty wishing to make their teaching more inclusive. It is important to note that the responsibility of diversifying the field cannot just fall on the Black scientists but rather a united effort on the part of all scientifically minded educators and researchers.

What will become clear as you read through this primer is that representation matters. It is important both for students of color and women to see themselves in their fields of study, so hiring practices in chemistry should reflect that goal. Additionally, for those faculty who do not represent the demographic of their students, it is important to highlight prominent thinkers in their field that are not just white men. In an effort to learn more about the history of Black Chemists here we highlight the first African American to earn a PhD in Chemistry.

Born in Louisville, Kentucky in 1884, Saint Elmo Brady became the first African American to earn a Ph.D. in the field of chemistry when he completed his graduate studies at the University of Illinois in 1916. Brady studied chemistry at Fisk University in Nashville, Tennessee and earned his B.S. degree in 1908. After graduation he accepted a faculty position at Tuskegee Normal and Industrial Institute (now known as Tuskegee University) and was mentored by George Washington Carver and Booker T. Washington, President of Tuskegee. He began graduate studies in the Department of Chemistry at the University of Illinois in 1912, earning his M.S. degree in 1914 and completing his doctorate in 1916.

As a graduate student at Illinois, Brady's research focused on the characterization of organic acids. Brady eventually published three abstracts focused on his graduate work in *Science*, a prestigious peer-reviewed journal.

After completing his doctorate, Brady returned to Tuskegee and continued teaching until 1920. He also served as chair and faculty of the Department of Chemistry at Howard University and Fisk University. (Collins, 2007).

In the summer of 2020, the president of the American Chemical Society (ACS) issued a statement in response to the killing of George Floyd. As one of the world's largest scientific organizations they felt the use of their platform to connect the field of chemistry to social justice and structural racism was important (Echegoyen, 2020). There is an acknowledgement on the part of the American Chemical Society (ACS) that their publications do not represent enough diversity of voice and they released this statement denouncing racial violence. They, like other academic organizations, have committed to a number of first action steps including a commitment to diversity of journal contributors as a part of the evaluation of the Editor in Chief (Advancing ACS', nd). Placing the task of ensuring diverse representation in the publication they edit as a part of their job performance ensures accountability and the outcome is easily measurable. In order to do so, it will be important to circle back to see how this equity work shifts the demographics of the field.

Communication/Film/Speech

The study of communication in academia examines the process of human communication cutting across socio-economic, political, and cultural contexts, dealing with how meaning is generated in different communication settings (“What is Communication Studies”, n.d.). Racial inequalities and the colonial legacies of white supremacy permeate scholarly and public discussions in the field of communications (Chakravartty et al., 2018). As part of an ongoing movement to decenter white masculinity as the normative core of media and communications, white women were once considered the only diverse component on American TV screens.

In analyzing the demographics of who graduated with communications degrees in 2019, about 56.1% of degrees were awarded to Whites, 15.7% to Hispanics, 11.6% to Blacks, 4.19% to Asians, 0.318% to Native Americans, and 4% reported mixed racial identity (“Communications”, n.d.). Given the central role of universities in social reproduction, and in the creation and legitimation of knowledge, equity and its place in higher education are a subject of significant interest in both social movements and scholarly critique across the United States. However, not only do the demographics of educational degrees not represent our country as a whole, the publication of authors and scholars of color is also vastly disproportionate. By coding and analyzing the racial composition of primary authors of both articles and citations in journals between 1990–2016, one study found that non-white scholars continue to be

underrepresented in publication rates, citation rates, and editorial positions in communication studies (Chakravartty et al., 2018).

White supremacy has a habit of finding opportunity in new innovations in media, technology, and communications. In the shift from the print-only-era to the Internet era we see the distinct advantage wealthy whites had over students and faculty of color. White supremacists understood this period of innovation early on, and saw ways to exploit it to further their ideological goals (Daniels, 2019). The 1915 film *Birth of a Nation*, directed by D.W. Griffith, premiered, giving white supremacists an opportunity to parade outside the theatre in celebration of their group's rise after their defeat in the Civil War (Daniels, 2019). Griffith also premiered his film at the White House for Woodrow Wilson, who is quoted in the film and stated that it is, "history writ with lightning" (Daniels, 2019). With these new avenues of publication for their ideologies, the KKK began to create film companies and produced more films to be screened at events, churches, and schools, obtaining an estimated five million members by the mid 1920's (Daniels, 2019).

Almost a century later, another generation saw the same potential to spread white supremacy in digital technologies. As Derek Black, son of Don Black (founder of Stormfront, a white supremacist website), said in a recent interview with Michael Barbaro on The Daily podcast, reflecting on his childhood in the 1990s, they were a family of early tech adopters, always looking for innovations that they could exploit for the cause of racism:

Pioneering white nationalism on the web was my dad's goal. That was what drove him from the early '90s, from the beginning of the web. We had the latest computers, we were the first people in the neighborhood to have broadband because we had to keep Stormfront running, and so technology and connecting people on the website, long before social media. ...When I was a little kid, I would get on chat rooms in the evening ... and I had friends in Australia who I would talk to at a certain hour ... I had friends in Serbia I would talk to at a certain hour (Barbaro, 2017).

Stormfront's successful global reach initiated more online white supremacist sites such as, The Daily Stormer, now the largest global neo-Nazi website with servers based in the U.S., run by Andrew Anglin and Andrew Auerbheimer (Daniels, 2019). In the years of early Internet, there were no gatekeepers as there were in broadcast news and print media, so the new virtual world acted as the perfect platform for white supremacists to create and disseminate racist propaganda (Daniels, 2019). For example, Stormfront's motto stated, "white pride worldwide" (Daniels, 2019).

However, as communications is not limited to the internet, we must take a look at the leaders of linguistics, such as its governing body, the Modern Language Association, (MLA). It is

prevalent in America today that masses of people harbor negative assumptions about the different ways other people speak.

Before the eighteenth-century speakers like Chaucer and Shakespeare used double negatives commonly, but they are now socially unacceptable (Luu, 2020). African Americans who speak in what is known as African American or Black Vernacular English (AAVE or BVE) have been stigmatized as uneducated by using double negatives and other grammar not typically used in standard American English (Luu, 2020). People who speak dialects that are not considered standard, or mainstream face several challenges like, renting an apartment, getting job interviews, and interacting with police because many people harbor negative assumptions based on how one may speak (See also the section on [English](#) for a discussion on this) (Luu, 2020). Western linguistics, particularly its study of Eurasian languages, arose against a background of Eurocentrism, colonial racism, nationalism, and related theories, later espoused by Nazism and other White Supremacy movements. Significant traces of this racism remain in contemporary western linguistics, casting a dark shadow over how the world is viewed by those educated by the American educational institutions.

In 2021, the MLA held two panels titled “Decentering Whiteness,” with one panel for scholars of color and another panel for scholars of white heritage (Flaherty, 2020). Several postcolonial literary theorists have drawn a link between linguistic discrimination and the oppression of indigenous cultures. Prominent Kenyan author Ngugi wa Thiong'o argues in his book

"Decolonizing the Mind" that language is both a medium of communication, as well as a carrier of culture (Kamoche, 1987). As a result, linguistic discrimination resulting from colonization has facilitated the erasure of pre-colonial histories and identities (Kamoche, 1987). If we are to achieve true equity in the United States, we must rewrite the relationship between race, language, and racism, which plays such a key role in reflecting and defining the way our society is structured.

Computer Science

Computer Science is the study of computation, algorithms, and technologies, as well as their impacts on society and applied uses. In an ever evolving world, Computer Science is one of the main theses of the STEM argument that technological innovation sets the basis for the rest of society. The use of technologies such as facial recognition technology, artificial intelligence, and automation, have potential for vast changes in society. However, it is not guaranteed that these changes will prove positive for society.

In June 2020, introspection and reflection arose with fervor in the wake of the murder of George Floyd. This held true throughout academia, including the field of computer science. A cohort of Black computer scientists, including professors from the University of Michigan, wrote an open letter calling to combat and end racism within the discipline, in which they discussed the history of inequity, and asked for a role in establishing fairness and equal opportunity, as well as equal partnership and representation within the leadership in the field (McAlpine, 2020). In a nation that was built on discrimination and white supremacy, no facet of the society is spared, and this includes Computer Science and the increasingly advanced technological innovations. Artificial intelligence and Big Data continue the cycle of inequality and specifically target historically marginalized people of color. While technology is praised as a tool of societal advancement, these same technologies marginalize and disrupt communities of color with racial profiling. The letter articulates multiple offenses in Computer Science education. From

microaggressions such as black students being harassed and followed while accessing research and computer labs, to being told they do not fit industry culture, students face challenges on the basis of their race in addition to all the other everyday challenges of higher education. (An Open Letter, 2020).

Innovations such as AI (Artificial Intelligence) and Big Data are continuing to target historically marginalized communities. Algorithms systemically segregate decisions such as admissions, housing, hiring for jobs, and more. Facial recognition technology and machine learning label Black people as criminals, leading to automated racial profiling. There is a historic connotation of police and law enforcement labeling and stereotyping Black people as criminals and outsiders who do not belong. This has held true over the decades, even at universities. Many colleges have looked to automate their methods to determine who belongs on campus, and who does not and may be a criminal.

The University of California, Los Angeles (UCLA), one of the first colleges to utilize facial recognition, decided to use the technology to identify people in the view of the cameras dispersed all throughout campus. The nonprofit organization, *Fight for the Future*, decided to mirror UCLA's actions, and found harrowing results. The organization used Amazon facial recognition software *Rekognition*, and compared over 400 members of the community, including faculty members and student athletes to mugshots from a large scale database. This test returned 58 false positive results, connecting students and faculty with people who were

identified as criminals in the mugshot database. The most common misattribution occurred with people of color, and many times, two people with *nothing* in common beyond race were identified as the same person with “100% certainty” (Jones, 2020).

Furthermore, Daniel Neill and Will Gorr, two researchers at Carnegie Mellon University, developed a software tool named CrimeScan. CrimeScan was designed to be a crime-predicting aid (Rieland, 2018). The pair asserted that crime can have a “gateway effect,” and that smaller scale crimes serve as a predictor for more serious crimes in the future. These programs also frequently rely on past police data. By using historical police data that is built on racial biases, further feedback loops are built that continue the same cycles of race based policing. Certain neighborhoods are deemed as “good” and “bad,” and this causes arrests and policing based on Artificial Intelligence to be even more at risk of bias, as they are based on police decisions, not actual crimes (Rieland, 2018).

Another ethical query arises: if a tool raises more expectations for crime in a neighborhood, will this in turn increase police aggression in said neighborhood? And if this is the case, will this give more data that confirms the current AI bias? Several organizations, such as the Brennan Center and the ACLU, have also posed questions about flaws in the AI systems, and biases being programmed into the system.

Timnit Gebru is a computer scientist who specializes in artificial intelligence, and the former co-lead of Google’s ethical AI team, until she reported being forced out. Gebru

coauthored a revolutionary article that discussed that facial recognition was significantly *less* accurate at identifying women and people of color, which can lead to discrimination against them (Hao, 2020). Based on records including articles, tweets, and emails, Gebru's article was met with disdain from her colleagues, specifically, Jeff Dean, the head of AI. According to Dean, the paper failed to meet the expectations set for publication. At least 1,400 Google staffers and 1,900 others have signed letters of protest, and several other prominent AI and ethics figures argued that Google forced her out because of her role in raising queries on the ethical application of artificial intelligence, and other forms of advanced technological innovation.

The discriminatory aspects of technology exist in subjects beyond artificial intelligence, such as machine learning, hiring algorithms, and even healthcare. The organization, Black in Computing listed several actionable items to promote change and equality in the field. These items include, but are not limited to supporting underrepresented students, improving workplace and academic environments, and changing outdated policies and procedures (Action Item List, nd). Technology is ever evolving, yet it must also evolve in an equitable and just direction, or else society risks falling into a dystopian world like those found in science fiction.

Early Childhood Education

Early childhood education (ECE) consists of activities and/or experiences that are intended to support developmental growth in children prior to their entry into elementary school (“Early Childhood Education”, n.d.). The discipline helps educators who are entering the field have an understanding of the developmental stages of children and their lived experiences. It explores the various stages and how childhood experiences, both positive and negative, affect development. In many ECE degree programs, students take courses dedicated to some type of diversity awareness; however, current biases towards young children of color in ECE programs remain. Lack of cultural competency on the part of scholars and educators in the field have created a situation in which very young children are being sanctioned for not fitting the mold put forth by educational standards and policies. Children who act out, fail to use their words, or demonstrate what is often developmentally appropriate but unpleasant behavior, are being treated in a developmentally inappropriate way. Early childhood educators are tasked with scaffolding skill building to students who are just beginning their engagement with society, and the teacher’s role to guide them is a powerful one. We are witnessing children not receiving nurturing guidance but rather, punitive interventions that do not help them learn from their actions. An example of this is suspension and expulsion of children as young as 3 years old.

An opinion paper by Dr. Dolores Steglin, Senior Fellow at The Institute for Child Success and Professor Emerita at Clemson University, examines this alarming trend and the problems associated with it (Steglin & Emerita, 2018). At present over half the states allow for expulsion of preschool aged children. However, “recent legislative efforts to address school discipline policies have focused on: restricting expulsion and suspension by grade level and infraction; limiting the length of exclusion; implementing and enhancing reporting mechanisms; and strategies to re-engage the student and family” (Rafa, 2018). The use of suspension and expulsion at the preschool level is higher than K-12 and over 40% of those expelled are African-American boys (Dobbs, 2005). These early experiences in the educational system affect how students fare in school going forward so this practice has long lasting consequences. So why are these practices taking place at such a high rate and why are they disproportionately affecting very young (3-4 year olds) students of color, in particular Black boys? A tool used in ECE, *Early Childhood Discipline Policy Essentials Checklist* (ECDPEC) found “that most early childhood program discipline policies fail to sufficiently address those essential features known to contribute to reducing challenging behavior and promoting pro-social behavior in young children.” (Longstreth, Brady, & Kay, 2013). The authors of the study go on to provide a framework for decreasing the uses of suspension and expulsion which can be attained by teacher practices of cuing into socio-emotional development. In fact the role of the teacher was shown to be key in student success.

This study provided helpful information on specific practices within preschool classrooms that are likely to lead to decreased or increased rates of preschool expulsion and suspension. This study also confirmed the importance of environmental factors and positive teacher-child interactions in reducing rates of preschool expulsion. This study serves to validate the importance of providing program support in the areas of social and emotional development as well as focused interventions for children with special needs and/or mental health issues (Longstreth, Brady, & Kay, 2013).

Implicit racial bias on the part of teachers also plays a role in the treatment of their students based on their race or ethnicity and the levels to which they will address what can be considered discipline worthy behavior. A way to offset this is to train culturally competent teachers working in classes that are not overcrowded and underfunded. Early Childhood Educators (ECEs) are often the first non-familial adults to interact with the children in their care. This is a pivotal time for students to learn social norms and practice behaviors. Research conducted using the Adverse Childhood Experiences (ACES) measurement scale suggests that the impact of preschool expulsion and suspension can lead to:

Early trauma on the child's later development and the relationships between early trauma and associated health conditions, both physical and mental. As such, expulsion and suspension practices in early childhood settings – two very stressful and negative experiences young children and their families may encounter in early childhood programs – should be prevented, severely limited, and eventually

eliminated.(Felitti et al., 1998; U.S. Department of Health & Human Services, n.d.).

Policy work is being done both within certain states and on a national level to reduce or remove the use of expulsion and suspension as a tool for ECEs while also helping young children develop their socio-emotional skills effectively. This involves implementing policies without bias, involving families, hiring a highly skilled workforce, transparently stating goals, and collecting data to measure success (Stegelin & Emerita, 2018) Children are apt to stumble along the way and the role of the teacher is to guide and redirect, not punish and disregard them. By doing this, a child is forever wary of a system that was supposed to teach them but instead failed them. Rather than expulsion or suspension, ECE's can look for ways to reach children in an effective way that helps them navigate social rules and norms.

Economics

Economics is a social science concerned with the production, distribution, and consumption of goods and services. It studies how individuals, businesses, governments, and nations make choices about how to allocate resources. Allocation of resources for national prosperity and growth sets a foundation for the nation's success (Hayes, 2020). Ethos like rugged individualism and ironically, pulling yourself up by your bootstraps, which is of course impossible, serve to enforce a myth of meritocracy that allows for judgements to be cast for those who do not fit the societal perception of "success," and make it harder to identify the ways in which this myth is harmful to individuals and the larger society. When only some of a nation's population are economically secure, the entirety of the nation and its future is at risk.

The United States has a particular problem with income inequality and the ways in which economists address these matters. In most fields of study, disaggregation, the breaking down of differing variables of data, is needed in order to see patterns often masked by aggregate data. Traditionally, the focus of economic measures has been on aggregate success/failure of the economy, but when you disaggregate you get to see a clearer picture of who is economically successful and comfortable and who is not. Disaggregation shows that economic prosperity and hardship falls down racial lines. Using this data to create economic policy is where the most economic impact can happen if programs are then targeted based on the data. Typically, neoliberal approaches seem to still permeate the field of economics. The

notion that “a rising tide lifts all boats,” has not proven to be the case. Inequities of employment, income, and wealth persist for Black Americans no matter their educational attainment. In, *How Economic Assumptions Uphold Racist Systems*, Gamble (2020) writes, “Even if economic growth lifts all baseline living standards, persistent inequity, even at a higher standard, is still unjust”(Gamble, 2020). According to Gamble, there is a need to interrogate assumptions made about economic research and pedagogy in order to address racial wealth disparities, specifically:

- The assumption that value equals price. Taking the example of essential workers under Covid-19 times. While classified as such, they are often underpaid by comparison and predominantly made up of people of color. Market power of employers, outdated labor standards. and lack of union organizing all contribute to this. As a result, “the wealth gap between Black and white families is as wide now as it was in 1968. And extreme wealth, which is overwhelmingly white, has increasingly more control over political agendas as inequality increases.”
- The assumption that behavior represents the independent and rational preferences of individuals. This assumption does not sufficiently consider history, power and institutions in the shaping of behavior (Gamble, 2020).

These lived understandings of economics and the ways in which inequality plays out are missing in the neoliberal approach. Economists Anna Gifty Opoku-Agyeman and Fanta Traore wanted to know the percentage of Black women in the field. What they found is that it has been declining since 1995 and there are very few, 4% of all Economics BAs and 0.5% of all PhDs are earned by Black women. There is only 1 Black woman economist at the federal reserve out of a total of

409 economists, which raises questions regarding economic and fiscal policy making (Weingarten, 2020). This lack of representation prompted Opoku-Agyeman and Traore to form [*The Sadie Collective*](#), an organization which works to get more Black women into economics related fields by illuminating the many roadblocks they face and attempting to remove those barriers. They cite structural racism in the field as the reason the discipline is so white. A future with more economists of color will have major implications on the lives of Black and Brown people. These future economists will be part of the financial decision making and have a voice and role regarding future fiscal policies. In the past, this has not been the case, and recessions have hurt marginalized communities at a significantly greater rate. By placing Black women in positions of prevalence and authority, our society begins to allow for representation of voices that are typically left out of economic policy discussions (Weingarten, 2020).

A [*White Paper*](#) was created by *The Sadie Collective* to address the need to diversify the field. This white paper addresses how to use financial commitments from high profile corporations and the newfound awareness of the racial inequity to upend systemic racism and improve access for underrepresented groups. Education statistics show that Black women in particular are underrepresented in the fields of math, economics, accounting and finance. There must be a commitment to cultivate a pipeline for Black women that begins earlier than their college careers to expose them to opportunities in these fields and support them along the way (The Sadie Collective, 2020). As there are few Black women majoring in these fields, in

turn, there are few of them working in the corresponding professions. The global pandemic disproportionately hurt Black women who now sit at over 12% unemployment rate, much higher than the national average (Weingarten, 2020). Add on structural racism being evidenced lately by police killings of Black women further disadvantages them. The corporate world is at a critical juncture as it seeks to find ways to bring Black women into the field.

The paper cites specific barriers to Black women's entry into the field:

- Access to Information
- Discrimination in the Field
- Lack of role models

The Sadie Collection is a valuable resource for changing this. They offer a network of over 1000 Black women and allies in the field, offer mentorship, host conferences and create and partner on other vital outreach measures.

They offer two key ways to address the pipeline problem:

- Adopting the Black Women Best Framework
- Allocating Annual Funding for Black Women Led Initiatives That Support The Pipeline

The corporate world is at a turning point along with much of the nation and *The Sadie Collective* seeks to center Black women as a part of the change (The Sadie Collective, 2020).

Engineering

Engineering is the applied use of mathematics and sciences, including chemistry and physics, in order to complete tasks such as building structures, parts, infrastructures, and machines. In a society like the United States, where constant growth, innovation, and improvement is expected, Engineering is nearly always promoted to students, especially those with interest or aptitude in math and science classes. In large part, this has led to the “STEM or Starve” narrative, where majors included in the STEM fields (Science, Technology, Engineering, and Mathematics) are viewed as superior, as they are those fields with the most applicable and profitable value. This mindset is dangerous for several reasons, including its exclusion of other disciplines such as social sciences (which, despite being sciences, are not included in STEM), less applied forms of traditional sciences, and the arts.

Engineering design and build has a direct impact on the structure of the world. Like other disciplines, Engineering is also a predominantly white male driven industry and field of study, and there is little representation of women or a variety of ethnic minority groups. Over the last 30 years, the overall number of bachelor’s degrees awarded to Black scholars has increased. However, in engineering disciplines, the proportion of Black students who receive degrees has maintained a consistent rate of roughly 4% (Patel, 2021). An article by the Hechinger report provides additional information and statistics. The National Science Foundation, (NSF) found that from a 15 year window spanning from 2001 to 2016, Bachelor of Science (BS) degrees in

engineering earned by Black students declined from 5% to 4%, and mathematics degrees earned by black students decreased from 7% to 4% (Newsome, 2021). Despite the supposed demand and need for massive increase in STEM educated students, the disciplines seem to be regressing in their mission for diverse inclusion.

Microaggressions also are a frequent occurrence for ethnic and racial minority STEM students. Amida Koroma entered the University of Maryland as a Bioengineering student, and was a regular recipient of honors such as the Dean's list. She reported that often, white students would undermine her, and rather than allow her to take on hands-on roles, assign her to tasks such as typing and recording. This cycle eventually led her to become so frustrated that she decided to change her major to Psychology, thus turning away from Bioengineering.

(Newsome, 2021) An article published in the *International Journal of STEM Education* further described these racial microaggressions (RMAs) within the disciplines. The research involved a survey of 4800 students of color, with a STEM subset of 1688 students of color. The study found that on a campus, academic, and peer level, microaggressions were a significant factor in the lack of students of color within the STEM majors. Students in the survey also reported that being the only, or one of the only students of color within STEM classrooms led to feelings of isolation, loneliness, and invalidation. This creates a self-fulfilling prophecy, and because STEM students of color feel alone, they are less likely to enroll in and stay within the field, which leads to lower levels of representation and increased feelings of isolation and non representation

(Lee, Collins, et. al, 2020). College enrollment as a whole for Black students was on the decline as well. As of Fall 2021, Black freshman enrollment was down 7.5%, and their decline in enrollment was greatest at two year, public colleges, or community colleges, which are often heralded as great equalizers due to their affordability and accessibility (Lee, Collins, et. al, 2020).

Beyond bachelor degrees, advanced degrees in engineering are also riddled with inequity and environments of hostility. Brian Burt is an assistant professor at Iowa State in the School of Education, as well as the lead author of a research article which describes a graduate engineering degree for Black men as “riding out a storm”(Hunt, 2020). The metaphorical storm, as Brian Burt describes it, represents the tensions and struggles these young men face as a result of structural inequalities, and faculty who are largely either unwilling or unable to support these underrepresented students through the storm (Hunt, 2020). On a societal level, there is a belief that success and failure are representations of individual character, and so there is a belief that students who drop out of an engineering program do so because they are not smart enough or are otherwise incapable of success. However, that explanation relies on individual flaws, when actually and the main challenges that students faced were systemic and structural, not individual, and thus out of their control.

Marcus, a third year student in the program stated, “People are naturally going to want to be around people who look like them,” and that, “As a Black man in engineering, I don’t have

that camaraderie. So, I am forced to immediately look outside of my comfort zone in order to find people who I can study with, talk with, and have overall support” (Hunt, 2020). This lack of camaraderie from peers with similar experiences can exacerbate feelings of isolation and feeling a lack of belonging. Some students even reported that they considered leaving their programs due to this feeling and a lack of support. Students further reported receiving discouraging messages from advisors, which ranged from passive aggressive slights to explicit challenges about the student’s ability to conduct doctoral level work and research.

The disparity in engineering does not end in the classrooms. From a salary perspective, pay inequality is rampant. On average, a white worker with a bachelor’s in engineering earns \$90,000 a year, while Black workers with graduate degrees earn an average of \$87,000 (Patel, 2021). In order to improve equity in the discipline, there are several actions which can be taken. First, universities can improve recruitment by admitting more Black students, and take steps to improve retention. For example, establishing learning communities for underrepresented students provides a sense of belonging and support for underrepresented students. Universities and individual departments can also help students learn to be culturally sensitive and aware. Free college is also a fair and, given the value of education, realistic suggestion.

Underrepresented students, especially first generation students, do not have the familial and generational resources to attend college on their parents' dime. This forces students to combine working part time or even full time jobs in addition to being a full time student, while

also trying to pursue personal and career experiences. This can create near insurmountable amounts of pressure, and make it more difficult to secure internships and career opportunities. Service learning and paid internships may also prove beneficial, as they would provide for cultural capital and financial relief for students. Engineering, like the larger entity of higher education, has a need to improve equity and opportunity for all students. The future of our nation and innovation may depend on it.

English

English is the study and delivery of the English language in context. It is a required gateway all must pass in pursuit of higher education in the United States. The discipline is meant to standardize language and writing of students so that their work may be evaluated in relation to what is considered English as defined and maintained by those in the field. This is oftentimes where problems arise. In many of the sections in this reader, a discussion about who controls the creation and maintenance of knowledge and thus what becomes standard is being described. In this particular field, racist ideas about what standard English is have dominated the field since its inception. Many academics in the field are making the connection between language and white supremacist ideals of “proper” English. Those academics seek to dismantle and re-examine current rules about what is acceptable in an effort to include a larger swath of language used in the United States (Baker-Bell, 2020).

In the wake of the murder of George Floyd, an unarmed Black man by Minnesota Police Officer Derek Chauvin who placed his knee on Mr. Floyd’s neck, killing him in front of witnesses and filmed by a courageous bystander for the whole world to see, an awakening took place by those who were previously unaware of the ways in which structural and individual racism plague the lives of Black, Indigenous, people of color nationwide. While many more named and unnamed individuals have also been killed by law enforcement, his death served as a rallying cry for justice. As stated throughout this document, academia is also guilty of racism and is

rooted in white supremacy. Many academic disciplines felt moved to respond to this and commit to do better. English, like other areas of study, always had within it, faculty who were long time spokespeople to shift this norm and have been having conversations about how to address this. Now that racial justice is in the spotlight, many are demanding change.

A position statement by the Conference on College Composition & Communication (part of the National Council for Teachers of English, considered by many the most significant professional organization for faculty in English) identifies specific ways in which structural racism has been built into the teaching of the English language. The authors provide a list of demands that need to be considered in an attempt to facilitate Black Linguistic Justice in the wake of the Black Lives Matter (BLM) Movement. Included in this list are: issues surrounding framing academic, “standard” English as the norm, and acknowledging that this is a social construction which is entrenched in white supremacy and which forces many Black students to code switch. Also adding more authors of color to curriculum, and insisting that academia address anti-Blackness as endemic to how language functions. Lastly, an examination is required of how English/education has been historically situated, and how college writing has been actively constructed.

It is a call to faculty in English to stop positioning White language as the standard English and to do much better in their own self-work in order to challenge the multiple institutional structures of anti-Black racism used to shape language politics (Baker-Bell, 2020). This type of engaged

pedagogy that employs a variety of acceptable language including Black Vernacular English (BVE) can be liberatory for students and faculty who are so often marginalized.

An unbroken connection exists between the broken English of the displaced, enslaved African and the diverse black vernacular speech black folks use today. In both cases, the rupture of standard English enabled and enables rebellion and resistance. By transforming the oppressors' language, making a culture of resistance, black people created an intimate speech that could say far more than was permissible within the boundaries of standard English. The power of this speech is not simply that it enables resistance to white supremacy, but that it also forges a space for alternative cultural production and alternative epistemologies-different ways of thinking and knowing that were crucial to creating a counter-hegemonic worldview. (hooks, 1994 p.171).

In reality, much of our pop culture and political slogans originated from BVE. For example, “Stay Woke,” which has been changed to “Woke,” which has been in turn co-opted into a negative term by more conservative groups.

The English Department at Loyola University released a response to the killing of George Floyd and their commitment to do better. Their statement summarizes the connection of literary canons to whiteness and the English discipline’s roots in imperialism and Eurocentrism. They list 5 affirmations:

- Black lives matter.

- Racism is based in white supremacy.
- Literature and literary canons have been used to validate white supremacy.
- All spaces at the university, including our classrooms, should be inclusive and welcoming to all BIPOC students, staff, and faculty.
- Systemic inequity exists, and confronting racism requires that we actively facilitate conversations about it in the classroom (English Department's Commitment, nd).

They go on to explain how they will keep this commitment including reinstating a tenure-track faculty position in African American literature and continuing educating themselves about anti-racism and engaging as a department in discernment (English Department's Commitment, nd).

The University of Chicago affirms a commitment to BLM and states they will only admit graduate students specializing in Black Studies for 2020-2021. Further, they acknowledge that, “English as a discipline has a long history of providing aesthetic rationalizations for colonization, exploitation, extraction, and anti-Blackness” (Faculty Statement, 2020).

Although indirectly tied to English as a discipline, the publishing industry is closely connected to creative writing programs, which typically fall under English. Those programs have proliferated immensely in the past few decades, particularly in graduate programs, but the

realities of the publishing world mean creative writers of color are less likely to find equity in the process of getting published (So, 2020).

Publishing is mass marketed to white audiences more than people of color. This continues in academia, as English faculty feel obligated to only “teach the classics,” and not highlighting important creative writers of color. This leaves English students with a false understanding of who the great English thinkers and writers are. In efforts to offset this, there are writers of color workshops, meet ups and Instagram sites like ["black girls read"](#), [Voices of Our Nations Arts Foundation \(VONA\)](#), and [The Root](#), which highlight writers of color (Wabuke, 2015).

English as a Second Language

English as a Second Language (ESL), courses at U.S. institutions are designed to help non-native English speakers learn English. At many colleges they are split into credit bearing and non-credit bearing units students take. Beginning to advanced noncredit ESL classes take an integrated skills approach, practicing the fundamentals of grammar and vocabulary for every day and employment situations through listening, speaking, reading and writing activities. These classes help students improve their English so that they can communicate in their everyday life. These classes are often offered for free. The intermediate and advanced level classes which are credit and cost bearing are more skills-focused and relating to employment and academic scenarios. Offerings include separate classes for grammar and writing, reading and vocabulary, listening and speaking, and pronunciation (ABOUT ESL PROGRAM, 2021).

Without a mastery of some level of English, survival in the U.S. is more difficult. While there are many aspects of social structure that have information available in multiple languages, there are situations in which without a basic understanding of English, navigation becomes difficult. The decision to learn English for many non-native speakers often involves subtle ways in which these students are forced to give up some of their native culture in order to assimilate into American society. Managing two cultures can be difficult and this is why for students whose home culture matches what we might call dominant U.S. culture (tracing its

roots from White Anglo-Saxon Protestantism) college curriculum has always been more reflective of what they already know.

Having to pivot from your home culture to the one most prominent in higher education is extra work that middle and upper class white students do not have to do. Additionally, perceptions surrounding a failure to integrate and navigate society "properly" (per expectations) can lead to ostracization and discrimination. Along with that, extra learning also sometimes comes with a value judgment that non-native speakers often feel as new students. ESL teachers who are not culturally competent can, whether intentionally or not, impose their cultural bias on their students, making them feel like their culture is not as important as the dominant white culture. Experts in the field stress the importance of having ESL students express values, beliefs, and norms from their home culture as well as trying to adapt into American society. Oftentimes, there is an assumption that immigrants need to assimilate into their new society to be accepted. However, forced assimilation is not the best practice for English language learners. Assimilation should not be the end game if it means losing one's roots.

ESL classes and the work that come along with them is a process that many non-native English speakers must go through in order to have the possibility of being accepted by society. ESL classes play a vital role in the assimilation process that many immigrants undergo in order to live their lives and even when doing so they still may not be accepted and sometimes face

discrimination. Rather than demanding that ESL students change to fit into the culture, it is important to help new students learn English, while also honoring valuable knowledge that they carry with them from their home countries. Some recommendations for ESL teachers are to engage in open dialogue, invite student's families into their educational life, as well as embrace and validate their cultures. It is critical for students to feel that every part of them is being accepted. Students shouldn't feel that they must assimilate and lose part of themselves just to be able to obtain acceptance into U.S. society. The role of ESL classes cannot be just to assimilate people into society. Instead, it must also incorporate the many beautiful things that students in ESL classes bring from their home cultures. Society at large is richer with the embracement of the diversity of a nation of immigrants and the varied cultural bricolage that have developed.

Environmental Science

Environmental Science is defined as an “interdisciplinary academic field that draws on Ecology, Geology, Meteorology, Biology, Chemistry, Engineering, and Physics to study environmental problems and human impacts on the environment” (Kte’pi, 2014).

Environmental Science provides knowledge and learning across several disciplines to create a more holistic understanding of human interaction with the planet and atmosphere.

Environmental Science is a field with an inherent impact of the intersection between society, the environment, and human survival. In fact, in the face of an impending environmental crisis, Environmental Conservation and Innovation are among the most needed fields for overall species survival.

In spite of this fact, Environmental Science is one of the least diverse STEM fields. While African American account for 13.6% of the U.S. population, they received just 2.8% of Environmental Science degrees awarded in 2016 (Ruf, 2020). This disparity and underrepresentation has been questioned multiple times, and rather than recruit minority students, or conduct research to find insights on why this disparity exists, universities, faculty, and administration choose another explanation, stating that “People of color are not interested in the environment” (Ruf, 2020). This narrative is a generalization and oversimplification that fails to accurately convey reality.

In 2018, the Proceedings of the National Academy of Sciences (PNAS) concluded that both white people and people of color associate the term “environmentalist” with a white face, and that both demographics also underestimate the environmental concern felt by racial and ethnic minorities. Despite being perceived as the least environmentally sensitive, all surveyed minority groups (Native Americans, African Americans, Latinxs, and Asian Americans) reported greater levels of environmental concern than white people (Ruf, 2020). This evidence is further supported by the disproportionate effects of climate change on communities of color. In a 2020 article entitled, *People of Color Experience Climate Grief More Deeply Than White People*, published by Vice, Nylah Burton writes that people of color experience greater trauma surrounding the climate crisis. This occurs in large part due to environmental racism, which causes people of color to be affected by the negative effects of climate change at greater rates. This applies to negative effects such as greater levels of displacement, having greater risk of experiencing natural disasters, exposure to pollution, and negative health effects (Burton, 2020).

The article also discusses differences in how people of color react to climate change. Because they feel the negative effects on a harsher level, there is a greater call to action and sense of urgency. Mary Heglar, who is a Black climate justice essayist and writer at Columbia University, believes that the climate community in its current iteration relies on hope too often, which causes inaction. She is quoted saying that, “Hope is ‘such a white concept,’ You’re

supposed to have the courage first, then you have the action, then you have the hope” (Burton, 2020). Heglar finds that the underrepresentation of people of color, who face more negative consequences from climate change, leads to an unrealistic and over optimistic perspective toward climate change due to skewed data.

A 2018 report from the Environmental Protection Agency, or EPA, also reported that race is the greatest determining factor for particulate matter exposure, even more so than class or socioeconomic standing. The researchers discovered that Black Americans were exposed to 1.54 times more of a particulate matter known as PM 2.5, which is associated with heart disease, lung disease, and a shortened life expectancy. PM 2.5 primarily is found through burning fossil fuels. When comparing other demographics, people classified as ‘poor’ were exposed to 1.35 times more pollution than white people, and people of color as a whole were exposed to 1.28 times more PM 2.5 (McKenna, 2018). Environmental racism is a real phenomenon, and although minorities are affected by environmental damage at higher degrees of severity, they are still seen as less concerned about the environment.

Dr. Dorceta Taylor, a Professor of environmental justice and environmental sociology at the University of Michigan, cited several barriers to minorities in Environmental Science. The greatest barrier she cited was cost, which particularly affects people of color because they fear being able to find a job after graduating. This is an even greater burden on people of color who lack resources in juxtaposition to whites, both financially and socially (Ruf, 2020). People of

color have less access to a wide network and social capital, and they may often be the first in their family to attend college.

Minorities overall are underrepresented in environmental sciences as compared even to other STEM fields; a 2014 report detailed that while 40% of employees and 17% of executives in tech were people of color, only 25% of staff and 4% of executives and senior staff were reported as people of color (Ruf, 2020). Some hypotheses as to why from a student's perspective environmental science may be less appealing are that environmental based curriculum does not focus on environmental issues relevant to people of color, issues such as increased access to green spaces, rerouting interstates out of minority dense neighborhoods, and reducing the amount of toxic waste spaces in communities of color (Ruf, 2020). Further, "Black and Brown people experience environmental hazards and crises first and worst but are not the ones in the environmental fields making the decisions that are going to mitigate these issues" (Ruf, 2020). Despite pursuing a graduate degree in nature, society, and environmental governance at Oxford, Dr. Taylor says she was not an environmentalist as a child. She grew up perceiving environmentalists only as white people who climbed mountains and advocated only wildlife protection (Ruf, 2020).

"Traditional or mainstream environmentalism doesn't tend to center its scholarship on things like the protection and experiences of people of color and indigenous folks. That scholarship is sidelined and seen as an environmental

justice issue rather than centered within what is considered mainstream environmental scholarship or advocacy” (Ruf, 2020).

As academics and as people of color in environmental science, many describe having been met with racism from their peers and colleagues. On one occasion, Dr. Taylor was not allowed by a receptionist to check into a conference where she was the keynote speaker (Ruf, 2020).

Incidents of discrimination and microaggressions and feeling like the only person of color amongst an ocean of white academics can lead to a feeling of isolation and for some they may question whether they even belong in the field at all.

One program seeking to offset this is the Doris Duke Conservation Scholars’, which unites underrepresented students in its program in hopes of providing a safe space for students of color. However, it is important to note that efforts to alleviate racism and implicit biases in academia should not fall on people of color alone. Programs and departments “ should invest resources to educate White students, White faculty and White staff to understand where their biases are coming from, where their ignorance is... Because the assumption is that they are knowledgeable, nothing needs to be done and it’s for the people of color to make all of the adjustments” (Ruf, 2020). Dorceta Taylor emphasized that white people should not see people of color engaging in nature as an anomaly, while also recognizing how American history has restricted their access to nature spaces and environmental activism (Ruf, 2020).

As a suggestion for white people, Taylor mentioned attending Climate Conventions at HBCUs across America, as this would demonstrate that people of color are not simply “disinterested” in the environment. At these Climate Conventions at HBCUs there are hundreds of environmentalists of color who are making an impact. In the immediate need for environmental innovation, action, and activism, it is imperative that higher education facilitate the learning of marginalized communities of color, especially in the wake of possible climate disasters in the coming future.

Ethnic Studies

Ethnic Studies, in the United States, is the interdisciplinary study of ascribed differences such as race and ethnicity, but can also include sexuality and gender, as they relate to power (Hu-DeHart, 1993).

Ethnic Studies first emerged in higher education as an interdisciplinary field in 1967 at San Francisco State University in response to student protests (Molefi, 2005). The social climate at the time was undergoing major reformation as liberation movements progressed. As a result, there were many student protests all over the country fighting to implement Black Studies in higher education. This movement paved the way for other ethnic groups' histories to be studied as well. During this time Native American Studies, Latino Studies, and Asian American Studies were beginning to be offered at some colleges and universities.

Ethnic Studies plays a crucial role in higher education. For students whose ethnic background is the focus, it gives them a sense of belonging and further understanding of their roots and history in American society. Ethnic Studies is also highly beneficial when other students learn about other cultures' history and contributions in American history. An important goal in Ethnic Studies is to enlighten students' cultural understandings and end prejudices and racial conflicts (Ward, 2019).

What differentiates Ethnic Studies from other social sciences and humanities is how it took root as an academic discipline. In many ways it began in response to charges that traditional social science and humanities disciplines were conceived from a Eurocentric perspective (Chapman 2013).

Ethnic Studies departments face challenges such as underfunding, high turnover rates, understaffing and lack of autonomy. For example, Northwestern University has a 100 percent turnover rate due to not offering tenure to Ethnic Studies professors that do not commit to sharing appointments in another department, a tenure home, essentially double the work (Baskar, 2019). In August 2020, California Governor Gavin Newsom signed the bill AB 1460, that requires all undergraduates attending California State Universities to enroll in an Ethnic Studies course to graduate (McKenzie, 2020). With this new requirement in California, it will prove difficult for universities to try to dismantle the discipline, which has been an issue in the past. Despite its origins, Ethnic Studies is not immune to structural racism. For example, at CSU Long Beach, administrators failed to hire professors for the Department of Africana Studies for 8 years, then strategically suggested replacing the department with only an Africana studies program falling under another department, claiming that the department did not have sufficient tenured faculty (McKenzie, 2020). Departments allow faculty to coordinate to make decisions such as hiring, so by dismantling a department, there would be no faculty

organization of the discipline, contributing to less hiring and promotion. This is a common tactic used by universities to reduce the autonomy of Ethnic studies departments, as well as other departments (McKenzie, 2020).

The study of Critical Race Theory (CRT) has recently come under scrutiny, mainly from the conservative right wing claiming the study perpetuates divisiveness. The benefit of studying CRT is not to delve into individuals who may be racist, but to better understand racial disparities in the institutions and systems within the United States that persist and cause harm (Fortin, 2020). Derek Bell, the late Harvard professor known as the father of critical race theory, developed the course after trying to understand how race and American law interact (Harris, 2021). In 1981, Kimberlé Crenshaw was enrolled at Harvard Law but felt there was a void after Bell, the only Black professor at the time, resigned when he discovered the institution's discriminatory hiring practices (Harris, 2021). Crenshaw and other students asked 12 scholars of color to lead discussions about Bell's book, *Race, Racism, and American Law* after they realized the Harvard Law administration did not understand the importance of race and law (Harris, 2021). This was the beginning of CRT, examining how our "nation's sordid history of slavery, segregation, and discrimination is embedded in our laws, and continues to play a central role in preventing Black Americans and other marginalized groups from living lives untouched by racism" (Harris, 2021). CRT does not teach young Americans to hate America or promote

divisiveness, but to explore how inequality today is rooted in our past foundations. Ethnic Studies continues to evolve and shift perspectives, so it's time other disciplines do the same to implement an effective, inclusive curriculum.

Geography

Geography is the study of the physical and spatial world. The discipline studies the Earth and its different surfaces, including landmasses such as continents, and the oceans that span across the planet. Geography also entails human relations and interactions with the natural environment around them. The term, "Geography" originates from the ancient Greek civilizations, who used the word to describe the maps and written records which recorded what they learned about the world. "Geo" means Earth and "graphy" means to write (Geography, and). Given the global history of European colonization, the geographic records created throughout the centuries of exploration and subjugation are directly connected to the mistreatment and exploitation of populations all over the globe. These geographic records, such as maps, are still used as guides and bases for modern geographic innovation and labor. Geography as a discipline is also a predominantly white one. As stated by a 2013 study researching geography and diversity, one possible explanation for the demographics of the field was a lack of two year level colleges which offer degrees in Geography and similar subjects, as

two year community colleges are often affordable and accessible options for diverse student populations (Adams, 2013).

Geography and race have been connected for centuries, as historic geographical discoveries were made due to physical exploration and exposure to racially and culturally diverse groups of people. Modern geography is said to have been founded in the late 19th and early 20th centuries, an era in which race was viewed as a biological construct rather than a social construct (Tyner, 2017). The idea of race signifying biological superiority allowed for the justification of colonization and European imperialism. As imperialism spread throughout Asia, Africa, and the Americas, there was a need to justify the global conquest and subjugation of the newly “discovered” and colonized populations (Tyner, 2017). Part of this justification was religious, it was the Christian tenet of converting others to their faith, as well as a possible predecessor of Manifest Destiny, or the American idea of expanding westward.

Mona Domosh, geographer and professor, questions why whiteness is so synonymous with the field of Geography. Despite including materials focusing on anti-colonial and antiracist scholarship and practices, and despite addressing the social construction of race, Domosh argues that what is taught and disseminated is what she terms “white geography,” which is described as a seeing, learning about, and understanding the world through a white Eurocentric lens built on colonialism and racism (Domosh, 2015). The American Association of Geographers (AAG) website has a dedicated list of recorded actions to promote diversity and

inclusion, including statements made regarding racism toward African Americans and Asian Americans. The website also includes a list of members, multi-year plans for improving diversity and actions taken, such as providing funding for geographic software(s) to minority serving institutions (Diversity & Inclusion, nd).

Despite the shift from viewing race as a biological construct to now viewing race as a social construct, racism still exists in a spatial context. Several scholars have researched the spatial contexts of race and racism, and it is important to highlight and study these scholars and their contributions (Tyner, 2017). The geographic recording of ethnic enclaves within cities, maps detailing paths of colonization and forced migrations should be recorded and taught about, to promote diverse thought within geography. Geography also plays a role within environmental racism, as the discipline studies human interactions with nature, mapping, and urban planning.

A statistic from the AAG found that in 2012, just 4.38% of AAG members identified as Hispanic and 3.15% identified as African American (Domosh, 2015). Laura Pulido is a geographer and Chicana professor, who articulated the challenges of being the only person of color in geographic academic and career spaces. Pulido asserts the need for diversification in the field, in order to foster outreach within the field and make geography more relevant in marginalized communities (Pulido, 2002).

Pulido also describes how greater representation of people of color would enhance the field, as they would introduce a new lens of thought and scholarship, as well as tie the discipline to others such as Ethnic Studies, providing a more well-rounded, interdisciplinary method of thinking (Pulido, 2002). It would also prove beneficial to study topics including, but not limited to racial residential segregation, racialization of immigrants, and intersections between geography and space between race, gender, sexuality and class (Domosh, 2015). However, the discipline also should continue to take steps on educating scholars on the discipline's problematic origins. In taking such steps, the discipline of Geography can begin to be more inclusive of oppressed and marginalized groups, as well as incorporate a more holistic and equitable future for the path of study.

Geology

Geology examines questions about the earth and other planets, utilizes the fundamental principles of physics and chemistry, and employs a broad palette of tools, including isotopes, field observations, the fossil record, lab experiments recreating extreme conditions, and remote sensing. The field is rich in scope and opportunity, ranging from ample fieldwork occupations to research and classroom teaching, which allows for many options for those who pursue a degree in Geology and other Earth Sciences. But like many other fields, there is a

problem with a lack of diversity of the people studying and employed in the Earth Sciences (for more on this, see our section on [Environmental Science](#)). Less than 10% of geoscience PhDs go to people of color. This limits the diversity and quality of research and is the single largest cultural problem the geosciences currently face. The study of planet Earth, its oceans, its atmosphere and its interactions with human society only has approximately 4% of its tenured employees identifying as persons of color and this has not changed in over four decades (Goldberg, 2019). A pipeline problem has been cited, in that there are not as many people of color studying earth science. This was discussed in more detail in the [Environmental Science](#) section can be partially attributed to the treatment Black people have received when enjoying nature. Robert Stanton, the first Black director of the National Park Service, who says that “black folks don’t like parks” has become a “self-fulfilling prophecy” (Bernard & Copperdock, 2018). Another factor may be limited exposure to nature in earlier schooling due to schools' lack of resources which makes field trips to experience and learn about nature limited. A lack of representation by the very people who live in areas where the most drastic effects of climate change limits the strength of the discipline. Further this limits Geology’s ability to effectively address climate change. Lorelei Curtin, a fifth-year Ph.D. student at Columbia University calls attention to the importance of highlighting indigenous and people of color’s voices who may be deeply connected to the land. She began a book club that brings Geoscientists together for discussions of race and white privilege. The Geoscientists were not

used to this kind of work, but it helped facilitate much needed discussions surrounding racism and discrimination in the field. As a result of the findings mentioned in this piece, the diversity director of the institution has written an article in Nature Geoscience entitled, “Race and Racism in the Geosciences,” that was so popular that the journal’s editors removed its paywall. It describes the differing ways white people and people of color view racism. The director also hosted a discussion, which was standing room only. The less diverse a field is, the less inviting it is to students of color, and a greater percentage of students of color end up leaving the field in comparison to white students.

The notion of a colorblind approach to the work of Geoscience reinforces race being defaulted to white and practitioners often engage in racist behavior despite not being overtly racist. This same diversity officer for the school’s Geosciences department has observed that white faculty consider race as incidental, while students of color see it as a large part of their identity. They do not however wish to discuss issues of race with their white colleagues, as they worry it may create tension, and in many circumstances, students of color worry about jeopardizing their job security. Implicit racism in the society writ large also can be applied to Geosciences. It is hard for White Geoscientists to see how they are privileged and perhaps do not see the systemic racism that renders them so. Talking about this may make them uncomfortable as they do not like the implication that they contribute to this, especially when they have other ways in which they may have been disadvantaged. The author additionally

states, “when it is the norm to be White, maintaining the comfort of White people becomes part of the unwritten code of a culture, a code that people of colour often follow.” (Dutt, 2019). Part of the privilege that White Geoscientists have is the ability to be oblivious to their counterparts of color. If the goal is a Geosciences where all are welcomed, dominant groups need to take ownership in the culture shift rather than having the Geoscientists of color bear the responsibility. In general, people who do not experience a certain type of discrimination tend to dismiss it as not real. In the case of students in the Geosciences, this can drive students of color away from the field. In order for diversity and inclusion to take place, everyone must feel a sense of belonging. Some suggestions for White Geoscientists the author suggests are as follows:

- Separate the fact that you do benefit from white privilege and you are a good person.
- Read and learn about people of color
- Talk about this with White colleagues

The author also points out that affinity bias, or the tendency to get along with or seek out others who are like us, is a problem at the institutional level and higher education in general needs to appoint more people of color in leadership and put resources into faculty and students of color. Diversity and inclusion needs to be prioritized on par with scientific professional development. A massive shift has to occur to move the Geosciences past passively non-racist to actively anti-racist (Dutt, 2019).

Another important step in supporting students of color in the Earth Sciences is to address safety issues surrounding field work. Field work can evoke justifiable fears in students of color and present actual danger. An account of feeling unsafe and experiencing racism from a Black Fieldwork student in a recent [youtube video](#) demonstrates this. The student describes their experiences and offers suggestions for White field supervisors/faculty on how to help keep students of color safe while in the field. (Black Thoughts, 2020).

Health Education

Health education is a broad amalgamation of several different majors and career pathways. It may be related to paths of study such as Biology, Chemistry, Kinesiology, Pre-Medical pathways, and Nursing. Health related educational pathways are typically concerned with physical human health. Due to the variety of inequalities and instances of racism within healthcare, it is reasonable to find potential correlations between health education and healthcare careers. Not only is this reasonable, it will likely prove to be life-saving, as improved education will lead to improved health outcomes for marginalized groups.

Healthcare providers are required to take the Hippocratic Oath, as a sign of their dedication to patient care and their profession. One of the core tenets of this oath is to treat all patients with care to one's best ability, and to remain an active member of the society they live and practice in (Marks, 2021). Following the murder of George Floyd, all facets of society practiced introspection and reflection on what needs to be improved. This introspection was also practiced by healthcare professionals whose ability to treat all patients with care according to their oath has been compromised by systemic racism. Practicing this introspection is the first step in rectifying systemic inequalities and prejudices within the field, such as a lack of education regarding people of color. In a majority of learning experiences, the patient type used is white which can be detrimental when attempting to treat skin conditions. One example is a condition known as Erythema Migrans, which is a sign of early stages of Lyme Disease.

Students learning about the rash in textbooks or in labs most frequently see it displayed on white skin, and this shortcoming makes it difficult to identify the condition in darker skin tones with greater levels of melanin (Khan and Mian, 2020).

This lack of education regarding different racial demographics can often lead to diagnostic errors and improper treatment of patients of color. In turn, such errors can have drastic health concerns. When analyzing the previous example, there is often a delayed Lyme disease diagnosis in black patients, and a higher proportion of these diagnoses are made at later stages of the disease, and this later diagnosis leading to greater rates of arthritis than white patients (Khan and Mian, 2020).

BMI is an acronym which stands for Body Mass Index, and is a value calculated by dividing an individual's weight by their height. BMI uses this proportion to measure levels of body fat, and is frequently used in medical settings to track health. However, BMI as a metric may be more flawed and dated than most perceive. The BMI metric was first introduced by Adolphe Quetelet almost 200 years ago. Quetelet was an academic in Sociology, Astronomy, Statistics, and Mathematics; however, he was not a medical practitioner nor a physician. Quetelet was most known for his work into studying "L'homme moyen," or rather, the average man, who Quetelet viewed as the ideal form of man (Friend, 2019). Much like Sir Francis Galton, who will be discussed in the Psychology and Statistics sections of this book, Quetelet's work led to further justification for the eugenics movement.

Furthermore, even Quetelet did not see BMI as a measure of individual health; for him, it was a way of measuring populations for statistics, not to measure individual health (Friend, 2019). BMI also fails to detect cases of obesity with high levels of accuracy. In Black, White, and Hispanic women, the BMI detected under 50% of obesity cases, and the BMI overestimates health risks for Black people, while also underestimating health risks for Asian people (Friend, 2019). These inaccuracies have large scale negative consequences on their respective demographics, such as misdiagnosis and improper health care based on said misdiagnosis.

Medical education can also reaffirm pre existing stereotypes and preconceived beliefs that take physical shape during clinical visits. Before appointments, it is standard to complete medical questionnaires, which include and begin with questions involving race, age, and gender. It is not uncommon for practitioners to diagnose and prescribe specific conditions based on racial stereotypes. One example is when a Black child reports bone pain. A Black child reporting bone pain is often associated with sickle cell disease (Khan and Mian, 2020). Even if such stereotypes are based on historical disease prevalence, it is dangerous to make assumptions based on this history. This can lead to drastic consequences such as misdiagnosis and possible malpractice. It is imperative to consider all possible causes and to ensure that stereotyping does not further increase unconscious biases.

Nurses are a critical part of the healthcare system, as they typically have more time with patients than doctors. However, nursing education is not immune to and perpetuates the same

structural inequality that permeates other healthcare disciplines. Nursing actually began as an occupation dependent on the exploitation of enslaved labor. In the early 1800's, enslaved African American women provided the majority of nursing aid on plantations (Nursing has a long History, 2021). Disparity and unjust treatment still runs rampant today, both when pursuing education and after graduation in professional work. Some forms of these offenses include dissuasion from the field, assumed incompetence, wage gaps, stolen credit for accomplishments by peers, and denial of advancement opportunities (Nursing has a long History, 2021). This does not even begin to address offenses such as microaggressions and overt racism from fellow colleagues and even patients that nurses of color are tasked to heal (Shah, 2020).

Just like the profession of nursing, nursing programs in academia face the same lack of diversity. Nursing educators are also predominantly white, as less than 1% of deans and chief nursing officers are from racially diverse backgrounds (Leading Nursing Organizations, 2021). Similar to the majority of a neoliberal society, color blindness is preached as a core tenet within healthcare education. However, rather than respect and accept the unique intricacies of diverse ethnic and racial populations, color blind philosophies instead ignore the uniqueness and differences of people of color. According to Blythe Bell, 2020, ideals such as color blindness and *perceived* equal treatment also exist in nursing students' perceptions and beliefs. Bell also noted that such narratives are present in her recently graduated nursing cohorts, a group of

predominantly white women in their early twenties (Bell, 2020). Furthermore, rather than address potential problematic behavior that occurs based on color and race, color blindness helps society ignore and even deny racism, colorism, and other structural inequalities. Within healthcare and nursing, this is portrayed as treating everyone “the same” and with “equal respect” (Bell, 2020). However, this ignores the effects of primary socialization, the effects of living in a racist society, and thoughts and behaviors such as implicit bias and racial microaggressions. And like other blanketed statements, this serves to hide and erase race, racism, gender, class, and other characteristics that have historically led to disparity in marginalized groups.

Without filling the gaps in healthcare education with regard to a legacy of structural racism, and without providing in-depth holistic learning and equal representation, inequalities within health-care training experiences, treatments, and outcomes will only continue. As healthcare is such a broad and important field of occupation, education, and society, it would be possible to write another book solely on structural racism within healthcare and health education. Therefore, we encourage further research into specific occupational and educational pathways to further supplement this introduction into the discipline.

History

History is an evolving record of human emotions, aspirations, successes, and failures. Historians deal with the goals, fears, interests, and prejudices of people in the past, and the impact of their thoughts and actions on the people of today and tomorrow. Whether we acknowledge it or not, historical acts are the building blocks of present-day society, and the historian must reckon with the sins of our past when teaching the next generation of students about the events that occurred before them. It has been a great failing of historians who teach in classrooms across this nation, at all grade levels, and those who write history books who tell the story of the United States, to omit critical pieces of history that are painful or embarrassing. Revisionist history is commonplace in most curriculums, especially at the K-12 level. It is often only if a student reaches a college-level history class where the professor is committed to undoing some of these revisions that they will get a more accurate, representative view of the history of the United States.

As the title of this book may suggest, we write this with an acknowledgement to a great historian who did just that. Howard Zinn's 2005, *A People's History of the United States: 1492-Present* remains a building block for speaking truth to power. His work spans centuries and tells the side of history Zinn calls a "people's history", something that is frank and critical of the status quo as a means of empowering readers with tools to critically evaluate what has been

and is being done in the name of freedom in the United States. Zinn spoke of his rationale for writing “people’s history:”

I think that it’s extremely important for young people to learn a different history that will make them skeptical of what they hear from authority. I think if young people knew, for instance, the history of lies and violence that have accompanied American foreign policy, they would not be enticed into joining the armed forces (Zinn, 2005).

It can also be said that it is as much about what is being excluded from history that is problematic. Much of this reader is filled with examples of things many of us just did not know because it was not taught to us at any point in our academic career. As Zinn and so many other historians would point out, history is crafted by the victor and so in the United States, the historical narrative highlights the greatness of European white settlers from a white patriarchal frame. White washing history, as it is perhaps best labeled, allows the development of the United States to appear righteous and divine when in fact it is far more complicated, painful and brutal than that. But omission serves to make historical events invisible, events that many believe need to be visible. While the claim of absolute objectivity is a fallacy, there is a way in which history can be taught as a means for equity and social justice.

But there is no such thing as a pure fact innocent of interpretation. Behind every fact presented to the world-by a teacher, a writer, anyone-is a judgement. The judgement

that has been made that this fact is important, and that other facts omitted are not important (Zinn, 1980).

Zinn is not alone by far in his assessment. Historical omissions serve to move forward cultural narratives that serve those in power. By minimizing historical atrocities committed by white colonizers on enslaved Africans, indigenous Indians or other migrants, we lack perspective into the intergenerational trauma that affects families to this day. Understanding the ways in which our history is steeped in structural racism is important for us to understand much of the social ills of the present day. The actual history of African-Americans has been erased from history textbooks. The inefficiency of our educational system to convey an equal representation of history has made it so that Black, Indigenous, people of color, (BIPOC) voices and experiences are not recognized. This fairy tale is exemplified in curricula across the U.S. from very early on:

A Connecticut fourth grade social studies [textbook](#) falsely claimed that slaves were treated just like “family.” A Texas geography [textbook](#) referred to enslaved Africans as “workers.” In Alabama, up until the 1970s, fourth graders learned [in a textbook called "Know Alabama"](#) that slave life on a plantation was "one of the happiest ways of life." In contrast, historians and educators point out, many children in the U.S. education system are not taught about major Black historical events, such as the [Tulsa Race Massacre](#) or [Juneteenth, the June 19 commemoration of the end of slavery in the United States](#) (Silva, 2020).

The suppression of the complete history of our country has made it easier for systemic racism and white supremacy to reign over the reality of our history. When BIPOC voices and

contributions are not acknowledged, it makes that community invisible to the whole of society. There have been many inventors that were BIPOC, yet we do not know their names. "So when people say you can't erase history, it's like, what are you talking about? If you crack open a textbook from the mid-20th century, there are no minorities in those textbooks"(Silva, 2020). The contributions of BIPOC citizens have been undermined, and educators are now being called upon to work hard to show these contributions that have remained hidden for a very long time. Sadly, when academics do take on revisionism and attempt to shine a light, it does not always sit well with those in powerful positions. Speaking truth to power, questioning the status quo, and asking for answers can get you in a lot of trouble. There are so many historians who over the years have fearlessly challenged the dominant narrative in efforts to tell a more accurate tale of history and resultant U.S. policy who then are at risk of failed tenure, termination, and threats to their safety just so that the story could remain the same. Muckrakers the likes of Howard Zinn, Cornel West, Steve Salida, Ilan Pappé, and more recently, Nikole Hannah-Jones and Garrett Felber have all felt the wrath of those determined to perpetuate the supremacist patriarchal status quo (Middleton, 2020). Historians today stand on the shoulders of giants. They are charged with telling a more complete story which can help move academia towards greater equity.

Human Sexuality

Human Sexuality as an academic field studies the ways in which humans express themselves as sexual beings. This epistemology is interdisciplinary in nature utilizing biology, medical research, sociology and psychology. The science of human sexuality approaches understanding as multilayered. Pulling from these varying disciplines, the field is able to look at sexuality from multiple lenses. While there have been many approaches to the study, its foundation lies in the heteronormative white male perspective. As exclusionary as its roots are, there is an ongoing demand from scholars in the field and much has been written about the need to be more expansive. Understanding Human Sexuality in its totality demands a wider lens.

Whether it was biology or medical research or any of the disciplines that fall under the wide umbrella of an interdisciplinary approach to Human Sexuality, there is a tendency towards an explanation of human sexuality in terms of a false binary that informs the creation of knowledge in the field which is often scientifically inaccurate. Repercussions of this result in varying levels of invalidation of lived experiences of students in the field to highly abusive practices in research and medicine. Historically, the field of Human Sexuality in the United States has been chronically underfunded due to the puritanical roots inherent in the White Anglo-Saxon Protestant (WASP) foundation. Particularly, the study of female or non-binary

bodied persons and research findings, stated conclusions, and best practices about sexuality have often been determined with a white, misogynistic, heteronormative lens.

There have been well documented examples of ethical violations that stem from both individual and structural racism reaching back to the development of the field up until present day. We begin this section with the case of enslaved woman, Sara Baartman. Today she is seen by many as the epitome of colonial exploitation and racism, of the ridicule and commodification of Black bodies. Sarah Baartman was brought to Europe seemingly on false pretenses by a British doctor, stage-named the "Hottentot Venus." She was paraded around "freak shows" in London and Paris, with crowds invited to look at her large buttocks. Baartman died on 29 December 1815, but her exhibition continued. Her brain, skeleton and sexual organs remained on display in a Paris museum until 1974. Her remains weren't repatriated and buried until 2002 (Parkinson, 2016).

Dr. J. Marion Sims has been heralded as the father of modern gynecology. It has long been asserted that Dr. Sims perfected the first consistently successful operation for the cure of "vesicovaginal fistula, a catastrophic complication of childbirth in which a hole develops between a woman's bladder and her vagina and leads to constant, unremitting, and uncontrollable urinary incontinence" (Wall, 2006). He did so by practicing on slave women without the use of anesthesia which clearly raises questions regarding Dr. Sim's medical ethics and his perceptions surrounding the human rights of enslaved persons. During Simm's tenure,

women suffered horribly from this condition and a race for the cure was critical. Dr Sims' use of slave women was well documented historically. By the very nature of their enslavement, these women were unable to consent. He performed surgery on them as test cases, and then performed more surgeries later on some white women without anesthesia.

The use of anesthesia was new during this time, and anesthesia did not become commonplace until he was routinely performing this procedure on white women. (Wall, 2006). He later described white women complaining of pain while enslaved Black women did not, and used this anecdotal evidence to make assumptions about differing pain thresholds as inherently based on race, rather than other possible factors for their differing responses, such as enslaved women's likely fear of punishment for expressing said pain. Some argue it is not because Dr. Sims was racist, but rather that anesthesia was not widely used; however, whatever biases Simms had about pain thresholds and racial identity allowed him to make assumptions about how the women he worked on experienced the procedures.

There is much controversy surrounding the practices of Dr. Sims and the ethical considerations factoring in despite the invention's historical significance. A Vesicovaginal Fistula (VVF), rendered women greatly incapacitated during the time Dr. Sims was in practice. It was considered a fate worse than death for many. Prior to Dr. Sims's breakthrough there had been no consistently effective procedure to repair the fistula and there was not a field of gynecology per se at the time; in fact, examining women's organs was considered repugnant by male

doctors. From 1845-1849, Dr. Sims performed experimental surgery on 7 enslaved Black women in his small backyard hospital (Ojanuga, 1993). He performed his experimental surgery on his first patient Lucy in front of 12 male doctors watching as she crouched on her hands and knees and endured the hour long procedure without anesthesia. The surgery was a failure and she almost died. Another patient, an enslaved woman named Anarcha endured 13 operations without anesthesia with limited success (Ojanuga, 1993). Dr. Sims attempted his procedure on white women but as previously mentioned, found that they could not endure the pain. In the minds of many who look at the history of this particular doctor and his practices, Dr. Sims was not merely a product of his time but rather his infliction of pain on Black women was unethical, cruel and callous.

Sadly, the pattern of white male doctors who callously practice unethical procedures on women and people of color does not end with Dr. Simms. Well into the 21st century, forced sterilization of women in California correctional institutions was a consistent practice (Jindia, 2020).

A state audit and prison records reveal nearly 1,400 sterilizations between 1997 and 2013. In addition to people sterilized during labor, an unknown number of cis women and trans people were sterilized during other abdominal procedures (Jindia, 2020).

These sterilizations took place without consent or under coercive circumstances. Despite ethical mandates and procedural efforts to make sure research participants are

protected, there remain recent examples of gross violations. As we take a look at these, we often find that marginalized populations are the ones most at risk. There seems to almost be permission to test on incarcerated people like they are lab rats. From high risk cancer treatments, to testing skin cream and cosmetics, they have been used for non-consensual medical testing as if their human rights are not valid. These forced sterilizations of incarcerated women in California prisons are the topic of the new documentary, [BELLY OF THE BEAST](#). This film highlights the ways in which the lives of incarcerated people are not their own, and basic human rights to choose and autonomy of their bodies were grossly disregarded. But it is not just the incarcerated, the institutionalized as well have been sterilized against their will. A recent expose highlighted the decades long practice of forced sterilization and castration of men and women who were living in the Sonoma home, one of many homes for the mentally ill/disabled that practiced this type of forced medical intervention (Barber, 2021). The decisions by medical directors to undertake these sterilizations were based solely on their prejudiced attitudes towards the people whose care they were charged with. The unfortunate truth is that white supremacy, sexism and ableism were deeply entrenched in the mindsets of the medical community that made these decisions without consent and this influences the science and decision making practices of the medical community to this day.

Just as the enslaved women could not consent, incarcerated and institutionalized people face similar lack of rights and threat of increased sentences if they fail to comply with

authority. The legacy of structural racism, sexism and heteronormativity are part and parcel of the field of Human Sexuality. It is the hopes of this author that a deeper dive will be undertaken by the readers to explore the ways in which what is otherwise a rich field that's value stretches far beyond the walls of the academy has to reckon with it's problematic past and present.

Languages

In the United States, language learning is taught both inside and outside of the academy. An opportunity to learn a new language allows students to expand their horizons and increase their marketability in the workforce. Languages worldwide however, are more numerous than the selection that is represented by most community college offerings. It is a choice made by each institution to offer certain languages over others, which centers some as more valuable. While some of that has to do with the need for bilingual speakers in the workforce, particularly Spanish, there are numerous European languages taught more frequently than languages such as Cantonese or Arabic, demonstrating a Eurocentric prioritizing of language learning. Spanish and French are the most commonly taught languages in U.S. schools, privileging those as the preferred options for U.S. students. And even within these two dominant language offerings, we see a preference towards a preferred type of Spanish or French taught in schools rooted in the form spoken in Europe. In pragmatic terms this has more to do with where it came from than its practical application to those who may be speaking it. For the billions of Spanish speakers living in the Americas, their dialect is seen as not proper and instead what is known as Spain Spanish is the form of Spanish regarded by many instructors, professors, and educators as the more prestigious or appropriate Spanish to teach to language learners. For many indigenous Spanish speakers in the US, this type of Spanish is not what they speak at home. In many ways there is a hierarchy to the type of Spanish which is seen as

better and it correlates directly to race, region, and ethnicity and the stigma surrounding the vernacular is evident. The closer the dialect is to the European Spanish brought to the Americas by the colonizers, the better.

So if you really want to hurt me, talk badly about my language. Ethnic Identity is twin skinned to linguistic identity-I am my language. Until I can take pride in my language, I cannot take pride in myself. Until I can accept as legitimate Chicano Texas Spanish, Tex-Mex and all the other languages I speak, I cannot accept the legitimacy of myself. Until I am free to write bilingually and to switch codes without having always to translate, while I still have to speak English or Spanish, when I would rather speak Spanglish, as long as I have to accommodate the English speakers rather than having them accommodate me, my tongue will be illegitimate (Anzaldúa, 2012 p. 81).

Disregarding dialects and linguistic difference as not the right way to speak is a form of privileging language to resemble that of the conquerors. Because of this, we see some of the more European nations in South America being privileged over the more indigenous ones. Argentinian Spanish is a close second to Spain's Spanish in terms of favorability, but nations like Guatemala or various Caribbean nations whose Spanish departs from the conqueror's Spanish in its usage is not often taught in US schools. Perhaps not coincidentally, these nations also have a majority population that is ethnically non-anglo-European. French too becomes privileged if it is rooted in the nation of France, while other colonized nations that France is spoken in are less valuable. So those who study French in school whose roots are Creole or

from various African nations like Morocco, Algeria, or Senegal may not recognize what they are learning as what they know at home.

The United States was created as an *English* speaking country on land that already had inhabitants who spoke other languages. Despite this, there are almost no institutions of higher learning that offer any languages indigenous to the Americas such as Náhutl, Quechua, or Quiché as a part of their “foreign languages” offering. Some schools do offer introductions to select indigenous dialects through their school’s Native American Studies departments though they are few.

Students enter higher education with varied exposure to speaking and learning a second language in their earlier schooling. A student's experience with foreign language classes has a lot to do with their race and social class, and the school system in which their K-12 education took place. “Black students at the K–12 level are more likely to attend schools or be tracked into programs in which foreign languages are not available” (Anya & Randolph, 2019). If a student is not offered an opportunity to learn early on, as they move into higher education, that area of learning often becomes more of an intimidating obligation, rather than something to get excited to learn more about. It also creates yet another field in higher education that is lacking representation. According to Musu- Gillete, et al., 2017, Black students in the U.S. “complete the least number of high school credits in this subject; they earn only 4% of bachelor’s degrees conferred in the field of foreign languages; and Black teachers comprise just

6% of instructors in the humanities and a mere 3% of postsecondary foreign language faculty” (Musu- Gillete, et al., 2017; U.S. Department of Education, 2016).

These statistics are not due to a low interest or lack of motivation on the part of Black students to learn language; rather, it can be traced back to past and current segregation, inequitable distribution of resources, and the systemic exclusion and marginalization of African Americans in U.S. schools (Glynn, 2012). Further, teacher perceptions of their students have long been shown to contribute to student success so when a teacher harbors unconscious bias favoring white students over students of color, the result is that students of color disproportionately suffer. In a 2012 study of “79 students analyzing experiences in foreign language study, and perceptions of the low enrollment of African-American students in foreign language classes, findings reflected that teachers and fellow students harbored negative perceptions and stereotypes of African-American students” (Glynn, 2012).

Using whiteness as a standard for imagery and teaching culture to students has also proven to be a way to leave swaths of students out. Representation matters and languages like Spanish are spoken all over the globe by people from many different ethnic backgrounds. Leaving those representations out of the teaching clearly hinders student success.

Black students could not see themselves in mainstream Spanish teaching materials. The images found in instructional materials were overwhelmingly of White Spanish speakers worldwide. The visuals omitted Afro-Hispanic history and Afro-Latinx presence—

not to mention the absence of other marginalized groups like the large Spanish-speaking Indigenous populations. After all, it may be easier for Black students to see themselves speaking Spanish if they see, hear, and learn about Afro-Cubans, the Spanish speakers of Equatorial Guinea, and multicultural Puerto Ricans, among others. My Black students helped me to dig deeper to develop and publish more inclusive and thought-provoking instructional materials to use with all of my students (Spaine Long, 2020).

So much of language learning is designed for non-native speakers. Perhaps until native speakers from nations that do not have the specific preferred form of their language traditionally taught in the US began studying language, there was not as much pushback on the fact that this preference exists, but for those who see their particular culture disregarded as insufficient, it becomes problematic.

The majority of language teaching in US schools comes with outrageously expensive textbooks, which many students just cannot afford. There is a reckoning with this in terms of some faculty decrying the prohibitive costs, and as mentioned above, privileging of languages of the conquerors, but roots run deep and change comes slow (Hines-Gaither, 2020). In fact, the American Council on the Teaching of Foreign Languages (ACTFL) has put together a list of [Resources that Address Issues of Race, Diversity, and Social Justice](#), in order to address the need for change. ACTFL began in “1967 as a small offshoot of the Modern Language Association (MLA), and has set industry standards, established proficiency guidelines, advocated for language and education funding,” so like many of other discipline specific organizations, the ACTFL acted in response to the highly visible police murders of George Floyd, Breonna Taylor

and so many unnamed other Black and Brown people in recent years (Resources that Address Issues of Race, Diversity, and Social Justice, n.d.). What comes from this depends on those in the field continuing to shine a light on the present inequity.

Library and Information Science

Librarians who work in colleges and universities provide access to information for their academic institutions and teach library users about accessing, using, and citing information. Gathering information is the bedrock for any research undertaken by students, and the role of the librarian is critical for student success. Librarianship as a field has a rich and complicated past. Its charge of helping people find information struggles against the influence of structural racism and sexism woven into how information gets privileged. Library systems that organize how information is gathered have been fraught with a slant towards a White Anglo-Saxon Protestant bias that has shaped its growth and development. One such example of this bias is perhaps the most famous librarian, Melvil Dewey. Melvil Dewey, has been called the "Father of American Librarianship" and creator of the Dewey Decimal System (DDC). Dewey's famous system has been critiqued for the way it emphasizes certain categories of knowledge and de-emphasizes others, and Dewey himself has been accused and charged with sexual harassment and was an outspoken segregationist.

Emily Drabinski, a librarian at the Mina Rees Library at the Graduate Center, City University of New York describes Dewey's classification structure by stating, "It's all about white Christian power that has spread around the globe." (Lindell, 2019). It stands to reason that Dewey's beliefs that guided his creation of the DDC also guided his personal life. He was racist, anti-Semitic, and he sexually harassed women (Lindell, 2019). These have been fairly well-known character traits of Dewey both at the time he was alive and working, and posthumously, yet the organizations that guide librarianship have taken more than a century to acknowledge his wrongdoings and speak truth to power. Even by the standards of his times, Dewey was found guilty of sexually harassing women, and in 1927, Dewey was also successfully sued by one of his victims. Dewey's legacy is complicated; while mostly fraught with structural and individual racism and sexism, he did create a system that, with modifications to address its enmeshment with white supremacy, still is a highly utilized tool in librarianship. To complicate his legacy further, Dewey stood up to Columbia University to help women get librarian education, all the while declaring that they should be paid less than men, in addition to other sexist ideations about women in the workplace generally (Lindell, 2019).

Librarians nationwide are keenly aware of the history of their field and current practices that enforce hierarchical information gathering, citing and validation. Violet Fox, Dewey editor with the Online Computer Library Center, which owns the rights to the DDC, said the system is continuously updated, and editors are now "focusing on gender identity and sexual orientation

as well as providing new options for classifying works about Indigenous peoples” (Lindell, 2019). Some librarians aspire to be especially committed to historically oppressed library users, although academic librarians are typically not representative of the students they serve. Librarians tend to be white, as 86.7% of librarians are white (Henke and Rosa, 2017). Among library professionals and library students, non-whites are one-third less present in librarianship than in the general public (Barlow and Jaeger, 2017). This is a persistent problem that has not changed over time and it mirrors higher education overall (Vinopal, 2016). A lack of representation in library staff impacts a library’s ability to provide appropriate resources and services. “In an overwhelmingly white (and heterosexual, cisgender, and patriarchal) organization, it is important to recognize that the data we collect represents primarily the worldview of the dominant culture and will be shaped by its limitations and biases” (Vinopal, 2016). Information curated and gathered by only one demographic leads to a narrower collection at individual institutions across the nation. Furthermore, when potential library sciences students do not see themselves represented in the field, recruiting diverse students becomes harder.

There is work being done to address structural racism and diversify the field precisely because much of what librarians are called to do reflects a strong commitment to social justice. The American Library Association’s Task Force on Diversity, Equity, and Inclusion (DEI) calls for continuing the work of making the issue more visible (“Final

Report,” 2016). The American Library Association, co-founded by Melvil Dewey and the world’s largest professional body for librarianship, includes individuals and groups working tirelessly to create a more representative field. Their “Bill of Rights” and the commitment to equitable access to all has led Library Information Science professionals and institutions to take many important roles in supporting inclusion and justice in their local communities and in society as a whole (Barlow and Jaeger, 2017). Going forward, there are identifiable steps discussed in reports like those mentioned here, to be taken in order to support a more diverse body of librarians in varied sizes and types of libraries nationwide. The ALA Task Force on Equity, Diversity, and Inclusion and Jennifer Vinopal, author of *In the Library with the Lead Pipe*, have made recommendations that include:

- Bias Awareness and Valuing Difference
- Naming the Problem
- Mission and Follow-through
- Data Collection
- Recruiting
- Mentoring

- Pay for Work

[\(Read the expanded version of these suggestions here\)](#)

Not unlike suggestions made by other discipline specific governing bodies across academia, these steps are widely thought of as an equitable path forward. Many in the field seek to shift the way in which librarianship is made available and representative of the population at large.

Mathematics

Mathematics is the science and study of quality, structure, space, and change.

Mathematicians seek out patterns, formulate new conjectures, and establish truth by rigorous deduction from appropriately chosen axioms and definitions (What is Mathematics?, 2021).

Aside from being incomplete, inconsistent, and undecidable, math is a long standing tool for knowledge. Despite this, there is a hole in the bottom of math, in that we will never know anything with absolute certainty (Veritasium, 2021). What we can assert with certainty is that math as a requisite part of a general education pathway has proven to be a very difficult hurdle, and the conversation about how to address this has been ongoing, disharmonious and nowhere near resolved. Math holds the distinction of being one of the scariest subjects for a great deal of students. Math anxiety is actually a recognized phobia:

People who experience feelings of stress when faced with math-related situations may be experiencing what is called “math anxiety.” Math anxiety affects many people and is related to poor math ability in school and later during adulthood (Sokolowski & Ansari, 2017).

This type of anxiety that many regardless of identity experience may also be compounded by structural racism in a number of ways. Statistical Data, a mathematical tool in itself has been used to illustrate a persistent underperformance in math by Black, Latino and Indigenous youth. While findings such as this are a part of the equation they are not the entire story, there is

more underlying in the ways in which these findings get used to shape perceptions which affect those student's outcomes. A 2016 [study](#) in the Journal of Urban Mathematics Education,

disrupts those narratives by examining an unaddressed element of the equation—namely, the ways in which “whiteness” in math education reproduces racial advantages for white students and disadvantages historically marginalized students of color (Anderson, 2017).

The study concludes that there is little discussion about the role of whiteness in how math is taught. “Naming White institutional spaces, as well as the mechanisms that oppress students, can provide those who work in the field of mathematics education with specific ideas about combating these racist structures” (Battey, & Leyva, 2016). The role of the teacher then becomes critical here in order to move in the direction of higher success and retention rates for students. As mentioned in other sections of this reader, a growth mindset is needed for educators wishing to combat these structures, instead of a fixed set of perceptions that does not allow a teacher to see a mathematical scholar in a student who does not fit their perceived mold. Any math educator can work in the direction of equity minded teaching by recognizing their own biases and acknowledging the structures in place that have marginalized so many students. There are many in the field working in this direction currently. (Those) “Educators say that incorporating anti-racism into math education involves providing students with context

about how math has been used to perpetuate racism and giving students an opportunity to apply math in real-life scenarios that encourage equity” (Okwuosa, 2021).

Mathematics-Statistics

The subfield of statistics within mathematics has been used widely among virtually all academic fields. Statistics is the science concerned with developing and studying methods for collecting, analyzing, interpreting and presenting empirical data (What is Statistics?, 2021). Data is a critical piece of academic research but its use and misuse to perpetuate inequality have deep historical roots. Some of the early work in the field of Statistics was done by Sir Francis Galton and it is important to understand the historical role, structural racism played in its development. Sir Francis Galton was a prominent researcher in several fields, including Psychology, Biology, Anthropology, Sociology, and Statistics. Some of his most relevant contributions were the correlation statistic, regression, psychometrics, and behavior genetics. However, Galton, the younger cousin of Charles Darwin, was also the father of a more insidious subject: Eugenics. Eugenics is described as a racist and misogynistic pseudoscience, and served as justification for oppression and injustices of anyone deemed undesirable or less desirable. Specifically, Eugenics called for the oppression of any person who was not a wealthy and able bodied white man, and for demographics seen as especially undesirable, Eugenics argued for their forced sterilization. Galton and his followers, including Karl Pearson, argued that the British Race was deteriorating due to unfavorable genes being inherited and passed down.

Whereas Charles Darwin developed his theories on evolution, Darwin did not believe that those theories justified superiority of specific races. Rather, Darwin asserted that any human alive today is successfully adapted, and by extension, just as perfect as the other people around them (Hanley, 2020).

In Galton's efforts to sow inequality, he created the Anthropomorphic Laboratory, which worked to prove how humans were subject to natural selection, just as plants and animals. Eugenic arguments were consistently disproven. Case in point, a 1904 Interdepartmental Committee on Physical Deterioration argued that syphilis and insanity are the only two inheritable genetic degenerative conditions, and that other conditions were a result of poor nutrition, sanitation, and other environmental consequences. Despite clear inaccuracies in the pseudoscience, eugenicists inspired by Galton persisted in their argument that poor genetics were undermining the British population. The 1907 Eugenics society was incorporated in 1907, and they played instrumental roles in legislation such as the 1905 Aliens Act and the 1913 Mental Deficiency Act, which strengthened anti immigration policies and were in favor of institutionalizing people seen as "mentally defective" (Gunderman, 2021).

Unlike the United States and many European nations, England did not participate in mass forced sterilization. However, eugenicists such as Marie Stopes argued that working class families were too large and that there was a need for contraception (birth control) to stop the working class from reproducing faster than the "more desirable" middle class. Eugenicists

assumed that the working class and less fortunate were in their social position due to genetics; working classes were seen as lazy and unchaste on a genetic level. Eugenicists argued that this was a gene which could and would spread if the working class were allowed to have children, and the spreading of those traits would lead to racial decline and collapse.

It is important to recognize scientific accomplishments, while also acknowledging the scientist's problematic behaviors, thoughts, and beliefs. In contemporary society, scientists are too often lauded and praised limitlessly; their flaws and problematic ideas are ignored or even hidden. This white washing of history perpetuates the system of inequality, and by failing to learn about horrors such as Eugenics, society may one day be doomed to relive it. In current society, although the majority of society's members admit that prejudices are unfair and immoral, assumptions about natural racial and gender based differences still persist (Gunderman, 2021). Galton may have been responsible for scientific contributions and statistical discoveries such as correlation and regression, but he was also responsible for atrocities against humanities through his pursuit of Eugenics.

Music

From classical and jazz, to rock and pop music, a degree in music offers a sophisticated knowledge of the theory, history, and performance standards of all fields of music (Music, n.d.). That definition of the field has not proven to be quite accurate. The study of music theory in particular is not fully inclusive of all styles of music, but rather, framed in a white supremacist lens at various levels of the field, which dictates the styles of music studied and valued. An abstract of music education in the United States begins in the 1700's, with music theory in American popular culture only referring to the white racially framed style of European musicians.

Music theory is white. According to the Society for Music Theory's "Annual Report on Membership Demographics" for 2018, 84.2% of the society's membership is white 90.4% of all full-time employees in music theory are white (8), and 93.9% of associate and full professors in music theory are white (9). Aside from this literal version, there exists a figurative and even more deep-seated whiteness in music theory. This is the whiteness—which manifests itself in the composers we choose to represent our field inside and outside of the classroom, and in the music theorists that we elevate to the top of our discipline—that one must practice, regardless of one's own personal racial identity, in order to call oneself a music theorist (Brown, 2018, Ewell, 2020).

There is a vast and diverse musical tradition globally and in the U.S. that many music majors are not introduced to. Indigenous spiritual music played purposefully by Natives already living in North America was viewed as "inferior" and even "horrifying" by

European religious colonizers who moved in with Quaker, Catholic, and Christian hymns (Winston, 2019). The migration of people southward led to the settling of the Appalachian Mountains where many poor Europeans inhabited and brought country blues and fiddling styles. African Slaves came to the United States and introduced the music world to instruments like the xylophone and banjo. The diverse music of the United States comes from the diverse type of people who first colonized this country, however music “scholars” in the field of education have long maintained white-centric curricula by labeling music from other cultures as “less than” with othering names like “folk” and “ethnic” music (Ewell, 2020). According to musicologist Dr. Ewell,

Our white racial frame believes that the music and music theories of white persons represent the best framework for music theory. Music theory can be seen as a racial ideology in which the views and ideas of white persons are held to be more significant than the views and ideas of nonwhites (Ewell, 2020).

America also proved how music education can be a mechanism of cultural genocide. In the 1800’s, Congress elected to assimilate the remaining Indigenous population, chartering boarding schools where thousands of Native American children suffered, often died, and most notably were denied the right to sing, dance, or play their ancestral music. Thus, they were unable to experience, know, or pass on their culture, thereby killing hundreds of individual tribal cultures. For American students in the 1900’s, class and wealth gaps in

the United States economy have defined generational ability to own any instrument, attend music lessons, or proceed to a music institution. This means racial segregation played a major role in lack of access and opportunity.

It wasn't until the 1950's that the American Orff-Schulwerk Association (AOSA) popularized, and simultaneously, mass production factories granted the ability to make and deliver plastic recorders to children across the country. Recorders have dominated public education for the past 70 years or so, and every citizen can likely say they've played a recorder in school as a child. AOSA is fully responsible for the popularity of the recorder and the mass elementary music education curricula, yet many are unaware that Carl Orff, the man who created AOSA, was the most celebrated Nazi musician of the Third Reich. Orff's affiliation with the Nazi regime has not prompted the AOSA to consider a name change despite their website's commitment to diversity and inclusion (Diversity, Equity, and Inclusion, 2021).

The recorder is not the only element within the field of music with an insidious background, as many popular rhymes have racist roots. "Eeny meeny miny mo" is one of those rhymes that's ingrained in our cultural limbic system, yet its racist references predate the end of the civil war and enslavement. The song lyrics were constructed sometime in the 17th century with the "n" word in the second line, and even had later

versions popularized in Europe before it was officially published in 1935 with the “n” word still encrypted, less than one hundred years ago (Simchayoff, 2021).

Decolonizing the music educational experience from toddler to senior starts with centering Black, Brown, Indigenous, and Asian voices, knowledge, and experiences to challenge the historical dominance of white Western European and American music, narratives, and practices that have resulted in minimization and erasure throughout the music field. Solutions lie in expanding curricula to include nonwestern and nonwhite forms of music theory. This change would not erase Western tonality, rather, it would make space in the curricula for music theories of nonwestern cultures to be included. By decentering whiteness and reframing the totality of the world of music, the music theories of nonwestern cultures would enrich musical offerings in our music institutions (Ewell, 2020).

Music/Musical Performance/ers

While the culture and perception around music is seen to be inclusive and accepting, there are countless instances of exclusion and cultural appropriation within music. Berklee College of Music wrote about cultural appropriation within music, first defining the term as “The adoption of an element or elements of one culture by members of another culture. This can be controversial when members of a dominant culture appropriate from disadvantaged minority cultures” (White, nd).

Elvis Presley, the man titled the ‘King of Rock,’ has a controversial relationship with Black musicians and culture. Presley fully admitted his relationship and admiration with Black music, even stating, “But rock 'n' roll was here a long time before I came along. Nobody can sing that kind of music like coloured people” (Ward, 2017). In Presley’s era, which coincided with racial segregation, Black music and its creators would not be given a radio presence or spotlight, and Presley’s recognition and admiration of Black music and culture is something we cannot overlook. Furthermore, Elvis’ Black contemporaries, such as Little Richard and B.B. King, praise Elvis. B.B. King stated that he did not think Elvis ripped off black music, and that “They did not make a mistake when they called him The King” (Young, 2020).

However, we also cannot overlook the fact that Elvis has annual earnings of

\$2,000,000, while Black contemporary Fats Domino earned \$700,000; Elvis himself even admitted that he could not sing like Domino (Ward, 2017). Elvis' history and relationship to Black culture and musicians was a complicated one, and it is important to view it from all aspects, from his praise toward Black musicians, but also from the income disparity, and we must also acknowledge and recognize the validity of those who say Elvis stole and appropriated Black culture, whether it was intentional or not. It is important to also critically analyze the role of the music industry and executives, as although Elvis may have embraced Black artists, the industry and executives did not. As the gatekeepers of music and popularity, they would not allow Black artists to enjoy the fruits of their labor, instead unfairly gifting them to white artists.

Even in the contemporary era, cultural appropriation has not ceased. There are countless instances across genres, and it would be impossible to note every instance of cultural appropriation in the past decades. Some examples include Iggy Azalea, a white Australian musician, who recorded a music video in an Indian neighborhood, wearing a sari, traditional wedding attire, and a bindi, while rapping in a style akin to Black artists in Atlanta (White, nd). Madonna has faced claims of also stealing Indian and Black culture, as well as Latin American and LGBTQ culture (Nittle, 2020). Other artists include Justin Bieber, Robin Thicke, Pharell Williams, Ariana Grande, Miley Cyrus, and Katy Perry (Kameir, 2020).

As a collective, shared experience, and due to its pervasive impact on culture, it is difficult to say when music is being appreciated and incorporated or when it is being appropriated and stolen. However, when music theory is written from a white and Western perspective, it undermines the validity of other forms of music, such as indigenous, Asian, and African music, and can even give these forms of music an image of inferiority. When a white artist incorporates these forms of music and introduces them to the popular culture, it does a disservice to the societies, communities, and musicians who originally played and created their form of music. Those original artists are instead often shunned or seen as less valid. White artists also have the privilege of profiting from marginalized cultures as they see fit for as long as they want to, in addition to the default white culture. These are luxuries that are not afforded to marginalized artists. Music has the unique ability of uniting people across barriers, but it can also be misused to exclude marginalized people, and further inequalities.

It is suggested that the reader further their own research on the ways in which the music industry is entrenched in structural racism. One possible starting point is the film “The Five Heartbeats,” which explores the experiences of Black musicians and how white executives took advantage of Black musicians and their work, and used them as products for the use of white artists.

Philosophy

The love of wisdom, aka Philosophy, seeks to study the fundamental nature of knowledge, reality, and existence, especially when considered as an academic discipline. People can learn fundamental truths about themselves, the world in which they live, and their relationships to both the world and to each other. While Philosophy is a foundational building block for all other academic disciplines, it has been shaped by structural racism, and this shaping has had an effect on its growth, development and its demographic. From the early work of Immanuel Kant in 1781, who famously began his work describing the superiority of Whites over Blacks and Indegenous Peoples, philosophy rests in that foundation (Rutledge, 2019). It is important to establish that racism has broad implications for how the entire field of philosophy is practiced.

At present, all members of the discipline should be on notice that racism has historically impacted, and continues to impact their field. Philosophy is highly utilized, built upon and central to the growth and development of other disciplines. An honest analysis of race and racism can make all schools of philosophy, including ethics, political philosophy, and abstract debates of metaphysics, philosophy of mind, and epistemology, all richer fields. For race theorists, philosophy is highly significant for their work, however it has been observed that contemporary philosophy continues to evade a discussion of racism in the field and, as a result, often helps to promote it. At the same time, anti-racist theorists in many disciplines regularly

draw on crucial notions of objectivity, rationality, agency, individualism, and truth without adequate knowledge of philosophical analyses of these very concepts (Cook, 2003). Evidently there remains a disconnect.

There remains a lack of diversity in the use and recognition of Black, Indigenous, people of color (BIPOC) Philosophers in most college level Philosophy classes. For new students studying the field, this leaves them with a misunderstanding of who has contributed to the field. From very early on, Philosophers came from all parts of the globe and had differing epistemologies, that if taken as a whole would create a wider philosophical lens for students to gaze through (Rutledge, 2019).

Physics

Physics is the science of matter and how matter interacts. Matter is any physical material in the universe. Everything is made of matter. Physics is used to describe the physical universe around us, and to predict how it will behave. This epistemology has been seen as the science that sees the world so accurately and in such great detail. This reputation has been unchallenged and in fact has contributed to the limited scope and lack of diversity in the field.

“White empiricism is the practice of allowing social discourse to insert itself into empirical reasoning about physics, and it actively harms the development of comprehensive understandings of the natural world by precluding putting provincial European ideas about science, which have become dominant through colonial force into conversation with ideas that are more strongly associated with “indigeneity,” whether it is African indigeneity or another” (Prescod-Weinstein, 2019).

As in other disciplines, a lack of diverse thought and representation limits the contributions in the field to what is seen as the right way to do physics. A recent statement by Dartmouth University admits complacency in their practices over the years in regard to supporting students of color. They issued a statement addressing this and announced its support of the Black Lives Matter Movement. Dartmouth is committing themselves to concrete actions in a [6 part plan](#) that includes making the department of physics more welcoming to students of color by highlighting work in the field by Black, Indigenous, people of color (BIPOC), and revisiting biased admission exams that women and students of color historically do poor on, thus putting

them at a disadvantage to their white male peers. This statement was influenced by the American Institute of Physics TEAM-UP report (Dartmouth Department of Physics and Astronomy, 2020).

The American Institute of Physics TEAM-UP report is a report regarding the status of racism in Physics with an eye to increase the number of African American students pursuing degrees in Physics. The team conducted site visits at 5 U.S. colleges, one Historically Black Colleges and Universities, (Morehouse), two Predominantly Black Institutions (Chicago State and Georgia State), and two Predominantly White Institutions (University of Maryland and Henderson State University) and made recommendations (TEAM UP, 2020). The team was made up of social scientists, astronomers and physicists called TEAM-UP . The inclusion of social scientists was because “TEAM-UP members firmly believe that scientists cannot solve the problem of African American underrepresentation using methods common to physics and astronomy; new thinking and new language are needed. TEAM-UP identified five factors responsible for the success or failure of African American students in physics and astronomy: Belonging, Physics Identity, Academic Support, Personal Support, and Leadership and Structures” (TEAM UP, 2020). African American students are as capable as any other students, but these identified barriers are what the research, based on student interviews, 5 site visits, and department head interviews found. These barriers have a strong correlation to the lack of diversity and representation in the field, and addressing and removing these barriers is crucial

for future improvement. Fostering inclusion and belonging is an important piece to recruiting more students but this will require a shift in faculty mindset.

Students need to see themselves as physicists, and can do so by participating in research and conferences and through faculty recognition, so mentoring, access to opportunity, and support from faculty and institutions is important. Schools need to hire more Black faculty and diversify STEM departments overall. Beyond diversifying faculty, students do better with caring faculty of any race/gender who can guide students to all types of support services they need so a focus on this type of faculty skill building is also in order.. For students who are having financial problems, there should be resources for them to get aid whether it be cash, food, housing, etc. TEAM UP's report provides detailed recommendations to the problems outlined and is centered around a theory of change using sensemaking and shared leadership in this process (TEAM UP, 2020).

Physics-Astrophysics

Astrophysics is a branch of space science that applies the laws of physics and chemistry to explain the birth, life and death of stars, planets, galaxies, nebulae and other objects in the universe. It has two sibling sciences, astronomy and cosmology, and the lines between them blur (Balter, 2017). Like its counterpart, Astronomy, it is a predominantly white field (AIP Report, 2021). While racism is not rocket science, rocket science suffers from it when it comes to representation in the field. A notable exception is Dr. George Carruthers, who was an Astrophysicist, acclaimed scientist, and inventor who died in December of 2020. His telescope enabled astronauts on Apollo 16 to obtain photos while on the moon in 1973.

One of the leading and few Black astrophysicists in his field, Carruthers built his first telescope at age 10. He responded to a 1969 call from NASA to design experiments for Apollo space flights. Four months later, Dr. Carruthers received a patent for an “Image Converter for Detecting Electromagnetic Radiation Especially in Short Wavelengths.” He was unique in that he was the conceptual scientist behind the invention but also the practical engineer. He and a team created a telescope that “electronically amplify [sic] images from space through a series of lenses, prism [sic] and mirror [sic], just three inches in diameter. Then, by converting photons to electrons, the images could be recorded on film” (Shudel, 2020). The telescope was also sturdy enough to handle space travel and was easy enough for astronauts to maneuver in their space gear. It was like a planetary observatory, which was the first of its kind to be used in

space. He went on to develop more telescopes in his tenure. Dr. Carruthers was one of four children. He completed his education in a very short time period. He was very shy but gave wonderful lectures. In a 1971 interview, he mentioned that in his 7 year career at the naval research laboratory, he worked 14 hour days, had never taken a vacation, and had no hobbies as this work felt like a hobby. In the 1980s, he began to work extensively in science outreach programs particularly in Black schools. After retiring in 2002, he taught Earth and Space science at Howard University (Shudel, 2020).

In a 1992 Interview with Dr. George Carruthers, he discussed Project SMART, Science and Mathematics Achievement through Research Training (SMART) which was a group started by Valarie Thomas, who works at the National Space Science Data Center in Goddard Space Flight Center. The project was created to advise on science and technology issues of importance to the Black community. The initial goal of the project was to increase literacy in the fields of science and technology among the Black community regardless if they make a career out of it and it has expanded its charge over time. Dr. Carruthers explained that there are other organizations working on similar causes that he also works with. When asked if it was different working to recruit African American students into his field as opposed to white students, he responded,

“I don't think there is anything different in nature. There may be some difference in the degree because of

environment and background. Certainly I don't think there is anything inherent to race that's involved. It's just that most of the African American students come from less well-to-do backgrounds, inner city backgrounds, and aren't exposed to science and technology to the degree that some of the other students are. But the other question about how we get them interested is something that we're really trying to find out and develop" (Carruthers, 1992).

He spoke to the idea of being a role model and the importance of the youth to see someone like them doing the work (DeVorkin, 1992). He mentioned the obstacles but argued that there were fewer of them at the time of the interview (1993) than in the 1950s and 1960s. Dr. Carruthers discussed his father who worked in the same field, and he also had an uncle with a PhD who taught at Howard University. Getting a science fiction comic book from his grandmother is what got him interested in science. He built his first telescope shortly after. In high school he competed in science fairs and continued to build telescopes. There he started going to the Adler planetarium and connected with astronomers. He read an article in the 1950s that suggested astronomy should be done in outer space, and this idea was in sharp contrast to what many astronomers felt the charge of astronomy was and that in fact it should be done on Earth (DeVorkin, 1992). His teachers were supportive of him in high school but he was really over their head in terms of his intellect and ambition. At Adler, he was part of a telescope making group; in the group, it was up to the inventors to purchase their own supplies which Carruthers was capable of doing. He was not poor, but did not have as many resources as some of his contemporaries. Carruthers stated that, "Since the astronomers at the Adler

Planetarium told me that space flight was nonsense, I wanted to sort of counter that by studying aerospace engineering and making space astronomy a reality,” so he pursued that area of inquiry at the university. He cited books growing up serving as role models for him (DeVorkin, 1992). In college the shift academically was hard. He went from As to Cs and Ds, and he credits these grades in part due to not enough high level math classes offered to him at his mostly Black high school. In his first year of grad school, Dr. Carruthers took a summer job at Aerojet in Sacramento, California, which was his first exposure to what engineers do. It helped him refine what he did not want to do but he learned a lot. He wanted to work for the Naval Research Laboratory (NRL) from early on and secured a NASA postdoc with that goal.

The ability to do one's own engineering and building wasn't common practice of scientists at NASA, so many found Carruthers odd, and some engineers felt he was stepping on their toes. In 1967, he had his first rocket success and was able to get aerial images from space with a telescope. After the postdoc, he moved to NRL and was able to focus on the work he found meaningful. In this regard he could be involved in all aspects of the inventing, building, testing, and observing which is the way he wanted to work. In this work he saw an opportunity to act as a role model for those aspiring to do similar work. His groundbreaking telescope project came as a call for experiments to be brought on the Apollo 16 launch. His proposal was accepted and he was asked to partner with Thornton Page whose proposal was similar. The telescope was engineered by Carruthers and it launched with Apollo 16. After Apollo

technology changed, Carruthers research interest shifted to his work with Project SMART. He saw classroom teaching as not engaging, and asserted that there needed to be supplemental hands-on opportunities for summer programs that perform first hand science experiments and activities to engage youth (DeVorkin, 1992).

Political Science

"The soul of our politics is the commitment to ending domination"

- bell hooks

The United States was born out of a desire to end what the founders saw as a tyrannical monarchy. Political Science is the study of systems of government, covering both the functions of government and theoretical approaches that guide those functions. Within the United States, The field is typically broken up into political theory, American politics, comparative politics, and international relations. Structural Racism is ingrained in the field by both the "founding scholars" of political science and the actions that the field is used to excuse.

Throughout the history of political science as a field, the role of race was not studied, in the way that it has been in other social sciences. However, Roger Smith, Professor of Political Science, argues that racism has been entrenched in the field since its beginnings. *The Wealth of Nations* by Adam Smith is known as the "bible of capitalism," and has been referenced by politicians and political scientists when forming policy and framing research throughout our nation's history (Smith, 1997). Adam Smith writes about the necessary political and economic structure of nations to succeed. His ideal nations, or the wealthy nations of Europe, were described as "civilized" with people who are "industrious", leading to the success of the country. On the other hand, Smith describes "savage" nations with people who are "miserably

poor”, alluding to nations outside of Europe (Cannan (Ed.), 2019). Along with capitalism, our nation’s liberal values also stem from the teachings of John Locke. John Locke, known as the father of liberalism, wrote in the “*Second Treatise of Government*” about the role of government and the influence it should have on the people. He famously writes that it is the government's role to protect the natural rights of people, also known as life, liberty, and property (Locke, 1773). The founding fathers relied on his teachings in drafting the declaration of independence and our constitution, even describing the people’s “unalienable rights” to “life, liberty, and the pursuit of happiness,” a direct reference to John Locke. However, John Locke was a beneficiary of slavery, owning stock in the Royal African Company, and assisting in drafting Carolina’s constitution, a document that allowed slavery. While his teachings reference slavery, it is clear that he condoned slavery, and when he discussed man’s right to property, Black slaves were considered as such (Brewer, 2018). It is clear that both Adam Smith and John Locke, two of the most regarded figures in political science, were racist, and their racist ideas are ingrained in the field of political science and in American Politics.

The U.S. political machine operates in part through the democratic process of voting. We vote in our elected officials who then work on behalf of the people and we vote for or against policy changes that affect all aspects of human life. The right to vote is seen as sacred, and it is a right that people have fought and died for throughout history. The history of voting in the United States is fraught with gerrymandering, suppression, lack of access, and inequality.

More of the population than not were denied the right to vote until fairly recently. Women were not granted the right to vote until 1920. The fifteenth amendment was put in place in 1870 to allow Black men to vote but voter suppression the likes of literacy laws and poll taxes effectively denied them their right to vote. The reality is that it was not until the voting rights act of 1965 that Black Americans were somewhat freely able to vote. Present day, there are still varying ways that voter suppression, especially for people of color, takes place. A push by many Republican policy makers in states like [Texas](#) to restrict voting rights via closing polls entirely in certain areas, restricting voting by mail, and poll watchers is actively taking place right now (Ura, 2021). Gerrymandering is frequently employed as a way for a political party to maintain political power, but it flies in the face of what a true democracy actually is. In 2021, false claims of election fraud as a means to overturn a presidential election brought the US to the brink of civil war.

Historically, there have been numerous attempts at power grabs by using the political system to advantage one political agenda over another. In 1787, the 3/5th compromise allowed slave owners to count each of their slaves as 3/5th of a person, in order to increase overall population in slave owning states. The compromise gave disproportionate congressional representation without giving slaves the right to vote. Many liken mass incarceration to modern day slavery, and those incarcerated find their bodies similarly used to create a political advantage. Since the 1790 census, incarcerated people who reside in institutions have been

counted to boost the population of the region where the prison is located, regardless of where their actual home is located. Simultaneously, barring a few exceptions, these incarcerated people are not allowed those people the right to vote (Felon Voting Rights, 2021). This continuation of the 3/5th compromise has been called [*prison gerrymandering*](#).

That little-known practice involves determining the areas elected officials represent with census numbers that count prisoners as residents of where they are incarcerated. With those tallies, some redistricting officials have created local voting districts filled mostly with people who are locked behind bars and, [in most states](#), cannot vote (Lo Wang, 2021).

Currently, only 11 states in the nation are moving to eliminate this practice. The ways in which districts get drawn, people get counted, and the historical legacy of voter suppression has had a lasting impact on who we elect to public office. It raises the question of what our political leaders would look like if every American had always possessed the right and opportunity to vote.

As demonstrated, the field of Political Science has often been used to justify racist policies and actions. Racist policies and actions have harmed Black and Brown people throughout history, but did not receive widespread acknowledgement until recently. In the wake of the highly visible police murders of George Floyd and many other Black and Brown people, a multitude of academic fields have issued statements in support of Black lives and

decrying their field's contribution to the perpetuation of structural racism. Political science is no exception. A recent statement by Gettysburg college in part reads,

If politics is the struggle of who gets what, when, and how, we—as political scientists—need to directly address how national, state, and local institutions have perpetuated a system whereby the outcomes of that struggle are neither equal nor just (Department Statement on Structural Racism. 2020).

Gettysburg College has committed to actionable steps that will create a less racist learning environment, focused on specific steps that create more inclusion, speak truth to power and identify past problems in their field that contribute to structural racism in the society at large via political action. A complete list of their action steps can be found in their [Departmental Statement on Structural Racism - Political Science](#).

In and of itself, silence is a political act, and for those in the field of political science, their silence regarding the legacy of structural racism in the field speaks volumes. Students need to be empowered with the knowledge of how the political apparatus works as well as how it has been used for both good and evil. For educators, making space in their curriculum to address structural racism is part of effectively teaching Political Science. As a white supremacist nation built on the backs of non-white people, this aspect of the culture is important for a true understanding of our political system. Failing to do so would betray the very purpose the study of Political Science is intended to serve (Department Statement on Structural Racism. 2020).

Psychology

Psychology is the science of human processes within the mind, such as thoughts, feelings, and behavior. Psychology can be viewed through a multitude of subsects, such as Abnormal, Biological, Clinical, Cognitive, Developmental, Forensic, Industrial, and Social Psychology (Cherry, 2020). Psychology is interested in the way the human mind operates, and how external stimuli may affect or impair various psychological processes. In a society built on a foundation of structural racism, the impacts of racism on psychological well being cannot be overstated. However, it is imperative to question whether Psychology is riddled with the same prejudices that impact higher education across disciplines, as well as society as a whole. On October 29, 2021, American Psychological Association (APA), admitted to failing to lead the discipline of Psychology against racism and systemic inequities, and apologized for their actions and inactions toward people of color and combating systemic racism (Apology to People, 2021). Accepting the consequences of the failures and discrimination that was perpetuated by the discipline is the first step toward improvement; however, it is imperative to view the discipline holistically, starting from a historical perspective.

Historically, Psychology has been responsible for the creation of several racist, primordial beliefs, such as claims about the relationship between intelligence, race, and nationality. Intelligence Quotients, also known as IQ tests, have long been viewed as a resource for judging and gauging one's intelligence. However, IQ tests are inherently problematic, as they overgeneralize intelligence, which can exist in multiple ways, including those that are not measured in quantifiable or obvious metrics. Dr. Adrian Owen stated that there is no such thing as a single measure of general intelligence, and that a single number cannot explain the differences between people. IQ tests also overlook factors such as age, use of substances such as tobacco, or conditions such as anxiety (Castillo, 2012). IQ tests have been used to argue for racial hierarchies in the past as well. In 1916, Lewis Terman, American Psychologist and education researcher, made the assertion that intellectual deficiencies in Indigenous, Hispanic, and Black people were genetic and based on race. Terman even went so far as to state that, "Their dullness seems to be racial, or at least inherent in the family stocks from which they come ... Children of this group should be segregated into separate classes ... They cannot master abstractions but they can often be made into efficient workers ... from a eugenic point

of view they constitute a grave problem because of their unusually prolific breeding”
(Martschenko, 2017).

Arguments such as these were the basis of Eugenics supporters, who pressured for the mistreatment and forced sterilization of groups such as people of color, people with varying levels of physical and mental ability, immigrants, poor and impoverished people, and other demographics that were deemed as unfit. The Eugenics movement called for the oppression of any person who was not a wealthy and able bodied white man, and for demographics seen as especially undesirable, Eugenics argued for their forced sterilization (Martschenko, 2017).

The role psychologists contributed to this movement was by using IQ scores through army testing in World War I noting racial differences. This allowed supporters to make connections between the “socially unfit” and “racially unfit”, and use the field of psychology to promote and propose eugenicists programs (Guthrie, 2004).

One of the most significant figures in the eugenics movement was Sir Francis Galton whose story was previously detailed in the [Mathematics-Statistics](#) section. Galton was a researcher in several different academic disciplines, such as Anthropology, Biology, Psychology, Sociology, and Statistics. As psychological research is largely dependent on statistics, his

contributions are even more connected to the discipline. He was also Charles Darwin's younger cousin, but was also a father of Eugenics (Gunderman, 2021). Galton and his followers, including Karl Pearson, argued that the British Race was deteriorating due to unfavorable genes being inherited and passed down. Whereas Charles Darwin developed his theories on evolution, Darwin did not believe that those theories justified superiority of specific races. Rather, Darwin asserted that any human alive today is successfully adapted, and by extension, just as perfect as the other people around them.

Today, Galton is most known for his contributions to the field of statistics, and statistical concepts such as the standard deviation, correlation and regression toward the mean (McColl, 2012). However, he is also responsible for the oppression, forced sterilization, and even death of countless people, and by failing to acknowledge these crimes against humanity, higher education will always have a blemish. While Galton's work in other disciplines, especially statistics, has value, and should continue to be used, a complete history should include Galton's darker side, as well as the problematic history of psychology as a discipline. Otherwise, we may find that we are doomed to repeat history at some point in the future.

Psychological research also has an inherently white bias. A study conducted by Professor Steven O. Roberts inspected academic journals and the demographics of their contributors. Out of 60 identified editors, 83% were white, 5% were people of color, and 12% were unidentifiable. When looking at writers, the research provided the following data: 63% of the publication's "first authors" were white, 23% were people of color, and 14% were unidentifiable. However, there was no distinct difference in quality of research by race, as there was no difference in citation count for scholars based on race. Furthermore, in lower tier journals, there were less white researchers than POC, demonstrating that there is not simply a greater amount of white researchers (De Witte, 2020).

Structural racism can help to explain this phenomena; because white psychologists dominate psychological journals and research, they control what is included and excluded from scientific records. The possibility of white fragility, and a hesitance, if not refusal to face one's own prejudices, can cause race based research or research by psychologists of color to not receive publication. Roberts also addressed several possible solutions and equitable practices to incorporate. The first is communicating a top-down commitment to diversity, where the journal explicitly states whether it publishes research sensitive to and regarding race, and whether the

journal values the editing, writing, and participation of racially diverse researchers. Authors should also be expected to articulate the racial demographics of their studies (De Witte, 2020).

In admitting their role in perpetuating and allowing for structural racism and inequality in the field of Psychology, the APA has taken the first steps toward promoting equity and change within the study of Psychology and the fields of Psychological research and clinical mental health. However, this is not a solution as of yet, and the dangers of past misinformation has effects to this day. In 2013, Jason Richwine faced controversy and ultimately resigned from his then position for his Harvard PhD dissertation, in which he claimed that Hispanic and Black Americans are less intelligent than white counterparts, making it more difficult for them to assimilate into white American society. Richwine attributed this to genetic factors, harkening back to the problematic history of Eugenics and IQ tests (Lindsey, 2013). Moin Syed, a Professor at the University of Minnesota, discusses the need for Psychology to address its racist past and its effects on the future. Syed mentions the dangers of awards named after scholars of the past who promoted dangerous and discriminatory ideas, and that it is possible to separate citing and crediting research from granting awards in the name of such problematic figures. Syed further asserts the need to educate on how statistical models and techniques can and *have* been used

in conjunction with racism (Syed, 2020). Despite a variety of psychology research and practice being dedicated to concepts such as culture, discrimination, identity, mental illness in differing racial and ethnic demographics, and more, there is still a need to learn about the past. Students are mature enough and deserve to learn about and discuss topics such as Eugenics and structural racism in their discipline, and failure to do so is a discredit to them and the psychological community as a whole.

Sociology

Sociology is the study of society, and the ways in which humans interact with it and one another to create, and remake social structure. Through an understanding of culture, social institutions and structures, and social interactions, we can begin to make sense of humans in a greater societal context. Sociology grew out of a desire to understand human phenomena scientifically. While the discipline has morphed over the years to understand that the human requires a different type of study than inanimate objects such as a leaf, it still battles with a desire to be seen as a science, and to acknowledge that an objective/value free study of the human as a rational creature has its limitations. One of the first U.S. schools to highlight this point was a Historically Black College and University (HBCU), the Atlanta Sociological Laboratory at Atlanta University, whose most noted Sociologist was W.E.B. DuBois. The Atlanta Sociological Laboratory (ASL) is the first American school of sociology and the first to acknowledge limitations to value free study in its publication. Despite this, most professional sociologists know little about ASL. Instead, the Chicago School became credited as the first American sociological school. Albion Small, who was a founding sociologist at the Chicago School, failed to mention ASL in his seminal 1916 article describing the rise of American sociology over the previous 50 years. He made no mention of W.E.B. Dubois or his contribution to the discipline. ASL was completely ignored, as was Dubois until 1951 in *American Sociology: The Story of Sociology in the United States through 1950* by Howard Odum, who credits the work of Dubois

as contributing to the areas of “race/ethnic/group/folk” but fails to describe the work he did in many other areas of sociology (Odum, 1951).

An argument can be made that work done at ASL ought to be taught in introductory courses, however it is generally not. In 2012, Sociologist Earl Wright made recommendations on how to add this content into an Introduction to Sociology course, and highlighted the missed opportunity of standard introductory textbooks to include this information. Wright’s work examined the 5 most commonly assigned introductory texts and found only cursory mention of Dubois and almost no mention of ASL. The author suggests areas where the Atlanta Sociological Laboratory can be infused into specific chapters and sections of introductory courses, including the history of the discipline, research methods, religion, and race/ethnicity. The article includes appendices that provide resources to further students learning about ASL including readings and assignments to incorporate into introductory coursework (Wright, 2012).

Sadly, despite the work of Wright and others, Sociology and white supremacy are bound through elitism, power and racism. Sociology is neither objective nor value free in that the researcher is always implicated in their work. White scholarship practices erasure and it’s methods and practices are considered the mainstream while Black sociology is seen in contrast. Sociology reproduces the culture at large through its positioning white thinkers as noted experts, both the peer review and publishing practices, and creating a hierarchy of thought. In order to bring sociology into a place where it is more inclusive to all scholars, research and

writings by sociologists of color must be incorporated better into the discipline's recognized body of work (Shotwell, 2019).

There is a rising call to action to address the issue of white supremacy and racism inherent in Sociology. The epistemological framework of sociology is steeped in racism, just like all other fields, but this understanding has long been acknowledged in the field and many sociologists have spoken out in attempts to address this for over 100 years. An attempt to end the "possessive investment in white sociology," which "continues to plague the discipline and its potential," (Brunsma & Padilla Wyse, 2019) is a moral imperative, and ending this inequity will also make the discipline more relevant to 21st century students. In the field of Sociology, like the rest of society, whites benefit from the privilege of being the normative cultural definers, while others are seen in relation to whiteness. According to C. Wright Mills, "Whether signatories of this deal or not, all whites benefit from this" (Mills, 1959). It is important to understand the parallel development of the field in white institutions and HBCUs and just how differently each is received. The birth of both schools, the Sociology department at the University of Chicago (1892) *and* the Atlanta Sociological Laboratory (1895) both created a great deal to the field and deserve an equal place in the history books.

By conceptualizing Black sociology, hegemonic white sociology became visible. Black Sociology was seen as the sociology of liberation and adopted a culturally relative approach. White Sociology's belief in objective knowledge via positivism did not consider the eurocentric

worldview that defined their reality. “Scholars explain that the racialized segregation of knowledge as structured by white supremacy reproduces a ‘white ignorance,’ which is ‘not confined to only white people’”(Brunsma & Padilla Wyse, 2019). Despite the discipline being organized around an understanding of humanity, many of the contributions of Black sociologists are not in the standard required elements of a sociology curriculum, whether at the undergraduate or graduate level, which limits the relevance of the field. More often than not, students of color do not see themselves reflected in the work.

We are not graduating sociologists of color, who then go on to teach at the rate we could be, and this is a symptom of this investment we have made in white sociology. Our organizing body (ASA) is a part of the problem as well. The structure and the ways in which one obtains a seat at the table is historically bound in the peer review process, and in a style of writing that is required to become published. When whiteness is normalized into institutional and disciplinary fabric, instances of microaffirmations, microrecognitions, microvalidations, microtransformations, and microprotections become commonplace (Brunsma & Padilla Wyse, 2019).

A sociology of knowledge approach is needed to make clear the ways in which the investment in white sociology has shaped the discipline, and it also offers a way forward. By empowering our understanding of the discipline’s racialized history, we also empower the decolonization of our sociological imaginations.

Zoology

Zoology is the scientific study of the behavior, structure, physiology, classification, and distribution of animals. It further divides into various branches including Mammalogy, Herpetology and Ornithology. Classification as a form of understanding is part and parcel to the scientific process; however, moving from the non-human world to the species of humans is where historically and presently classification has led to some policies, ideas, and consequences of difference that are deeply rooted in structural racism.

In his 2020 book, *How Zoologists Organize Things: the Art of Classification*, author David Bainbridge describes how “an inherent human obsession with biological classification has left a pervasive, ugly legacy: many people still believe some “races” to be more primitive than, or inferior to, others” (Bainbridge, 2020). He describes this as a result of a hierarchical classification in the natural world that dates back to the 14th century. Philosopher Ramon Llull likens this hierarchy to a staircase from lowest to highest life forms ordained by god. The way in which animal life was classified in ancient times included humans, which led Aristotle to reference Ramon Llull’s hierarchy of animals to include humans. Sadly, this organization was also attributed to homo sapiens as a species, which while in scientific terms is unsound, was a basis for understanding human difference, even until the present day in some scientific circles. Bainbridge notes that, the science of Zoology was inaccurately cataloged by a “human urge to

organize animals most outstripped our actual understanding of those animals” (Bainbridge, 2020).

Perhaps one of the most well-known Zoologists is Ornithologist, Naturalist, and Painter, John James Audubon (April 26, 1785 – January 27, 1851). He is the namesake of the Audubon Society, founded in 1905. The society has worked for over 100 years in the effort of Conservation of birds, other wildlife and healthy ecosystems. His rise to prominence came with his groundbreaking effort to document all types of American birds which included detailed illustrations that depicted birds in their natural habitats in his book, *The Birds of America* (1827-1839). The classic book is considered one of the finest ornithological works ever completed (Audubon, 1827). As great as his work was to craft a scientific marvel still in use today, he left additional legacies as a part of who he was. His belief in the merits of slavery and his outspoken anti-abolitionist views cloud the very society that is his namesake.

In the wake of demands to acknowledge previously unacknowledged effects structural racism has had on various aspects of social life as well as a push to rename organizations clouded by troubled pasts, the Audubon Society is being asked to rebrand itself. An acknowledgment that he was a slaveholder and staunch opponent of abolition also comes with the revelation that he may not be the best namesake for an organization dedicated to conservation of the planet. Whether that rebranding involves an organizational name change, more aggressive efforts to serve underserved communities through conservation efforts, or to

diversify leadership to be more representative, is still being worked through (Marcelo, 2021).

Ultimately, racial justice must be a charge that goes hand in hand with conservation efforts of a healthy ecosystem if the organization is to fulfill its stated mission.

Conclusion

"The master's tools will never dismantle the master's house"

- Audre Lorde

Overview

As illustrated in the preceding sections, higher education is not free of the social ills that plague society at large. To assume that the strictures of culture would not be a contributing factor to the development and evolution of our higher educational systems would be at best, naive. While education has long been central to the promise of this nation, our system has never been designed to promote equitable opportunities that all of us deserve (Cantor et al., 2021). Reckoning with this past does not leave us without recourse for our future; however, nor does it diminish the incredible accomplishments made in pursuit of higher learning. It merely gives us an opportunity to grow and improve from where we are now. We have a chance to design an academy that affords all of its participants equitable access. In these times of great social upheaval, we are required to make radical change on multiple fronts, including as a nation and as a planet, thus, the commitment to restructure higher education is only one piece of a larger evolution.

In the United States, privileged whites have historically been able to take time to pursue educational endeavors in part due to having servants or slaves to perform all other activities of

daily life. These folks went about creating an educational structure for their own children, without regard for the slaves and their families who were maintaining their households. Since we've made strides elsewhere in the culture and announced our commitment to include Black and other marginalized people in the educational system, we've done little to actually address the educational structure in its current form. In practice, there has been a lack of overall diversity and very little representation of the lived experience and contributions of non-white male thinkers. So for many students of color the message conveyed is akin to, "ok we'll let you learn about us and how great we are and you should just be glad to have been invited." This is not only disingenuous, but it makes wanting to be a part of a system that was never intended for you less than attractive to many.

It is time for an honest assessment about how far we have come since *Brown v. Board of Education*. How appealing was it to be integrated into a school where people who didn't want you there taught you about how great they were and ignored contributions of non-white people or flat out disrespected your culture? A narrow curriculum focused on, and taught for the comfort of white students leaves little space for others. In higher education, it is the norm to be white, and "when it is the norm to be White, maintaining the comfort of White people becomes part of the unwritten code of a culture, a code that people of colour often follow." (Dutt, 2019).

Beyond just comfort, in many instances we also must acknowledge the fact that the renaissance of thought perceived to come from white western thinkers was stolen from enslaved Africans, poor women and people of color, or earlier civilizations and repackaged with a white face on it (Johnson, 2017).

The Academy in its present form is about certifying what is socially defined as significant and reproducing knowledge about what is of importance. It is meant to maintain the stratification of power in society. What is especially frustrating about the well documented lack of inclusion of historically marginalized groups from academic discourse is that there is this mitigated acknowledgement of the exclusion, and so only small concessions are made by the powers that be in an effort to appease the marginalized. The minimal appeasement allows for the maintenance of as close to the existing structures of power inherent in higher education and in the larger society as possible. This is insufficient. There is a need to come to terms with the fact that the history of higher education is steeped in structural racism, and it has not been modified enough to create a learning environment that is inclusive of the diversity of the United States population. Only when acknowledged, can we move to change it and become the premiere nation of innovation and technology we once were. If we are to do so, we must ask ourselves some hard questions. Why is knowledge always centered around whiteness? Who gets to say what it means to be smart? What types of knowledge and brain function is really

assessed in IQ testing, and how do factors such as social class, race and gender shape what is being tested rather than “intelligence”.

As a result of higher education’s continued prioritization of whiteness above all else, we see sharp decline in enrollments and more separation of students of color. In order to learn about the totality of American history, which includes truth about a shamefully racist past and present, to great non-white or non-male thinkers, inventors, and educators, many find a better option for their educational pursuits to be in Historically Black, Colleges and Universities (HBCUs). Created at first to educate when white institutions would not admit Black students, they still serve the purpose of providing a safe place to learn and critically evaluate the human condition long after colleges and universities have integrated.

How we’ve missed the mark and what is at stake

In researching this book, we identified some of the ways in which lack of inclusion in higher education has hurt the progression of society writ large by ignoring great ideas and not funding research by women and people of color. Academia is often the birthplace for scientific inventions that have saved lives via medical discoveries. Innovations in technology and brain science are made in the labs of R1 institutions and we evolve culturally, economically and environmentally thanks to the work being done in institutions of higher education. Discovering

new ideas that lead to cultural shifts is the way this happens, but the processes in place limit the opportunity for everyone to put their innovations into practice. Less innovation is not the preferred outcome of maintaining the status quo, our cultural scripts are written such that we as a society value technology, innovation and freedom of thought and yet, due to the historical legacy of privilege and bias, many innovators are left unrecognized.

If we limit who gets access to research grants or internships, we limit the potential for new life changing ideas and innovations, which does a disservice to the society at large. Historically, opportunities to work toward innovation via schooling and access to patents were withheld from Black inventors. When Black inventors did create and innovate, especially during the era of slavery, their work was stolen from them by their white enslavers. Black inventors have been ignored and exploited for a very large portion of our country's history. Black inventors have made many different contributions to our society, yet they have not been awarded the credit that they rightfully deserve. In part, this is because even though the patent law in the U.S. was said to be colorblind, rates of patents granted have disproportionately advantaged white inventors. This was very damaging to Black and Brown innovators, because without a patent it was difficult to make any legitimate money from their inventions. Many Black inventors found themselves having to partner with a white man and share the profit of their invention so that they could get the patent, and be able to reap some of the wealth from the inventions they made (Johnson, 2017).

Throughout this book, we have argued that academia lacks diversity both in students completing programs and faculty representation. This presents problems in terms of the knowledge creation that comes from these institutions. Diversifying the field of knowledge creation would allow for new innovations that may otherwise not be discovered. The process of obtaining funding for a research project is something academics who conduct research must undertake in order to conduct their research. Often that pipeline is controlled by white men, who may have unconscious biases about what makes for a “good researcher” and research worth funding.

As we begin to emerge from a global pandemic the likes of which most of the current living population on earth has never seen, we all waited with bated breath for a vaccine that would bring an end to life under quarantine. R1 institutions and pharmaceutical companies went to work to try to create a vaccine. What came of this work was a fairly new type of vaccine that worked with mRNA. What many are not actually aware of however is that this type of vaccine was in the works for over 20 years, but due to lack of funding, the finished product that could have been tested and ready to use before the death toll skyrocketed was not created. Hungarian researcher Katalin Karikó struggled to obtain funding for her pioneering work on mRNA. “Katalin Karikó spent the 1990s collecting rejections. Her work, attempting to harness the power of mRNA to fight disease, was too far-fetched for government grants, corporate funding, and even support from her own colleagues” (Garde & Saltzman, 2020). Her

grant proposals were rejected over and over and she was demoted at University of Pennsylvania. It was only when a white male colleague signed on to her research that she received funding. While we cannot know for certain that lives would have been saved, one has to wonder what would be different if this type of vaccine used for COVID 19 was tested and vetted years ago. What if the medical field listened to a woman scientist? Would it have saved lives?

Racism in the STEM fields has been explored in earlier sections of this book and discussed widely among many institutions of higher learning. These discussions are robustly taking place, which is a sign that change can happen. There is a pressing need to acknowledge what is at stake for the overall field of science, technology, engineering, and math, both as academic pursuits and as fields of innovation that make our nation strong, if we fail to fund and train women and people of color. A failure to diversify any field limits what we can learn, and this in many ways has been the downfall of the United States in educational and innovation leadership.

There is a lower rate of funding of National Institutes of Health R01 applications submitted by African-American/Black scientists relative to white scientists (Hoppe et al, 2018). Efforts to close the funding gap need to be robustly focused on encouraging a more diverse applicant pool, and developing and implementing mentoring programs. In efforts to move the conversation forward with regard to a historical past and recent incidents of structural racism

interfering with innovation, Harvard has put together an open list of [Racial Bias in Scientific Fields | Anti-Racism Resources](#) to help educators both teach students the history of racism in their fields, and help move forward a shift.

Microaggressions, racial bias and prejudice are all at play in the microcosm of people working in higher education. We advocate here for institutional changes to address the structural racism at play in higher education but there is also individual faculty perception and bias that contribute to student success or failure based on said bias. In, *STEM faculty who believe ability is fixed have larger racial achievement gaps and inspire less student motivation in their classes*, Canning et al describe the ways in which STEM faculty who believe a person's ability is fixed have larger racial achievement gaps and inspire less student motivation in their classes which disproportionately affect outcomes for their students of color (Canning et al, 2019).

A multitude of studies have attempted to understand why retention and persistence rates of students of color are consistently lower than white students. Findings suggest that teacher perception of their students contributes to the students' success in their class. Faculty who have a fixed mindset toward their students' ability, as well as their potential to learn, are found to be less effective or willing to teach students who they have negative connotations towards. This roadblock can be dealt with by helping faculty to develop a growth mindset towards these students, but this involves those faculty deciding to do the work. "Faculty-

centered interventions may have the unprecedented potential to change STEM culture from a fixed mindset culture of genius to a growth mindset culture of development while narrowing STEM racial achievement gaps at scale” (Canning et al, 2019).

Adding an honest discussion of the history of structural racism is part and parcel to effectively engaging all students, but especially those who have historically been marginalized. Critical Race Theory is an approach that recognizes the historical legacy of race based hierarchies and the resultant inequalities our society is faced with. Rather than shying away from an honest conversation about the racialized past of the United States, Critical Race Theory helps to explain race as a social construct, and that racism is not merely an individual bias but rather embedded in legal systems and policies that shape social structure. As each preceding section demonstrated, a racialized past has contributed to the growth and development of all fields within higher education.

Telling the historical story goes a long way for a deeper understanding of our current predicament. Asking students to connect the dots between historical oppression and present day reality is a necessary exercise in critical thinking. Each discipline carries with it a history and as stewards of our respective fields, we have an obligation to teach our students how our discipline came to be. This applies to all fields. Many in the fields of anti-racist pedagogy have for years recommended that teaching about a history of structural racism and how to move the needle towards an anti-racist field is as important as learning the field itself. In 1994, the

late great bell hooks in *Teaching to Transgress* spoke to the importance of multiculturalism as engaged pedagogy:

Multiculturalism compels educators to recognize the narrow boundaries that have shaped the way knowledge is shared in the classroom. It forces us all to recognize our complicity in accepting and perpetuating biases of any kind. Students are eager to break through barriers to knowing. They are willing to surrender to the wonder of re-learning and learning ways of knowing that go against the grain. When we, as educators, allow our pedagogy to be radically changed by our recognition of a multicultural world, we can give students the education they desire and deserve. We can teach in ways that transform consciousness, creating a climate of free expression that is the essence of a truly liberatory liberal arts education (hooks, 1994 p. 44).

An acknowledgement on the part of all in academia of the ways in which structural racism is embedded into our higher education system goes a long way to include students who have felt alienated. “Colorblind” approaches to teaching STEM for example, fall short specifically because there is an aspect of denial in that approach (Sheth, 2018).

If higher education is to truly be a place for all thinkers, there is work to be done in terms of access to materials and supplies. This book is being published under an open license in order for it to be free and accessible to all. Open Educational Resources (OERs) dismantle economic barriers to student success by being freely available to everyone. Additionally, there is a strong

movement within the OER community of educators to speak to an additional barrier students often find in commercial textbooks. What we know is that under-representation of diverse views in texts and other course materials hampers the progress of science and leaves students feeling left out of the field. A recent examination of biology textbooks revealed the following.

Charles Darwin. Carolus Linnaeus. Gregor Mendel. They're all men. They're all white. And their names appear in every biology book included in a new analysis of college textbooks. According to the survey, mentions of white men still dominate biology textbooks despite growing recognition in other media of the scientific contributions of women and people of color. The good news, the researchers say: Scientists in textbooks are getting more diverse. The bad news: If diversification continues at its current pace, it will take another 500 years for mentions of Black/African American scientists to accurately reflect the number of Black college biology students (Brookshire, 2020).

Textbooks whose authors, stories, and images feature white, male focused, heteronormative imagery in any field remind those who do not fit that image that they do not belong. Many new OERs like this one feature collaborations between students and faculty, cross-racially, and not monogendered, but instead, are inclusive of multiple identities. It takes a concerted effort to update texts and materials to represent the students they are serving, but it is possible. Faculty using materials that are not representative can supplement their content to add diversity. Publishers can also do better, and if faculty are committed to working with specific publishers, they can demand it from them. Better yet, all faculty can convert their materials to OERs, which

can easily be modified and created to be more representative, without any sort of prohibitive costs to students (Daly & Sebesta, 2021).

Another needed area of improvement lies in the hiring and retention via the tenure process of a diverse faculty, specifically those least represented in the academy. A recent article from Inside Higher Ed cited found that “just 2.7 percent of all academic job placements in 2019 were of Black women with Phds” (Rucks-Ahidiana, 2021). What this looks like overall among the 1438 colleges and universities studied nationwide is that, “of all the colleges and universities in this [searchable data table](#) as many as 573 (39 percent) had no tenured Black women faculty” (Rucks-Ahidiana, 2021).

If commitments to increasing faculty diversity are more than symbolic gestures, colleges and universities should address the systemic issues creating these racialized and gendered inequities. That is the only way to increase the number of tenured Black women in our colleges and universities (Rucks-Ahidiana, 2021).

Beyond hiring and retaining faculty of color as a means of eradicating racist structures in academia, faculty can decide to take the additional step of looking to diverse author’s research and writings as sources for their own work, as well as what they ask their students to learn about. “The next project you start, do not start with the most cited, most engaged with, most validated scholarship; start with scholarship from journals that support explicitly the work of nonwhite intellectual activists and subordinated knowledges.”(Brunsma & Padilla Wyse, 2019).

By highlighting the work of less cited authors and researchers of color and women we are enriching our fields and allowing their work to rise to the level of notoriety of the predominantly white male scholarship that is most often cited.

In all honesty, higher education in the United States was not created for all people. It was created for and by white men to serve the purpose of strengthening their domination. With this in mind, there are real concerns about what a modification of a system marred by structural racism should look like. Appeasing the guilt of many in higher education, an Ethnic Studies course was added to many school's graduation requirements nationwide. But is that enough? Many would argue it is not. If a system is broken, do we decide to patch it up in hopes that it will still function? Or do we decide to eliminate it and rebuild something new, using the previous foundation to create something that resembles what we once knew but with new focus and goals? To be for the people, higher education must also be by the people. A new academia that meets the needs of 21st century students in the United States must be representative of their students. And what is at stake if we do not change with the times and acknowledge that for many, there were no good old days, but rather a racist, white supremacist, patriarchal past that was not designed for most of us? It is hard to say, but if the mass exodus from higher education is any indication, then we may be in grave trouble.

Acknowledgements

A big thank you is due to the faculty, students and experts who served as consultants, lent their support, allyship and shared resources. With appreciation:

Erica Abke, Kelsey Bensky, Bonnie Bornstein PhD, Chris Boyd, PhD, Juan Camara-Pech, Yashica Crawford, PhD, Zoe Davis, Shaquam Edwards, Emily Fox PhD, Patricia French, PhD, Dave King PhD, Sheila McKnight, PhD, Colleen Mihal PhD, Steve Newton PhD, Dayna Quick, PhD, Nadia Sanko, PhD, and Carmen Works, PhD.

Reflections from the Authors

Dahmitra Jackson

Growing up in Marin County as a biracial woman is certainly a unique experience. As many biracial individuals describe, we don't simply fit into any one group, and the expectation for us to pick a side is problematic. I grew up in over seven rental homes throughout Marin by the age of 17, which gave me another unique experience as I became extremely adaptable having to switch schools frequently. It was at a new school in 8th grade that I was called a racial slur. I later had to ask my mother for the meaning. In high school, it was not uncommon that police officers would be stationed out front, sometimes even detaining students. Another vivid remembrance from high school was that it was common knowledge amongst African American students that if we were in a certain Spanish teacher's class, we would undoubtedly be assigned to sit in the front row. I didn't believe it until it happened to me, 2nd period Spanish was a sight to see. With this brief introduction of a few of my early experiences with education, my goal is to remind you that there are still racial prejudices students face day to day. We should continue to ask, understand, hear, and *really hear* the lived experiences of all people of color if we truly want to do better.

Near the end of 2020 I decided to return to college and fulfill my dream of becoming the first in my family to graduate from college. I had been working at the same organization for 9 years and early in my career I experienced burnout, another gift from the pandemic. My first

semester at College of Marin I enrolled in Dr. Susan Rahman's Gender and Society course, and after completion she invited me to contribute to this piece. Her course was the first Zero Textbook Cost course I had taken, and I enjoyed every bit of it. One thing I am grateful for in returning to college as an adult is that I am more dedicated and have a stronger passion to learn. Going over each week's material, I could tell how much effort was put into creating content that is relevant and inclusive. OERs and Zero Textbook Cost courses also give students an opportunity to learn about work created by people of color that may not have otherwise been featured in mainstream textbooks. Dr. Rahman has a talent for asking questions that get students thinking outside of our societal norms.

I joined this project later on, yet Dr. Rahman still provided me with spaces to have a voice. Throughout this work, I have gained experience, learned a great deal, and had the chance to work with an incredible team who share a vision. I want to give Dr. Rahman a huge shoutout and thank you for challenging the academic system, pushing for us to create a better future, and shedding light on this topic. I am accustomed to being in environments dominated by whiteness, especially academically, and I often don't question or feel comfortable in questioning certain ideas and teachings. In the past, when I thought I was in a safe space to share a few of the microaggressions thrown at me, I was told I was too sensitive, not believed, and my favorite, "it's their generation, what are they going to do." My hope with this book is that while we are pushing for more marginalized, underrepresented BIPOC to further their

education and become future leaders, we can also provide them with inclusive material to learn from, and diverse, informed educators guiding them.

Prateek Sunder

As a first generation student, a child of immigrant parents, and a person of color, I have witnessed, experienced, and felt the effects of racism in a myriad of ways. Because of these experiences, and an intrinsic feeling of empathy and justice for all, I have always felt a call to speak out against injustices. However, this feeling has often been stifled in favor of preserving the pre existing norms, in favor of conformity, and in favor of not “rocking the boat.” However, after laboring over this project, I have felt the uplifting feeling of raising awareness to injustices, in addition to the discomfort and struggle of doing so.

When I first began working on this project, I was unsure what to expect. This book was my first hands-on venture into a large scale research project beyond the classroom environment. This project came in the wake of the killing of George Floyd, and in the midst of the COVID-19 pandemic, both events which sparked great levels of introspection and self-reflection, from myself as well as society as a whole. Working with Professor Rahman has been a privilege, as she encouraged me to work independently, while also providing support as needed, allowing me to gain hands-on learning experience. I also learned that the uncomfortable conversations that this book inspired are not appreciated by all, as even some individuals who affiliate and speak for social justice rose up in protest against the work.

As a first generation student, I have immense respect for Open Education Resources (OERs), as the movement aims to alleviate financial pressure off of students. This is especially beneficial for students from lower income households and/or first generation students, which are both demographics that typically balance education with working. I am one of these students. I have worked since I was 14, and consistently balanced working and financial obligations with my education.

Working with Susan on this book was the first time that my work was connected to my future aspirations, as I conducted research in hopes of raising awareness for a better future. This book allowed me to confront my Imposter Syndrome, another byproduct of life as a first generation student. Despite applying, and being accepted to several universities in high school, due to financial need and a lack of knowledge of the college system, I found myself first attending community college, which in retrospect has been a blessing, as it allowed me to work on this project and transfer. Impostor Syndrome is another symptom of inequality within college that is often overlooked, and one that relates to the inequalities of the higher education industry as well. I am grateful to have the opportunity to develop confidence in myself as a student and a researcher, and to have helped create this living document, which will evolve to reflect changes in higher education.

I would like to conclude this self-reflection with a call to action. First, to the college admissions committees: it is urgent to view extracurriculars and activities through a new lens.

Rather than only viewing mission trips and backpacking trips as signs of an applicant's strength, we must also acknowledge and celebrate the students who do not enjoy such privilege. We must appreciate the student who translates for their parents, and the student who works after school. We should not idolize experiences that are enabled by a parent's wealth, rather, we should admire the student who perseveres and succeeds through the adversity around them. Finally, I would like to call for greater access and financial access to all aspects of education. As Gretchen Jewett wrote, income level is correlated to academic attrition and persistence. For every \$10,000 increase in family income, persistence increases by 2%. Every \$1,000 increase in grant aid increases persistence by 2.7%, and every \$1,000 increase in Work Study increases persistence by 6.4% (Jewett, 2008). This last statistic is particularly revealing, as work studies integrate students into the campus community, and a lack of campus inclusion was a recurring theme revealed throughout this project. While it is not possible for colleges to change parental income, it is absolutely possible and even necessary to increase aid to students, in order to create an equitable and just academic system.

Susan Rahman

As they say, the personal is political. This statement evokes in me the fact that my mere existence and what I do on this planet is a political statement. In some ways that is a lot of pressure but in others, it's a call to action. As a first generation Palestinian woman, my existence has been about resistance. Resistance to patriarchy, resistance to false narratives

about my homeland, resistance to white supremacy, all the while knowing that the path of least resistance would have made things a lot smoother. And I admit, sometimes I took that path, blended in, and participated in maintaining the status quo, all the while knowing I was complicit in something that felt wrong. As I matured, became more rooted in my social justice agenda, and was privileged to earn more occupational security, I began to feel obligated to make racial justice front and center in my teaching, activism and scholarship.

This book is a lifetime of thoughts and ideas generated by the authors and other antiracist scholars who have been screaming from the rooftops that their existence must be seen, and that the disciplines they have developed an expertise in and a love for, need to show up for them. Scholars like the late great bell hooks taught me that it is ok to both be critical of and care for something, that's the human condition, and it's complicated.

When deciding to work on this reader, a lot was going through my mind. I love being an educator, I love working with students, and I feel compelled to create a space where students can critique culture and push for change. I am fortunate that Sociology affords me the latitude to talk about issues surrounding structural racism, and that students have the chance to share their lived experiences with me about being othered by faculty. I wrongly imagined that since I am having these types of conversations, others across disciplines were as well. It turns out that it is not the norm to do so and that both faculty and the resources they employ often fail to

address the effect of structural racism on their fields, or acknowledge what students of color are experiencing.

The discovery of Open Educational Resources (OERs) for me began as a financial equity measure. The idea that we could eliminate a financial barrier for our students was something I really felt drawn to. So I began my Open journey. Attending conferences, writing grants, trying to build a community of faculty that believed in this and wanted to build the availability of classes using open content. As I dug deeper, I saw various other reasons for why OERs could solve other equity issues present in higher education. The dynamism of the content, and the overall philosophy of OER eliminated some of the issues I found with many traditional publications. The lack of diversity in traditional authorship was one barrier I saw for students connecting with content. Let's face it, when most texts are written from the white male perspective, it leaves a lot of others out of the creation of knowledge. I see the potential of OERs to add others to the conversation as a huge benefit. As discussed throughout this book, this shift in voice is a powerful tool in diversifying academic fields.

I want to share my experiences with you here, because when I began this project I failed to consider pushback. Sometimes my Northern California higher education bubble prevents me from realizing what is at stake to some people, who may not feel like there is any benefit of diversifying fields or speaking truth to power. I realized early on that my identity has an impact

on every project I work on, rather than the simple merit of that project and that in and of itself is a gate that needs not be kept.

As a part of this book project, I began inviting peer editors. I selected 8 colleagues at my institution to begin with and asked them if they would be willing to read their discipline's section for accuracy. I explained that these sections were drafts written by myself and students, and none of us were experts in the fields so please fact check us and help us get it right. I sent off the email and within 5 minutes I got a response from one faculty very eager to help. I sent the section to them explaining the project. Again within minutes a pretty unkind email was sent back to me unclear about the purpose of the book or the expanding so much about the Black scholars discussed in the sections sent. The faculty member asked not to be associated with the publication. I explained the purpose of the book again and assured this faculty that they would not be associated with the book. This faculty then sent an email to a selected portion of the faculty in the original email I sent out. Below is the email edited to leave out identifying details:

I read what has been sent to me by Susan about and I found it lacking a lot of fundamentals and knowledge of the fields, but also very limited in providing a comprehensive picture of how anti-racism efforts have grown to overcome past wrongdoings.

I would be more than happy to chat with any of you on this because I do not see any value in such work as has been presented to me.

I provided references, comments and critics on the 2-pages.

But maybe is me [sic]....or maybe is my[sic] grading...

There was no editorial critique included, which was what I was seeking in the first place. Rather than help produce content that would be a good addition to their field, they chose to attack the project and me. As stated above, the personal is political. Aside from having my work summarily discounted as not worthy of this faculty member's attention, I have been called audacious for wanting to take on projects that some felt were above my pay grade. This is not the first time I've been dismissed or minimized because of who I am by men in higher education who think they know more than me. It left me wondering, how many stories like this have prevented important research from being done? The end result for me is that I continue to do the work I feel must be done, in order to see a better future in higher education for the many who continue to be marginalized by the status quo. My audacity and desire to be outside of the lane given to me has allowed me the fortitude to apply for and receive multiple grants and ultimately fund this project. So for all of us who have felt left out, audacious or not, we are not staying in our lane.

A List of Resources For Further Exploration

1. [A Syllabus on Racism in development of medicine/science](#)
2. [Data on treatment/perception bias of people of color working in STEM](#)
3. [Behind the Scenes at MIT. Offers OER videos and features a diverse representation of chemists doing a variety of projects that can be used in various chemistry courses.](#)
4. [Racial Bias in Scientific Fields | Anti-Racism Resources](#)
5. [College of Marin, Faculty Diversity Internship Program](#)
6. [Chronology of Major Landmarks in the Progress of African Americans in Higher Education](#)
7. [Inequality in Teaching and Schooling: How Opportunity Is Rationed to Students of Color in America](#)
8. [Genetics Lessons Can Spark Racism in Students. This Change Can Prevent It.](#)
9. [A scientist like me: demographic analysis of biology textbooks reveals both progress and long-term lags. Diversifying fields must also include representative course materials.](#)
10. [10 ways professors can combat linguistic biases in the classroom](#)
11. [Anti-Black Linguistic Racism as a framework that explicitly names and richly captures the linguistic violence, persecution, dehumanization, and marginalization Black Language-speakers endure when using their language in schools and in everyday life.](#)
12. [K-12 Black teachers ground down by racial battle fatigue after a year like no other](#)

13. [A report from TEAM-UP points out that the challenges of under participation by African Americans within physics remain, and call for systematic change.](#)
14. [How non-Black astronomers can support Black astronomers in the field.](#)
15. [Study of ninth graders that took an ethnic studies class and the findings.](#)
16. [Discussion of a new field, raciolinguistics, that examines how language shapes race and how race shapes language.](#)
17. [APA calls for true systemic change in US culture](#)
18. [Equitable Math](#)
19. [An Open Letter & Call to Action to the Computing Community from Black computer scientists and our allies\)](#)
20. [Technology can't fix this | Nature Machine Intelligence](#)
21. [Timnit Gebru: Google and big tech are 'institutionally racist' - BBC News](#)
22. [Medical student creates diverse medical illustrations that show skin conditions on people of color, combating misrepresentation](#)
23. [Music Theory and White Supremacy](#)

References

- 3 Hiring Practices that Disadvantage Black Students. (n.d.). In *Handshake*. Retrieved from <https://joinhandshake.com/blog/employers/3-hiring-practices-that-disadvantage-black-students/>
- ABOUT ESL PROGRAM. (2021). In *College of Marin-English as a Second Language*. Retrieved from <https://esl.marin.edu/about-esl-program>
- Action Item List (n.d.). Retrieved from <https://blackincomputing.org/action-item-list/>
- Adams, J., Solís, P., & McKendry, J. (2013, January 8). The Landscape of Diversity in U.S. Higher Education Geography. Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/00330124.2012.735935>
- Advancing ACS' Core Value of Diversity, Equity, Inclusion & Respect (n.d.). Retrieved from <https://www.acs.org/content/acs/en/about/diversity.html>
- AIP National Taskforce to Elevate African-American Representation in Undergraduate Physics and Astronomy (TEAM UP). (2020). The Time is Now: Systemic Changes to Increase African Americans with Bachelor's Degrees in Physics and Astronomy. In *Making Black Women Scientists Under White Empiricism: The Racialization of Epistemology in Physics* (pp. 25-71). College Park, MD: American Institute of Physics. Retrieved from <https://www.aip.org/sites/default/files/aipcorp/files/teamup-full-report.pdf>
- Alexander, M. (2010). *The new Jim Crow: Mass incarceration in the age of colorblindness*. New

Press.

Ali, R. (2017). *The arab-american theatre: Still a struggle to be seen*. Al Jadid. Retrieved April 4, 2021, from <https://www.aljadid.com/node/2079>

Amado, A., Conlon Perugini, D., Lindstrom, S. (2020, June 2). Enacting Social Justice in Early Language Classrooms through Critical Cultural Awareness. [Video]. You Tube.

<https://youtu.be/-6m5ldUWT2o>

An Open Letter & Call to Action to the Computing Community from Black in Computing and Our Allies (2020, June 8). Retrieved from <https://blackincomputing.org/>

Anderson, G. (2020, September 10). Analysis: Students of Color Less Likely to Have Paid Internships. In *Inside Higher Ed*. Retrieved from

<https://www.insidehighered.com/quicktakes/2020/09/10/analysis-students-color-less-likely-have-paid-internships>

Anderson, M. D. (2017, April 25). How Does Race Affect a Student's Math Education? *The Atlantic*. Retrieved from

<https://www.theatlantic.com/education/archive/2017/04/racist-math-education/524199/>

Anya, U., & Randolph Jr., L. J. (2019, October). Diversifying Language Educators and Learners. *The Language Educator*, 23-27. Retrieved from

https://www.actfl.org/sites/default/files/tle/TLE_OctNov19_Article.pdf

Anzaldúa, G. (2012). *Borderlands La Frontera: The New Mestiza* (fourth ed., pp. 75-86). San Francisco, CA: Aunt Lute.

Apology to People of Color for APA's Role in Promoting, Perpetuating, and Failing to Challenge Racism, Racial Discrimination, and Human Hierarchy in U.S (2021, October 29).

Retrieved from <https://www.apa.org/about/policy/racism-apology>

Architecture and Racism: A Conversation (2020, October 22). Retrieved from

<https://www.architecturalrecord.com/articles/14844-architecture-and-racism-a-conversation>

Art. (n.d.). In *College of Marin*. Retrieved from <https://academics.marin.edu/program/art>

Artists report back. BFAMFAPhD. (2014). Retrieved April 7, 2021, from

http://bfamfaphd.com/wp-content/uploads/2016/05/BFAMFAPhD_ArtistsReportBack2014-10.pdf

Audubon, J. J. (1827). *The Birds of America* (pp. 4-5). London, England: Natural History Museum.

Bainbridge, D. (2020). *How Zoologists Organize Things*. London, United Kingdom: Frances Lincoln.

Baker-Bell, A. (2020, July). This Ain't Another Statement! This is a DEMAND for Black

Linguistic Justice!. Retrieved from <https://cccc.ncte.org/cccc/demand-for-black-linguistic-justice>

Balter, A. (2017, December). What is Astrophysics?. In *Space.com*. Retrieved from

<https://www.space.com/26218-astrophysics.html>

Bank, A. (1996). Of “Native Skulls” and “Noble Caucasians”: Phrenology in Colonial South Africa. *Journal of Southern African Studies*, 22(3), 387–403.

<http://www.jstor.org/stable/2637310>

Barbaro, M. (2017, August 22). *'The Daily': A conversation with a former white nationalist*. The New York Times. Retrieved October 19, 2021, from

<https://www.nytimes.com/2017/08/22/podcasts/the-daily/former-white-nationalist-derek-black.html>

Barber, P. (2021, November 4). How Sonoma County became the dark center of America’s forced sterilization movement. *The Press Democrat*.

<https://www.pressdemocrat.com/article/news/how-sonoma-county-became-the-dark-center-of-americas-forced-sterilization/>

Barlow, D.L. & Jaeger, P.T. (2017). Celebrating the James Partridge Award: Essays toward the development of a more diverse, inclusive, and equitable field of library and information science. Emerald Group Publishing Limited.

Baskar, P. (2019, May 30). *Doing double: Ethnic studies programs - suffering funding and faculty dearth, high turnover rates, intense working conditions - demand structure reform*. The Daily Northwestern. Retrieved November 10, 2021, from

<https://dailynorthwestern.com/2019/05/30/campus/doing-double-ethnic-studies->

[programs-suffering-funding-and-faculty-dearth-high-turnover-rates-intense-working-conditions-demand-structure-reform/](#)

Batres, E. (2020, June 16). *Why your dream theater school is systemically racist*. The Ensemblist. Retrieved April 7, 2021, from <http://www.theensemblist.com/blog/2020/6/16/why-your-dream-theater-school-is-systemically-racist>

Battey, D., & Leyva, L. A. (2016). A Framework for Understanding Whiteness in Mathematics Education. *Journal of Urban Mathematics Education*, 9(2).
<https://doi.org/10.21423/jume-v9i2a294>

Bell, B. (2020, July 28). White dominance in nursing education: a target for anti-racist efforts. Retrieved from <https://onlinelibrary.wiley.com/doi/epdf/10.1111/nin.12379>

Bernard, R. E., & Copperdock, E. G. (2018, April 30). No progress on diversity in 40 years. *Nature Geoscience*, 11, 292-295. Retrieved from <https://rdcu.be/cyN2k>

Bernasconi, R., & Cook, S. (Eds.). (2003). *Race and Racism in Continental Philosophy* (pp. 1-328). Bloomington, IN: Indiana University Press.

Beskow, L. M. (2016). Lessons from hela Cells: The ethics and policy OF BIOSPECIMENS. *Annual Review of Genomics and Human Genetics*, 17(1), 395–417.
<https://doi.org/10.1146/annurev-genom-083115-022536>

Bhopal R. (2007, December 20). The beautiful skull and Blumenbach's errors: the birth of the

scientific concept of race. *BMJ (Clinical research ed.)*, 335(7633), 1308–1309. <https://doi.org/10.1136/bmj.39413.463958.80>

Black Thoughts. (2020, June 21). Hazards of Field Work While Black. [Video]. You Tube. <https://www.youtube.com/watch?v=W0B7xwGkl00&feature=youtu.be>

Brands, H. W. (2005, November 20). 'Andrew Jackson'. The New York Times. Retrieved September 13, 2021, from <https://www.nytimes.com/2005/11/20/books/chapters/andrew-jackson.html>

Branson, S. (2017). Phrenology and the Science of Race in Antebellum America. *Early American Studies: An Interdisciplinary Journal* 15(1), 164-193. doi:[10.1353/eam.2017.0005](https://doi.org/10.1353/eam.2017.0005)

Brewer, H. (2018, September 12). Slavery-entangled philosophy. In *Aeon*. Retrieved from <https://aeon.co/essays/does-lockes-entanglement-with-slavery-undermine-his-philosophy>

Brookshire, B. (2020, July 17). College biology textbooks still portray a world of white scientists. In *Science News*. Retrieved from <https://www.sciencenews.org/article/college-biology-textbooks-representation-white-men>

Brown, J. (2018). "Annual Report on Membership Demographics." The Society for Music

Theory, October, 2018.

<https://societymusictheory.org/sites/default/files/demographics/smt-demographics-report-2018.pdf>

Brown, S. (2021, December 3). Chronicles of Higher Education. In *How Should Universities Respond to Racism? Randall Kennedy and Marcia Chatelain debate history, accountability, and free speech.*. Retrieved from

https://www.chronicle.com/article/how-should-universities-respond-to-racism?cid=gen_sign_in

Brunsmas, D. L., & Padilla Wyse, J. (2019, January). The Possessive Investment in White Sociology. *Sociology of Race and Ethnicity*, 5(1), 1-10. Retrieved from

<https://journals.sagepub.com/doi/10.1177/2332649218809968>

Burton, N. (2020, May 14). People of Color Experience Climate Grief More Deeply Than White People. Retrieved from [https://www.vice.com/en/article/v7ggqx/people-of-color-](https://www.vice.com/en/article/v7ggqx/people-of-color-experience-climate-grief-more-deeply-than-white-people)

[experience-climate-grief-more-deeply-than-white-people](https://www.vice.com/en/article/v7ggqx/people-of-color-experience-climate-grief-more-deeply-than-white-people)

Business. (n.d.). In *College of Marin*. Retrieved from <https://academics.marin.edu/program/bus>

Butcher, N. (2011). A Basic Guide to Open Educational Resources (OER). In A. Kanwar & S. Uvalić-Trumbić (Eds.). Vancouver, British Columbia, Canada: Commonwealth of Learning/UNESCO. Retrieved from

http://oasis.col.org/bitstream/handle/11599/36/2011_UNESCO_COL_A-Basic-Guide-to-OER.pdf?sequence=5&isAllowed=y

Cannan, E. (Ed.). (2019). *The Wealth of Nations Adam Smith* (pp. 3-144). Minneola, NY: Ixia Press.

Canning, E., Muenks, K., Green, D., & Murphy, M. (2019, February 15). STEM faculty who believe ability is fixed have larger racial achievement gaps and inspire less student motivation in their classes. *SCIENCE ADVANCES*, 5(2), 3-144. Retrieved from <https://www.science.org/doi/10.1126/sciadv.aau4734>

Cantor, Pamela, Lerner, Richard M., Pittman, Karen J., Chase, Paul A., and Gomperts, Nora. (2021). *Whole-Child Development, Learning and Thriving: A Dynamic Systems Approach* (pp. 21-22). Cambridge, MA: Cambridge University Press

Castillo, M. (2012, December 21). IQ scores not accurate marker of intelligence, study shows. Retrieved from <https://www.cbsnews.com/news/iq-scores-not-accurate-marker-of-intelligence-study-shows/>

Centers for Disease Control and Prevention. (n.d.). *The Tuskegee Timeline*. Centers for Disease Control and Prevention. Retrieved September 12, 2021, from <https://www.cdc.gov/tuskegee/timeline.htm>

Chakravartty, P., Kuo, R., Grubbs, V., & McIlwain, C. (2018). #communicationsowhite. *Journal of Communication*, 68(2), 254–266. <https://doi.org/10.1093/joc/jqy003>

Chapman, Roger (2013). *Culture Wars in America: An Encyclopedia of Issues, Viewpoints, and Voices*. London, UK: Routledge. ISBN 9780765683021

Cherry, K. (2020, June 10). What Is Psychology?. Retrieved from <http://www.calvin.edu/library/knightcite/index.php>

Chudy, J., & Jefferson, H. (2021, May 23). Support for Black Lives Matter Surged Last Year. Did It Last? *New York Times*. <https://www.nytimes.com/2021/05/22/opinion/blm-movement-protests-support.html?searchResultPosition=1>

City of Berkeley police department history the earliest YEARS 1905-1925 "first in policing". City of Berkeley. (n.d.). Retrieved September 13, 2021, from [https://www.cityofberkeley.info/Police/Home/History The Earliest Years 1905-1925.aspx](https://www.cityofberkeley.info/Police/Home/History%20The%20Earliest%20Years%201905-1925.aspx)

College of Marin. (n.d.). *Administration of justice*. Academics. Retrieved September 13, 2021, from <http://academics.marin.edu/program/aj>

Collier, S. (2021, September). What Can You Do With An Architecture Degree. Retrieved from <https://www.topuniversities.com/student-info/careers-advice/what-can-you-do-architecture-degree>

Collins, P. (n.d.). Architecture. Retrieved from <https://www.britannica.com/topic/architecture>

Collins, S. (2007, October 5). Saint Elmo Brady (1884-1966). Retrieved from <https://www.blackpast.org/african-american-history/brady-saint-elmo-1884-1966/>

Communications. Data USA. (n.d.). Retrieved April 5, 2021, from

<https://datausa.io/profile/cip/communications>

Cornelius, J. (1983). "We Slipped and Learned to Read:" Slave Accounts of the Literacy Process, 1830-1865. *Phylon* (1960-), 44(3), 171–186. <https://doi.org/10.2307/274930>

Cuesta College. (2018). Program: Graphic Design. In *CAREER TECHNICAL EDUCATION (CTE) TWO-YEAR PROGRAM REVIEW 2017-2018* (p. 5). Retrieved from

https://www.cuesta.edu/about/documents/inst_research/GraphicCTER_2017_2018.pdf

Cultural Relativism (n.d.). In *Lumen*. Retrieved from

<https://courses.lumenlearning.com/culturalanthropology/chapter/cultural-relativism/>

Dali, K. (2018). "Culture Fit" as "Anti-Diversity": Avoiding Human Resources Decisions that Disadvantage the Brightest. *The International Journal of Information, Diversity, & Inclusion*, 2(4), 1-8. Retrieved from

<https://jps.library.utoronto.ca/index.php/ijidi/article/view/32199/24588>

Daly, U., & Sebesta, J. (2021, November 28). Time for OER. In *Community College Daily*.

Retrieved from <https://www.ccdaily.com/2021/11/time-for-oer/>

Daniels, J. (2019, January 7). Racism in Modern Information and Communication Technologies.

Keynote Address and Paper. *CUNY Academic Works Publication and Research*, 3-26.

Retrieved from

https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1529&context=hc_pubs

Dar, S., Liu, H., Martinez Dy, A., & Brewis, D. N. (2020). The Business School Is Racist: Act up! *Organization*, 28(4), 695–706. <https://doi.org/10.1177/1350508420928521>

Data on Underrepresented Groups among PhD recipients. (2021, December). In *American Institute of Physics*. Retrieved from <https://www.aip.org/statistics/minorities/phds>

De Witte, M. (2020, June 24). Psychological research has a racism problem, Stanford scholar says. Retrieved from <https://news.stanford.edu/2020/06/24/psychological-research-racism-problem-stanford-scholar-says/>

Department of Physics and Astronomy Statement on Black Lives Matter. (2020, June). In *Dartmouth Department of Physics and Astronomy* . Retrieved from <https://physics.dartmouth.edu/news/2020/06/department-physics-and-astronomy-statement-black-lives-matter>

Department Statement on Structural Racism. (2020). In *Gettysburg College*. Retrieved from <https://www.gettysburg.edu/academic-programs/political-science/structural-racism/>

DeVorkin, D. (1992, August 18). *Interview of George Carruthers*. Niels Bohr Library & Archives, American Institute of Physics, College Park, MD USA. www.aip.org/history-programs/niels-bohr-library/oral-histories/32485

Diane, C. (2020, August 5). *When the students have notes for the teachers*. AMERICAN THEATRE. Retrieved from <https://www.americantheatre.org/2020/08/05/when-the-students-have-notes-for-the-teachers/>

Digital Collections-Today in History. (n.d.). In *Library of Congress*. Retrieved from

<https://www.loc.gov/item/today-in-history/november-09/>

Diversity & Inclusion at AAG (n.d.). Retrieved from <http://www3.aag.org/cs/programs/diversity>

Diversity, Equity, and Inclusion. (2021). In *American-Orff Schulwerk Association*. Retrieved from

<https://member.aosa.org/member/professional-development/diversity-equity-and-inclusion>

Dobbs, M. (2005, May 17). *Youngest students most likely to be expelled*. The Washington Post.

Retrieved September 12, 2021, from <https://www.washingtonpost.com/wp-dyn/content/article/2005/05/16/AR2005051601201.html>

Domosh, M. (2015, June 1). Why is our Geography Curriculum so White?. Retrieved from

<http://news.aag.org/2015/06/why-is-our-geography-curriculum-so-white/>

Douglas, M. (1966). *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (Vol. II, pp. 1-87). New York, NY: Routledge.

Dutt, K. (2019, December 16). Race and racism in the geosciences. *Nature Geoscience*, 13,

3-292. Retrieved from <https://doi.org/10.1038/s41561-019-0519-z>

Early childhood education. Encyclopedia of Children's Health. (n.d.). Retrieved September 11,

2021, from <http://www.healthofchildren.com/E-F/Early-Childhood-Education.html>

Echegoyen, L. (2020, June 4). ACS Statement on the Killing of George Floyd. Retrieved from

<https://www.acs.org/content/acs/en/about/acs-statement-on-the-killing-of-george-floyd.html>

Eigen, S. (2005). Self, Race, and Species: J. F. Blumenbach's Atlas Experiment. *The German Quarterly*, 78(3), 277–298. <http://www.jstor.org/stable/30039411>

English Department's Commitment to Anti-Racism (n.d.). Retrieved from <https://www.loyola.edu/academics/english/en-dept-anti-racism-stmt>

Equity, Diversity, and Inclusion. (n.d.). American Library Association. <https://www.ala.org/advocacy/diversity>

Ethnocentrism: The Cultural Superiority Complex (n.d.). In *Culture Plus Consulting*. Retrieved from <https://cultureplusconsulting.com/2015/06/04/ethnocentrism/>

Ewell, Philip. "MTO 26.2: Ewell, Music Theory and the White Racial Frame." *Journal of The Society For Music Theory*, 1 Sept. 2020, <https://mtosmt.org/issues/mto.20.26.2/mto.20.26.2.ewell.html>

Faculty Statement. (2020). In *University of Chicago Division of the Humanities English*. Retrieved from <https://english.uchicago.edu/news-events/news>

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *American Journal of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/s0749-3797\(98\)00017-8](https://doi.org/10.1016/s0749-3797(98)00017-8)

Felon Voting Rights. (2021, June 28). In *National Conference of State Legislatures*. Retrieved from <https://www.ncsl.org/research/elections-and-campaigns/felon-voting-rights.aspx>

Final Report of the ALA Task Force on Equity, Diversity, and Inclusion June 2016. (2016).

American Library Association. Retrieved from

[https://www.ala.org/aboutala/sites/ala.org/aboutala/files/content/TFEDIFinalReport_A
LA_CONNECT.pdf](https://www.ala.org/aboutala/sites/ala.org/aboutala/files/content/TFEDIFinalReport_A
LA_CONNECT.pdf)

Fire Technology. (n.d.). In *College of the Canyons*. Retrieved from

<https://www.canyons.edu/academics/fire/index.php>

Fitzgerald, W. (2009, February 1). "Carl Orff, beyond Nazi Music." *OpenDemocracy*. Retrieved

from <https://www.opendemocracy.net/en/carl-orff-beyond-nazi-music/>

Flaherty, C. (2020, March 4). *Separate but equal at the MLA?* Inside Higher Ed. Retrieved April

5, 2021, from <https://www.insidehighered.com/news/2020/03/04/separate-equal-mla>

Fortin, J. (2021, July 27). *Critical race theory: A brief history*. The New York Times.

[https://www.nytimes.com/article/what-is-critical-race-
theory.html?searchResultPosition=46](https://www.nytimes.com/article/what-is-critical-race-
theory.html?searchResultPosition=46)

Fortin, J. (2021, November 5). An intractable problem. *New York Times*. Retrieved from

[https://santarosapressdemocrat-ca-
app.newsmemory.com/?publink=3561d2603_1345fc5](https://santarosapressdemocrat-ca-
app.newsmemory.com/?publink=3561d2603_1345fc5)

Foster, A. (2011). *What to do with a degree in drama studies*. The Guardian. Retrieved October

18, 2021, from <https://www.theguardian.com/money/2011/may/14/drama-studies-degree>

Friend, Y. F. (2019, October 15). The Bizarre and Racist History of the BMI. Retrieved from <https://elemental.medium.com/the-bizarre-and-racist-history-of-the-bmi-7d8dc2aa33bb>

Gamble, J. (2020, June 9). How Economic Assumptions Uphold Racist Systems. *Dissent*, 3-292. Retrieved from https://www.dissentmagazine.org/online_articles/how-economic-assumptions-uphold-racist-systems

Garde, D., & Saltzman, J. (2020, November 10). The story of mRNA: How a once-dismissed idea became a leading technology in the Covid vaccine race. *Stat News*. Retrieved from <https://www.statnews.com/2020/11/10/the-story-of-mrna-how-a-once-dismissed-idea-became-a-leading-technology-in-the-covid-vaccine-race/>

General Drama & Theater Arts. Data USA. (n.d.). Retrieved October 18, 2021, from <https://datausa.io/profile/cip/general-drama-theater-arts>

Geography (n.d.). Retrieved from <https://www.nationalgeographic.org/encyclopedia/geography/>

Gerdeman, D. (2017, May 17). Minorities Who 'Whiten' Job Resumes Get More Interviews. *Harvard Business School's Working Knowledge*. Retrieved from <https://hbswk.hbs.edu/item/minorities-who-whiten-job-resumes-get-more-interviews>

Gitman, L. J., McDaniel, C. D., Shah, A., Reece, M., Koffel, L., Talsma, B., & Hyatt, J. C.

(2018). *Introduction to business*. XanEdu. An Openstax ally.

Glynn, C. (2012). *The role of ethnicity in the foreign language classroom: Perspectives on*

African American students' enrollment, experiences, and identity (Unpublished doctoral dissertation). University of Minnesota, Minneapolis, MN.

https://conservancy.umn.edu/bitstream/handle/11299/143200/1/Glynn_umn_0130E_13329.pdf

Goldberg, E. (2019, December 23). Earth Science has a Whiteness Problem. *New York Times*.

Retrieved from <https://ezproxy.marin.edu:2263/blogs-podcasts-websites/earth-science-has-whiteness-problem/docview/2329690808/se-2?accountid=10215>

GRAPHIC DESIGNER Demographics And Statistics In The US. (2021, September). In *Zippia*.

Retrieved from <https://www.zippia.com/graphic-designer-jobs/demographics/>

Gray, A. (2019, June). The Bias of 'Professionalism' Standards. *Stanford Social Innovation*

Review. Retrieved from

https://ssir.org/articles/entry/the_bias_of_professionalism_standards

Greenberger, A. (2020, February 24). Yale Art History Department Addresses Controversial

Decision to Eliminate Traditional Survey Course: 'Art History Is a Global Discipline'.

ARTnews. Retrieved from <https://www.artnews.com/art-news/news/yale-art-history-survey-controversy-statement-1202677092/>

Gunderman, R. (2021, January). Francis Galton pioneered scientific advances in many fields – but also founded the racist pseudoscience of eugenics. In *The Conversation*. Retrieved from <https://theconversation.com/francis-galton-pioneered-scientific-advances-in-many-fields-but-also-founded-the-racist-pseudoscience-of-eugenics-144465>

Guthrie, R. V. (2004). *Even the rat was white* (second). Allyn and Bacon.

Hall, N. (2015, October 15). Assimilated or Acculturated? Helping Students Navigate Two Worlds. In *tesol international association*. Retrieved from <http://blog.tesol.org/assimilated-or-acculturated-helping-students-navigate-two-worlds/>

Hampton, S. C. (2020, May 20). *How Andrew Jackson used the smallpox vaccine against Native Americans: A cautionary tale of politics and disease*. Memories of the People. Retrieved September 13, 2021, from <https://memoriesofthepeople.wordpress.com/2020/05/20/how-andrew-jackson-used-the-smallpox-vaccine-against-native-americans-a-cautionary-tale-of-politics-and-disease/>

Hanley, A. (2020, February 22). Lies, damned lies, and racist statistics. In *History Workshop*. Retrieved from <https://www.historyworkshop.org.uk/lies-damned-lies-and-racist-statistics/>

Hao, K. (2020, December 4). We read the paper that forced Timnit Gebru out of Google. Here's what it says. Retrieved from

<https://www.technologyreview.com/2020/12/04/1013294/google-ai-ethics-research-paper-forced-out-timnit-gebru>

Harris, A. (2021, May 7). *The GOP's 'critical race theory' obsession*. The Atlantic. Retrieved

November 10, 2021, from <https://www.theatlantic.com/politics/archive/2021/05/gops-critical-race-theory-fixation-explained/618828/>

Hayes, A. (2020, December 29). Guide to Economics. In *Investopedia*. Retrieved from

<https://www.investopedia.com/terms/e/economics.asp>

Hedeman, M., & Kristoffersen, M. (2020, January 24). Art History Department to scrap survey course. *Yale Daily News*. Retrieved from

<https://yaledailynews.com/blog/2020/01/24/art-history-department-to-scrap-survey-course/>

Hines-Gaither, K. (2020, July 21). Anti-Racism in the World Language Classroom. In *Concordia Language Villages* . Retrieved from

<http://www.concordialanguagevillages.org/blog/villages/anti-racism-in-the-world-language-classroom#.YX8S8S2cY0o>

Hochschild J. "Why Now? What Next? Constitutional Crisis in American Politics,". In: Mark

Tushnet, Sanford Levinson, and Mark Graber, eds. *Constitutional Democracy in Crisis?* . Oxford University Press ; 2018. pp. 85-102.

Hoffman, K. M., Trawalter, S., Axt, J. R., & Oliver, M. N. (2016). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proceedings of the National Academy of Sciences of the United States of America*, 113(16), 4296–4301. <https://doi.org/10.1073/pnas.1516047113>

hooks, b. (1994). *Teaching to Transgress: Education as the Practice of Freedom*. Oxfordshire, England UK: Routledge.

Hoppe, T., Litovitz, A., Willis, K., Meseroll, R., Perkins, M., Hutchins, I., ... Santangelo, G. (2018, September 12). Topic choice contributes to the lower rate of NIH awards to African-American/black scientists. *SCIENCE ADVANCES*, 5(10), 3-144. Retrieved from <https://www.science.org/doi/10.1126/sciadv.aaw7238>

How One Anthropologist Reshaped How Social Scientists Think About Race (2019, August). In *NPR*. Retrieved from <https://www.npr.org/2019/08/03/747909534/how-one-anthropologist-reshaped-how-social-scientists-think-about-race>

Howard University. (n.d.). Black Theatre History. Retrieved April 4, 2020, from <https://theatrearts.howard.edu/about/black-theatre-history>

Hu-DeHart, E. (1993). The History, Development, and Future of Ethnic Studies. *The Phi Delta*

Kappan, 75(1), 50-54. Retrieved August 26, 2021,

<http://www.jstor.org/stable/20405023>

Hunt, A. (2018, April 11). These factors drive black men out of engineering school. Retrieved

from <https://www.futurity.org/black-men-in-engineering-stem-1728412-2/>

Jean-Michel Basquiat. (2021). In *The Broad*. Retrieved from

<https://www.thebroad.org/art/jean-michel-basquiat>

Jewett, G. (2008, April 22). College persistence stories of low income, first-generation students.

In *Scholar'sArchive@OSU*. Retrieved from

<https://ir.library.oregonstate.edu/concern/graduate-thesis-or-dissertations/p2676x50>

[7](#)

Jindia, S. (2020, June). Belly of the Beast: California's dark history of forced sterilizations. The

Guardian. Retrieved from <https://www.theguardian.com/us->

[news/2020/jun/30/california-prisons-forced-sterilizations-belly-beast](https://www.theguardian.com/us-news/2020/jun/30/california-prisons-forced-sterilizations-belly-beast)

Johnson, S. (2017, February 19). America's always had black inventors – even when the patent

system explicitly excluded them. In *The Conversation*. Retrieved from

[https://theconversation.com/americas-always-had-black-inventors-even-when-the-](https://theconversation.com/americas-always-had-black-inventors-even-when-the-patent-system-explicitly-excluded-them-72619)

[patent-system-explicitly-excluded-them-72619](https://theconversation.com/americas-always-had-black-inventors-even-when-the-patent-system-explicitly-excluded-them-72619)

Jones, E. (2021, February 24). *Many black Americans aren't rushing to get the COVID-19*

VACCINE – a long history of medical abuse suggests why. *The Conversation*. Retrieved September 12, 2021, from <https://theconversation.com/many-black-americans-arent-rushing-to-get-the-covid-19-vaccine-a-long-history-of-medical-abuse-suggests-why-152368>

Jones, W. (2020, February 24). Racial Profiling Goes High Tech With Facial Recognition. Retrieved from <https://spectrum.ieee.org/do-you-have-the-right-complexion-for-facial-recognition#toggle-gdpr>

Kameir, R. (2020, October 19). Rethinking Appropriation and Wokeness in Pop Music. In *Pitchfork*. Retrieved from <https://pitchfork.com/features/article/rethinking-appropriation-and-wokeness-in-pop-music/>

Kamoche, J. G. (1987). [Review of *Decolonising the Mind: The Politics of Language in African Literature*, by N. wa Thiong'o]. *World Literature Today*, 61(2), 339–339. <https://doi.org/10.2307/40143257>

Kerin, M. R., & Lepage, A. (2016). De-Centering “The” Survey: The Value of Multiple Introductory Surveys to Art History. *Multiple Introductory Surveys to Art History*, 1(1), 1-15. Retrieved from <https://academicworks.cuny.edu/ahpp/vol1/iss1/3>

Kevles, D. J. (2011). From eugenics to patents: Genetics, law, and human rights. *Annals of Human Genetics*, 75(3), 326–333. <https://doi.org/10.1111/j.1469-1809.2011.00648.x>

Khan, S., & Mian, A. (2020, September 1). Racism and medical education. In *The Lancet*.

Retrieved from [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(20\)30639-3/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30639-3/fulltext)

Korsunskiy, E. (2020, September 1). Dismantling White Supremacy in Design Classrooms: My Conversation With Design Guru Cheryl D. Miller. In *Medium*. Retrieved from https://medium.com/future-of-design-in-higher-education/dismantling-white-supremacy-in-design-classrooms-my-conversation-with-design-guru-cheryl-d-miller-5dc9c48b15e4#id_token=eyJhbGciOiJIUzI1NiIsImtp

Kte'pi, B. (2014, April 12). Environmental Science. Retrieved from <https://www.britannica.com/science/environmental-science/additional-info#history>

Kulaszewicz, K. E. (2015, May). Racism and the Media: A Textual Analysis. *Sophia, the St. Catherine University repository website*. Retrieved from https://sophia.stkate.edu/cgi/viewcontent.cgi?article=1478&=&context=msw_papers&=&sei-redir=1&referer=https%253A%252F%252Fwww.google.com%252Furl%253Fq%253Dhttps%253A%252F%252Fsophia.stkate.edu%252Fcgi

L, B. (2019, July 24). *History of black theater in America*. SeatUp. Retrieved from <https://seatup.com/blog/history-of-black-theater-in-america/>

Leading Nursing Organizations Launch the National Commission to Address Racism in Nursing

(2021, January 25). Retrieved from <https://www.nursingworld.org/news/news-releases/2021/leading-nursing-organizations-launch-the-national-commission-to-address-racism-in-nursing/>

Lee, M., & Collins, J. (2020, September 14). "If you aren't White, Asian or Indian, you aren't an engineer": racial microaggressions in STEM education. *International Journal of STEM Education*.

Legacies of Violence and Complicity. (2021, August 31). In *Princeton University*. Retrieved from <https://anthropology.princeton.edu/news/legacies-violence-and-complicity-current-policies-and-guidelines>

Lepore, J. (2020, July 13). *The invention of the police*. The New Yorker. Retrieved September 13, 2021, from <https://www.newyorker.com/magazine/2020/07/20/the-invention-of-the-police>

Lewis, E. (2020, December). Franz Boas, Father of American Anthropology. In *ThoughtCo.*. Retrieved from <https://www.thoughtco.com/franz-boas-4582034>

Lindell, K. (2019, September 27). The name "Dewey" is synonymous with libraries. So why did librarians strike it from an award? *Slate Magazine*. Retrieved from <https://slate.com/human-interest/2019/09/melvil-dewey-american-library-association-award-name-change.html>

Lindsey, B. (2013, May 15). Why People Keep Misunderstanding the 'Connection' Between

Race and IQ. Retrieved from

<https://www.theatlantic.com/national/archive/2013/05/why-people-keep-misunderstanding-the-connection-between-race-and-iq/275876/>

Literacy as Freedom. (n.d.). In *Smithsonian American Art Museum*. Retrieved from

<https://americanexperience.si.edu/wp-content/uploads/2014/09/Literacy-as-Freedom.pdf>

Lo Wang, H. (Host). (2021, September 26). Most Prisoners Can't Vote, But They're Still Counted

In Voting Districts [Audio podcast episode]. In *All Things Considered*. NPR.

<https://www.npr.org/2021/09/22/1039643346/redistricting-prison-gerrymandering-definition-census-congressional-legislative>

Locke, J. (1773). An essay concerning the true original extent and end of civil government.

Boston: Edes and Gill, in Queen-Street.

Longstreth, S., Brady, S., & Kay, A. (2013). Discipline policies in early childhood care and

education programs: Building an infrastructure for social and academic success. *Early Education & Development*, 24(2), 253–271.

<https://doi.org/10.1080/10409289.2011.647608>

Lopez, S., Benali, H. (2016). Native American theater: a concise history. *Miscelanea: A Journal*

of English and American Studies, 54, 93-111.

<https://www.miscelaneajournal.net/index.php/misc/article/view/330/160>

Luu, C. (2020, February 12). *Black english matters*. JSTOR Daily. Retrieved April 4, 2021, from

<https://daily.jstor.org/black-english-matters/>

MacInnes, P. (2021, August 24). *Ellie Simmonds: 'I've found the expectations harder as I've got older.'* The Guardian. <https://www.theguardian.com/sport/2021/aug/24/ellie-simmonds-expectations-tokyo-paralympics-interview>

Manian, M. (2020, September 29). *Immigration Detention and Coerced Sterilization: History Tragically Repeats Itself.* American Civil Liberties Union. Retrieved September 13, 2021, from <https://www.aclu.org/news/immigrants-rights/immigration-detention-and-coerced-sterilization-history-tragically-repeats-itself/>

Marcelo, P. (2021, July 15). How Audubon societies are grappling with a racist past. In *The Christian Science Monitor*. Retrieved from <https://www.csmonitor.com/Environment/2021/0715/How-Audubon-societies-are-grappling-with-a-racist-past>

Marks, J. (2021, June 3). Medical Definition of Hippocratic Oath. Retrieved from https://www.medicinenet.com/hippocratic_oath/definition.htm

Martschenko, D. (2017, October 11). IQ tests have a dark, controversial history — but they're finally being used for good. Retrieved from <https://www.businessinsider.com/iq-tests-dark-history-finally-being-used-for-good-2017-10>

Maxwell, C., & Solomon, D. (2020, April 14). The Economic Fallout of the Coronavirus for

People of Color. In *Center for American Progress*. Retrieved from

<https://www.americanprogress.org/issues/race/news/2020/04/14/483125/economic-fallout-coronavirus-people-color/>

McAlpine, K. (2020, June 15). Black computer scientists, including U-M professors, call to

dismantle racism in the field. Retrieved from <https://cse.engin.umich.edu/stories/black-computer-scientists-including-u-m-professors-call-to-dismantle-racism-in-the-field>

McColl, L. (n.d.). Regression to the Mean: as relevant today as it was in the 1900s. Retrieved

from <https://select-statistics.co.uk/blog/regression-to-the-mean-as-relevant-today-as-it-was-in-the-1900s/>

McCrea, M. (2020). First, Do No Harm: Thinking about Racism in Astronomy. *Rose City*

Astronomers. Retrieved from <https://www.rosecityastronomers.net/newsletter-content/2020/7/presidents-message>

McKenna, P. (2018, March 2). Retrieved from

<https://insideclimatenews.org/news/02032018/air-pollution-data-african-american-race-health-epa-research/>

McKenzie, Lindsay. (2020, October 22). *Is It Time for All Students to Take Ethnic Studies?*

Inside Higher Ed. <https://www.insidehighered.com/news/2020/10/22/adding-ethnic-studies-college-curricula-has-long-been-controversial-moment-different>

Mende-Siedlecki, P., Qu-Lee, J., Backer, R., & Van Bavel, J. J. (2019). Perceptual contributions

to racial bias in pain recognition. *Journal of experimental psychology. General*, 148(5), 863–889. <https://doi.org/10.1037/xge0000600>

Mercier, P. (1999). Cultural Anthropology. In *Britannica*. Retrieved from <https://www.britannica.com/science/cultural-anthropology>

Metzl, J. M. (2009). *The protest psychosis: How schizophrenia became a black disease*. Beacon Press.

Michael, J.S. (2017, July 25). Nuance Lost in Translation. *N.T.M.* 25, 281–309. <https://doi.org/10.1007/s00048-017-0173-8>

Middleton, C. (2020, December 15). UM Fires History Professor Who Criticizes ‘Powerful, Racist Donors’ And ‘Carceral State’. In *Mississippi Free Press*. Retrieved from <https://www.mississippifreepress.org/7518/um-fires-history-professor-who-criticizes-powerful-racist-donors-and-carceral-state/>

Miller S. M. (2014). The role of Eugenics in research misconduct. *Missouri medicine*, 111(5), 386–390.

Miller, A. (1994). The Pioneer Fund: Bankrolling the Professors of Hate. *The Journal of Blacks in Higher Education*, 6, 58–61. <https://doi.org/10.2307/2962466>

Milligan, C., & Ballew, R. (n.d.). History of Black Firefighters. In *legeros.com*. Retrieved from <https://www.legeros.com/history/ebf/national.shtml>

Mills, C. (1959). *The Sociological Imagination* (pp. 15-63). New York, NY: Oxford University

Press.

Molefi Kete Asante, & Ama Mazama. (2005). *Encyclopedia of Black Studies*. SAGE

Publications, Inc.

https://ezproxy.marin.edu:2729/eds/ebookviewer/ebook?sid=4dc6e055-dede-431e-b511-67b06f2125b0%40pdc-v-sessmgr01&ppid=pp_xxv&vid=0&format=EB

Morgan, T. (2018, August 20). *How Hollywood cast white actors in caricatured Asian roles*.

History. Retrieved April 4, 2021, from <https://www.history.com/news/yellowface-whitewashing-in-film-america>

Morn, F. T. (1980, April). *Academic disciplines and debates: An essay on criminal justice and*

criminology as professions in higher education. ERIC. Retrieved September 13, 2021, from <https://eric.ed.gov/?q=criminology&pg=6&id=ED207397>

Mullikin, A. (2020, June 19). *Recognizing systemic racism in dance*. Seattle Dances. Retrieved

October 3, 2021, from <http://seattledances.com/2020/06/recognizing-systemic-racism-in-dance/>

Multimedia – Entertainment. (n.d.). In *College of Marin-Career Education*. Retrieved from

http://workforce.marin.edu/cte_course/multimedia-entertainment/

Music. (n.d.). In *College of Marin*. Retrieved from <https://academics.marin.edu/program/mus>

Musu-Gillette, L., de Brey, C., McFarland, J., Hussar, W., Sonnenberg, W., Wilkinson-Flicker, S.

(2017). *Status and Trends in the Education of Racial and Ethnic Groups 2017* (NCES 2017-051). U.S. Department of Education, National Center for Education Statistics. Washington, DC. Retrieved from <https://nces.ed.gov/pubs2017/2017051.pdf>

National Center for Science and Engineering Statistics. (2017). *Who earns a U.S. doctorate?* National Science Foundation. Retrieved September 13, 2021, from <https://www.nsf.gov/statistics/2017/nsf17306/report/who-earns-a-us-doctorate/race-and-ethnicity.cfm>

National Dance Education Organization. (n.d.). *Evolution of dance in arts education*. NDEO. Retrieved October 3, 2021, from https://www.ndeo.org/content.aspx?page_id=22&club_id=893257&module_id=51380

Nature. (2020, September 1). *Henrietta lacks: Science must right a historical wrong*. Nature News. Retrieved September 12, 2021, from <https://www.nature.com/articles/d41586-020-02494-z>

Newsome, M. (2021, April 12). Even as colleges pledge to improve, share of engineering and math graduates who are Black declines. Retrieved from <https://hechingerreport.org/even-as-colleges-pledge-to-improve-share-of-engineering-graduates-who-are-black-declines/>

Nittle, N. K. (2020, December 14). Cultural Appropriation in Music: From Madonna to Miley

Cyrus. In *ThoughtCo.*. Retrieved from <https://www.thoughtco.com/cultural-appropriation-in-music-2834650>

Nuriddin, A., Mooney, G., & White, A. I. (2020). Reckoning with histories of MEDICAL racism and violence in the USA. *The Lancet*, 396(10256), 949–951.
[https://doi.org/10.1016/s0140-6736\(20\)32032-8](https://doi.org/10.1016/s0140-6736(20)32032-8)

Nursing Has a Long History of Racism. Now Is the Time to Overcome It (2021, September 9). Retrieved from <https://voice.ons.org/conferences/nursing-has-a-long-history-of-racism-now-is-the-time-to-overcome-it>

Odum, H. W. (1951). *American Sociology: The Story of Sociology in the United States through 1950* (p. 378). London: Greenwood.

Ojanuga, D. “The medical ethics of the 'father of gynaecology', Dr J Marion Sims.” *Journal of medical ethics* vol. 19,1 (1993): 28-31. doi:10.1136/jme.19.1.28 Retrieved from:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1376165/>

Okwuosa, A. (2021, August 9). What does an anti-racist math class look like?. In *tvo*. Retrieved from <https://www.tvo.org/article/what-does-an-anti-racist-math-class-look-like>

Oliver, M. N., Wells, K. M., Joy-Gaba, J. A., Hawkins, C. B., & Nosek, B. A. (2014). Do physicians' implicit views of African Americans affect clinical decision making?. *Journal of the American Board of Family Medicine : JABFM*, 27(2), 177–188.
<https://doi.org/10.3122/jabfm.2014.02.120314>

Östör, k. (1998). Anthropology. In *Britannica*. Retrieved from

<https://www.britannica.com/science/anthropology>

Parikh, A. (2018, April 9). Race is still a Problem in Anthropology. In *Anthrodendum*. Retrieved

from <https://anthrodendum.org/2018/04/09/race-is-still-a-problem-in-anthropology/>

Park, J. (2017). Historical origins of the tuskegee experiment: The Dilemma of Public Health in the United States. *Korean Journal of Medical History*, 26(3), 545–578.

<https://doi.org/10.13081/kjmh.2017.26.545>

Parkinson, J. (2016, January 7). The significance of Sarah Baartman. In *BBC News*. Retrieved

from <https://www.bbc.com/news/magazine-35240987>

Patel, V. (2021, June 15). Race on Campus: Engineering Has a Diversity Problem. Colleges Can Help. Retrieved from <https://www.chronicle.com/newsletter/race-on-campus/2021-06-15>

Pearl Fryar. (2021). In *South Carolina African American History Calendar*. Retrieved from

<https://scafricanamerican.com/honorees/pearl-fryar/>

Pearson, J.D. (2003). Lewis Cass and the politics of disease: The Indian Vaccination act of 1832.

Wicazo Sa Review 18(2), 9-35. <https://doi.org/10.1353/wic.2003.0017>

Pierson, B. and Galloway, S. (2006). *A Man Named Pearl* [Film; DVD]. Tentmakers

Entertainment.

Pilkington, E. (2021, April 29). Ivy League colleges apologize for ‘serious error’ in using bones of Black child for teaching. In *The Guardian*. Retrieved from <https://www.theguardian.com/us-news/2021/apr/29/ivy-league-colleges-apologize-bones-black-child-move>

Prescod-Weinstein, C. (2019). Making Black Women Scientists under White Empiricism: The Racialization of Epistemology in Physics. *Signs: Journal of Women in Culture and*

Society, 45(2), 421-447. Retrieved from

<https://www.journals.uchicago.edu/doi/pdfplus/10.1086/704991>

Primitive Art. (2021). In *Museum of Modern Art*. Retrieved from

<https://www.moma.org/collection/terms/primitive-art>

Public Broadcasting Service. (n.d.). *Race - the power of an illusion*. PBS. Retrieved September 21, 2021, from https://www.pbs.org/race/000_About/002_04-teachers.htm

Pulido, L. (2002). Reflections on a white discipline. Retrieved from

<https://atrium.lib.uoguelph.ca/xmlui/bitstream/handle/10214/1803/7-Pulido.pdf?sequence=1&isAllowed=y>

Rafa, A. (2018). (rep.). *Suspension and Expulsion* (pp. 1–6). Denver, CO: Education

Commission of the States. Retrieved September 11, 2021, from

<https://www.ecs.org/suspension-and-expulsion/>

Rommel, A . (Host). (2020, September 23). On Being #BlackInChem (No. 33) [Audio podcast episode]. In *Stereo Chemistry*. Open Berkeley.

<https://chemistry.berkeley.edu/news/black-chemists-discuss-strategies-dismantling-systemic-racism-science>

Resources that Address Issues of Race, Diversity, and Social Justice . (n.d.). In *ACTFL Language Connects*. Retrieved from

<https://www.actfl.org/resources/resources-language-educators-address-issues-race-diversity-and-social-justice>

Reverby, S. M. (2012). Ethical failures and History Lessons: The U.S. public Health service research studies in Tuskegee and Guatemala. *Public Health Reviews*, 34(1), 1–18.

<https://doi.org/10.1007/bf03391665>

Ricard, R. (1981, December). The Radiant Child. *Artforum*, 20(4), 35-43. Retrieved from <https://www.artforum.com/print/198110/the-radiant-child-35643>

Rieland, R. (2018, March). Artificial Intelligence Is Now Used to Predict Crime. But Is It Biased?. Retrieved from <https://www.smithsonianmag.com/innovation/artificial-intelligence-is-now-used-predict-crime-is-it-biased-180968337>

Rios, C. (2015, February 15). You Call It Professionalism; I Call It Oppression in a Three-Piece Suit. *Everyday Feminism*. Retrieved from You Call It Professionalism; I Call It Oppression in a Three-Piece Suit <https://everydayfeminism.com/2015/02/professionalism-and-oppression/>

Rodriguez, M. A., & García, R. (2013). First, do No Harm: The US sexually transmitted Disease

experiments in Guatemala. *American Journal of Public Health*, 103(12), 2122–2126.

<https://doi.org/10.2105/ajph.2013.301520>

Romita, A., & Romita, N. (2018, October 26). *Why major in dance? A case for dance as a field of study in universities in 2018*. OUPblog. Retrieved October 5, 2021, from

<https://blog.oup.com/2018/10/dance-field-of-study-in-universities/>

Rosa, K. and Henke, K. (2017). 2017 ALA Demographic Study Report. In *American Library Association: Office for Research and Statistics*. Retrieved from

<https://www.ala.org/tools/sites/ala.org.tools/files/content/Draft%20of%20Member%20Demographics%20Survey%2001-11-2017.pdf>

Rucks-Ahidiana, Z. (2021, July 16). The Systemic Scarcity of Tenured Black Women. In *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/advice/2021/07/16/black-women-face-many-obstacles-their-efforts-win-tenure-opinion>

Ruf, J. (2020, February 16). Why Environmental Studies is Among the Least Diverse Fields in STEM. Retrieved from

<https://www.diverseeducation.com/institutions/hbcus/article/15106248/why-environmental-studies-is-among-the-least-diverse-fields-in-stem>

Rutledge, D. (20, November 9). Racist attitudes 'whitewashed' modern philosophy. What can be done to change it?. Retrieved from <https://www.abc.net.au/news/2019-11-10/modern-philosophical-canon-has-always-been-pretty-whitewashed/11678314>

Said, E. (1979). *Orientalism* (First ed., pp. 1-6). New York, NY: Vintage Books.

Sanderson, S. (2021, February 22). MoMA examines role of architecture in systemic racism. In DW. Retrieved from <https://www.dw.com/en/moma-examines-role-of-architecture-in-systemic-racism/a-56604389>

Savitt, T. L. (1982). The use of blacks for medical experimentation and demonstration in the Old South. *The Journal of Southern History*, 48(3), 331–348. <https://doi.org/10.2307/2207450>

Schnabel, J. (1996). *Basquiat* [Film, DVD]. Miramax Films.

Seicol, A. (2020, June 8). Institutional racism in the fire service: ‘We must admit that it exists in our house’. In *FireRescue1* by Lexipol. Retrieved from <https://www.firerescue1.com/fire-department-management/articles/institutional-racism-in-the-fire-service-we-must-admit-that-it-exists-in-our-house-cV2Tmq26ufggM89Z/>

Shah, M. (2020, October 9). What It Feels Like to Be a Nurse of Color. Retrieved from <https://voice.ons.org/stories/what-it-feels-like-to-be-a-nurse-of-color>

Sheth, M. J. (2018, May 22). Grappling with racism as foundational practice of science teaching. *Wiley Online Library*. doi: <https://doi.org/10.1002/sce.21450>

Shotwell, J. (2019, June 18). Yes, sociology is racist, too. *Contexts: Sociology for the Public: Cite Black Women!*. Retrieved from <https://contexts.org/articles/yes-sociology-is-racist-too/>

Shudel, M. (2020, December 31). George R. Carruthers, scientist who designed telescope that

went to the moon, dies at 81. *Washington Post*. Retrieved from https://www.washingtonpost.com/local/obituaries/george-carruthers-dead/2020/12/31/ca5a366e-4acc-11eb-a9d9-1e3ec4a928b9_story.html

Silva, D. (2020, June 18). From Juneteenth to the Tulsa massacre: What isn't taught in classrooms has a profound impact. In *NBC News*. Retrieved from <https://www.nbcnews.com/news/us-news/juneteenth-tulsa-massacre-what-isn-t-taught-classrooms-has-profound-n1231442>

Simchayoff, E. (2021, January 24). The Racist Origin of 'Eeny, Meeny, Miny, Moe'. In *Medium.com*. Retrieved from <https://aninjusticemag.com/the-racist-origin-of-eeny-meeny-miny-moe-411e2d4815ac>

Smelser, N., Wilson, W., & Mitchel, F. (Eds.). (2011). *America Becoming Racial Trends and Their Consequences* (First ed., Vol. II, pp. 3-8). Washington, DC: The National Research Council. Retrieved from <https://doi.org/10.17226/9719>

Smith, R. M. (1997). Still Blowing in the Wind: The American Quest for a Democratic, Scientific Political Science. *Daedalus*, 126(1), 253–287. <http://www.jstor.org/stable/20027417>

So, R. J., & Wezerek, G. (2020, December 11). Just How White Is the Book Industry?. Retrieved from <https://www.nytimes.com/interactive/2020/12/11/opinion/culture/diversity-publishing-industry.html?searchResultPosition=3>

Sokol, J. (2016, August 23). Why the Universe Needs More Black and Latino Astronomers.

Smithsonian Magazine. Retrieved from <https://www.smithsonianmag.com/science-nature/how-can-we-give-black-and-latino-astronomers-foundation-reach-stars-180960213/>

Sokolowski, H., & Ansari, D. (2017, October 17). Who Is Afraid of Math? What Is Math

Anxiety? And What Can You Do About It?. In *Frontiers for Young Minds Main* . Retrieved from <https://kids.frontiersin.org/articles/10.3389/frym.2017.00057>

Spaine Long, S. (2020, July 22). Race and Language Teaching. *Language Magazine*. Retrieved

from <https://www.languagemagazine.com/2020/07/22/race-and-language-teaching/>

Spears, C. C. (2020, June 10). *How dance students can confront racism and implicit bias in the studio*. Dance Spirit. Retrieved October 3, 2021, from

<http://www.dancespirit.com/students-confront-racism-2646167153.html?rebelltitem=10#rebelltitem10>

Stegelin, D.A., & Emerita. (2018, December). *Preschool suspension and expulsion: Defining the issues*. Institute for Child Success. Retrieved September 12, 2021, from

<https://www.instituteforchildsuccess.org/publication/preschool-suspension-and-expulsion-defining-the-issues/>

Stern, A. (2020, September 23). *Forced sterilization policies in the US targeted minorities and*

those with disabilities – and lasted into the 21st century. Institute for Healthcare Policy & Innovation. Retrieved September 13, 2021, from <https://ihpi.umich.edu/news/forced-sterilization-policies-us-targeted-minorities-and-those-disabilities-and-lasting-21st>

Stewart, A. (2018, September 13). “Opinion | I Was a Firefighter for 35 Years. Racism Today Is as Bad as Ever.”. *The New York Times*. Retrieved from www.nytimes.com/2018/09/12/opinion/the-racism-inside-fire-departments.html

Syed, M. (2020, August 28). Psychology Must Reckon with its Racist Past—and Present. Retrieved from <https://cla.umn.edu/psychology/story/psychology-must-reckon-its-racist-past-and-present>

Talbot, M. (2018, October 22). The Myth of Whiteness in Classical Sculpture. *The New Yorker*. Retrieved from <https://www.newyorker.com/magazine/2018/10/29/the-myth-of-whiteness-in-classical-sculpture>

The Aspen Institute. (2016). Roundtable on Community Change. In *Glossary for Understanding the Dismantling Structural Racism/Promoting Racial Equity Analysis* (pp. 1-2). Aspen, CO: Author. Retrieved from <https://www.aspeninstitute.org/wp-content/uploads/files/content/docs/rcc/RCC-Structural-Racism-Glossary.pdf>

The Biology of Skin Color. (2015). HHMI BioInteractive. Retrieved September 21, 2021, from <https://www.biointeractive.org/classroom-resources/biology-skin-color>

The Black Experience in Graphic Design: 1968 and 2020. (2020, July 8). In *Letterform Archive*.

Retrieved from <https://letterformarchive.org/news/view/the-black-experience-in-graphic-design-1968-and-2020>

The Sadie Collective. (2020, November 11). Why are Black Women Missing from Corporate Leadership?. In *Medium.com*. Retrieved from <https://sadielcollective.medium.com/black-women-missing-from-corporate-1a6524314ca7>

Thelin, J., Edwards, J., Moyen, E., Berger, J., & Vita Calkins, M. (2021). Higher Education in the United States HISTORICAL DEVELOPMENT, SYSTEM . In *State university.com*. Retrieved from <https://education.stateuniversity.com/pages/2044/Higher-Education-in-United-States.ht>

Thuis, P., & Stuive, R. (2019). *Business administration*. Routledge.

Timeline of scientific racism. Haunted Files APA NYU. (n.d.). Retrieved September 13, 2021, from <https://apa.nyu.edu/hauntedfiles/about/timeline/>

Tyner, J. (2017, May 19). Race and Racism. Retrieved from <https://www.oxfordbibliographies.com/view/document/obo-9780199874002/obo-9780199874002-0124.xml>

U.S. Department of Education (2016). *National Teacher and Principal Survey*. National Center for Education Statistics. Washington, DC. Retrieved from <https://nces.ed.gov/surveys/ntps/index.asp>

U.S. Department of Health & Human Services. (n.d.). *Understanding child trauma*. SAMHSA.

Retrieved September 21, 2021, from <https://www.samhsa.gov/child-trauma/understanding-child-trauma>

Ura, A. (2021, August 23). The hard-fought Texas voting bill is poised to become law. Here's what it does. *Texas Tribune*. Retrieved from <https://www.texastribune.org/2021/08/30/texas-voting-restrictions-bill/>

Veritasium. (2021, May 22). Math Has a Fatal Flaw. [Video]. You Tube. <https://www.youtube.com/watch?v=HeQX2HjkcNo>

Vinopal, J. (2016, January 13). The Quest for Diversity in Library Staffing: From Awareness to Action. In *In the Library with the Lead Pipe*. Retrieved from <https://www.inthelibrarywiththeleadpipe.org/2016/quest-for-diversity/>

Wabuke, H. (2015, April 16). 20 Black Poets You Should Know (and Love). Retrieved from <https://www.theroot.com/20-black-poets-you-should-know-and-love-1790868612>

Wall, L L. "The medical ethics of Dr J Marion Sims: a fresh look at the historical record." *Journal of medical ethics* vol. 32,6 (2006): 346-50. doi:10.1136/jme.2005.012559

Ward, A.M. (2019). Ethnic studies programs. *Salem Press Encyclopedia*. <http://ezproxy.marin.edu:2048/login?url=https://ezproxy.marin.edu:2472/login.aspx?direct=true&db=ers&AN=96397324&site=eds-live>

Ward, B. (2017, August 17). Elvis Presley 40 Years Later: Was the King of Rock 'n' Roll Guilty

of Appropriating Black Music?. Retrieved from <https://www.newsweek.com/elvis-presley-40-years-later-was-king-rock-n-roll-guilty-appropriating-black-651911>

Weingarten, E. (2020, June). Why Economics Needs More Black Women. *Behavioral Scientist*.

Retrieved from <http://behavioralscientist.org/why-economics-needs-more-black-women/>

What is art history?. (2021). In *International studies in history and business of art & culture*.

Retrieved from <https://www.iesa.edu/paris/news-events/art-history>

What is Astronomy?. (n.d.). In *American Museum of Natural History*. Retrieved from

<https://www.amnh.org/explore/ology/astronomy/what-is-astronomy>

WHAT IS CAREER TECHNICAL EDUCATION?. (n.d.). In *Career Technical Educational*

Foundation. Retrieved from <https://ctesonomacounty.org/what-is-career-technical-education/>

What is communication studies? Masters in Communications. (n.d.). Retrieved October 18,

2021, from <https://www.mastersincommunications.com/faqs/what-is-communication-studies>

What is Mathematics?. (2021). In *Tennessee Tech*. Retrieved from

<https://www.tntech.edu/cas/math/what-is-mathematics.php>

What is Statistics?. (2021). In *Department of Statistics - Donald Bren School of Information &*

Computer Sciences. Retrieved from <https://www.stat.uci.edu/what-is-statistics/>

White, R. H. (n.d.). Cultural Appropriation in Music. In *Berklee Online*. Retrieved from

<https://online.berklee.edu/takenote/cultural-appropriation-in-music/>

Wikimedia Foundation. (n.d.). *Linguistic discrimination*. Wikipedia. Retrieved April 4, 2021, from https://en.wikipedia.org/wiki/Linguistic_discrimination

Wilkie T. (2000). Acres of skin: human experiments at Holmesburg Prison. A true story of abuse and exploitation in the name of medical science. *Medical History*, 44(1), 132–133.

Williams, M. J., & Eberhardt, J. L. (2008). Biological conceptions of race and the motivation to cross racial boundaries. *Journal of Personality and Social Psychology*, 94(6), 1033–1047.
<https://doi.org/10.1037/0022-3514.94.6.1033>

Winston, Abigail C. (2019) "The Role of Music in Assimilation of Students at the Carlisle Indian Industrial School," *The Gettysburg Historical Journal*: Vol. 18 , Article 9.
Available at: <https://cupola.gettysburg.edu/ghj/vol18/iss1/9>

Wright, E. (2012). Why, Where, and How to Infuse the Atlanta Sociological Laboratory into the Sociology Curriculum. *Teaching Sociology*, 40(3), 257-270.
doi:10.1177/0092055X12444107

Young, T. (2020, February 12). Retrieved from
<https://elvisbiography.net/2020/02/12/elvis-presley-and-the-black-community-dispelling-the-myths/>

Zinn, H. (1980, 2005). *A People's History of the United States: 1492-Present* (pp. 5-323, 684,

13). New York, NY: Harper Perennial Modern Classics.

A People's History of Structural Racism in Academia: From A(dministration of Justice) to Z(oology) © 2022 by Susan Rahman is licensed under CC BY 4.0. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>

The contents of this book were developed under an Open Textbooks Pilot grant from the Fund for the Improvement of Postsecondary Education (FIPSE), U.S. Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

###