Race Science and Columbia

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Introduction

Western science and racism are inseparable. As the concepts of race and racism developed over the past few centuries as a product of Western expansion and colonialism, science also developed as one factor of the overall development of Western countries. The growing use of black slaves in colonial endeavors as well as encounters with Native peoples such as the American Indians created a need for the rationalization of conquering and enslaving these groups of people. This need for rationalization lead to the growth of racist, ethnocentric ideologies that allowed European conquerors to see non-Europeans as below them. Often, Europeans characterized these people as savages, or beastlike. Europeans rationalized taking over native lands, enslaving people, even exterminating whole populations through this worldview. In the early stages of colonialism religion played a role in this justification. But as the West advanced, entering the Enlightenment, science soon began to take religion's place. As a growing field throughout the sixteenth, seventeenth, and eighteenth centuries, it was used to justify a colonial worldview that held the European race above others. Scientists conducted their studies with preconceived notions about how the world worked and tailored their science to fit it and reinforce it.

This pattern persisted through the middle of the twentieth century, and each scientific breakthrough contributed to the growing institutionalization of racism even after slavery

ended. Social Darwinism and eugenics are prime examples of how race science shaped mainstream scientific ideas. These schools of thought, which promoted the evolutionary superiority of white people and selective breeding and ethnic cleansing to maintain a racially pure society, were widespread, legitimate scientific fields in America and Europe until around the end of World War Two, when they were employed by the Nazis in the Holocaust.

In this paper, I look at the history of race science in the broader contexts of New York City, America, and the world, as well as within the smaller context of Columbia University. I focus on how activities of scientists and academics associated with Columbia contributed to the larger understanding of race science. Many leading eugenicists and race scientists came out of Columbia, including Madison Grant and Henry Fairfield Osborn, two of the well known leaders of the American Eugenics Movement. There were also a number of lesser known academics who nonetheless made their contributions to race science. On the other hand, however, Columbia was also home to Franz Boas, who was known for challenging views on race science.

History of Racial Science and Current Thinking of That Period

The development of the United States as a country and the institutions which made up its foundation were built through slavery and the race-centered worldview that it fostered. According to anthropologists and historians, the concepts of race and racism as they are known today are relatively novel. Racialized attitudes have, many argue, emerged out of Western Europe's colonial expansion throughout the past few centuries. While classifications of different groups of people, ethnocentrism, and xenophobia have existed possibly for as long as humans have, the modern ideology of race developed as the Western world expanded, conquering non-white civilizations and developing worldviews which offered justification for such expansion. The very nature of "race" itself is an ordering system designed to create groups of people and place some as superior to others. In *Race in North America,* Audrey Smedley says,

In the United States, Australia, South Africa, and many other areas of the world, race is a cosmological ordering system that divides the world's peoples into what are thought to be biologically discrete and exclusive groups. The racial worldview holds that these groups are by nature unequal and can be ranked along a gradient of superiority[1]

Race, as we know today, is a socially constructed concept that has developed over centuries to classify groups of people based on superficial attributes. As race developed as a worldview in America (and the Western world as a whole), institutions developed alongside it, taking advantage of the opportunities it offered to exploit so-called "lesser" (non-white) races and institutionalizing it in such a way that this separation and ordering of groups becomes ingrained into the way that American society functions.

In a purely scientific sense, racial distinctions have been widely disproved. It is no longer accepted within the mainstream scientific community that phenotypical differences-aspects such as skin color or variations in skeletal structure or brain weight-account for biological or genetic variations. Nor is it true that they indicate different levels of evolutionary advancement scientists once believed. However, race still very much exists and prevails as a form of social ordering in American society today. As Smedley says, "it cuts across and takes priority over social class, education, occupation, gender, age, religion, culture (ethnicity), and other differences"[2]. Although race may just be a social construct, it is still made very real by the institutions that have created and legitimized it for so long. It affects the way Americans see society, the way we live, live, and the way we think about those around us. Racial biases are ingrained in all of us, whether we see it or not, and that is because this ideology is so deeply entrenched in the backbone of American life.

Academia, science, history, religion, and other fields have worked together to legitimize the ideology of race and racism. Oppressive groups seek reasons to believe that they have the right to oppress and conquer. Whether it is in the form a paternalistic civilizing mission, or outright antagonism, many groups have justified their rights --divine or otherwise-- to allow for violent exploitation. In the Americas, the concept of Manifest Destiny justified the removal of American Indians, and the United States' westward expansion to California and Mexico[3]. For the British and their empire, the idea of the

“white man’s burden” embodied the duty that white countries- specifically England- imposed on themselves to go out and bring civilization and education to less developed places.

As the West entered the Enlightenment and scientific study flourished, new ways were found to rationalize these so-called “destinies” and “duties”. One of the earliest examples of racialized science comes from Carolus Linnaeus, an eighteenth century Swedish botanist credited with inventing the species classification system still used today. He was the first to group humans into four different variations: *Americanus, Asiaticus, Africanus,* and *Europeaeus*. He not only defined these different groups by physical characteristics, but by behavioral ones as well. His classifications were as follows:

Americanus: reddish, choleric, and erect; hair-black, straight, thick; wide nostrils, scanty beard; obstinate, merry, freely paints himself with fine red lines; regulated by customs.

Asiaticus: sallow, melancholy, stiff; black hair, dark eyes; severy, haughty, avaricious; covered with loose garments; ruled by opinions.

Africanus: black, phlegmatic, relaxed; hair-black, frizzled; skin-silky; nose-flat; lips-tumid; women without shame, they lactate profusely; crafty, indolent, negligent; anoints himself with grease, governed by caprice.

Europeaeus: white, sanguine, muscular; hair-long, flowing; eyes-blue; gentle, acute, inventive; covers himself with close vestments; governed by laws[4].

Linnaeus’ scientific classifications included subjective generalizations about the behavior and temperament of the races. His descriptions of the three non-white races contain almost exclusively negative attributes, whereas Europeans are blessed with being muscular, having long, flowing hair, and being gentle, acute, inventive, and civilized. This legacy of subjective science when it came to race prevailed from this point on, including in later versions of grouping humans, such as the system used widely even today[5]. The natural sciences were developing in a world where the West was only strengthening racist attitudes, which meant that scientists’ biases regarding

the “lower” races affected the way they practiced science and the conclusions they drew from their discoveries.

Throughout the nineteenth century, western science made leaps and bounds in terms of progress, discovery, and development of new theories. The 1800s were home to such important scientific and medical advancements as Atomic theory, Germ theory, Virus discovery, and Darwin’s theory of Evolution. Also during the nineteenth century there was a spike in imperialist activity, with Europe-particularly England-quickly expanding their empires to all regions across the globe. The decline in religiosity during the century made room for science to step in as a justification for the conquering of non-white peoples. Although slavery officially ended in the United States in 1865, its legacy lived on and very much laid the grounds for the continued oppression of African Americans. After Darwin published his *Origin of Species*, modes of thinking in racialized science became more popular. Scientists, including Darwin himself, increasingly applied the theory of evolution to humans, arguing that evolutionary differences existed between the races. The scientific community legitimized scientific racism[6]. Emerging scientific fields like comparative anatomy and physical anthropology helped to lay the foundations for Eugenics and related movements which contributed to the continued oppression of people of color-and particularly African Americans-that followed slavery.

The racialized science that was emerging throughout the eighteenth and nineteenth centuries gave way to fields of “science” including eugenics and Social Darwinism. Social Darwinism took Darwin’s theory of natural selection and ascribed it to the races. Believers were convinced that white people had “won out” over non-white people as a result of survival of the fittest. Because Western civilization was (in the eyes of the West) the most advanced and had taken over the most land, they were, by the rules of natural selection, intellectually and biologically superior to all other races. Eugenics was the idea that the population could be improved by selecting for desirable traits and breeding out undesirable ones, such as typically non-white features or disabilities. Eugenics today is often associated with the Nazi Party and Adolf Hitler, as the movement influenced his policies on the extermination of Jewish people. However, before eugenics was adopted by the Nazis, it was supported by mainstream science in

America and the rest of Europe. Leading figures like Winston Churchill and Teddy Roosevelt endorsed the idea of eugenics, and the movement influenced immigration policies and informed other reform projects like the Social Hygiene and Birth Control Movements[7].

New York City and Columbia University

During the late nineteenth and early twentieth century, New York City was a center of scientific advancement and, as a result, racial scientific advancement. The American Museum of Natural History, the Cold Spring Harbor Laboratory, and the Bronx Zoo are some examples of this city's leading institutions that have their histories deeply rooted in racism. At the center of this was Columbia University. A leading institution itself, many of New York's top scientists, studied, worked, or performed research at Columbia, making it a place where racism was fostered through science. As an institution constantly at the forefront of scientific discussion, education, and research, Columbia participated in the common scientific and medical practices of the day. Also, perhaps because it was such a prominent force on the academic scene, the views of Columbia academics were not uniform across the board, allowing for multiple views to come out the institution.

George Sumner Huntington was a graduate of the College of Physicians and Surgeons who was appointed professor of anatomy there in 1889 and held that position until his death in 1927. Huntington was credited with fundamentally changing the way that anatomy was taught. For much of the nineteenth century, anatomy was not a complete science of its own but an adjunct to surgery. Medical students were taught anatomy through large lectures, and many paid for additional instruction from private practices which allowed them hands on experience that the university didn't offer. This changed when Huntington became head of the anatomy department, and replaced large lectures with smaller classes taking place in labs. Columbia was among the first medical schools in the country to make this change, and other medical schools soon followed suit. Aside from his contributions to the teaching of anatomy, Huntington was also known in his day as a prominent comparative anatomist and morphologist. He had one of the largest

anatomical collections in the country. The focus of his own research was on the comparative of anatomy between species and how studying the anatomy of other mammals contributed to the scientific community's understanding of the human body and evolution. Therefore, much of his collection consisted of different animal specimens used for study of comparative anatomy and morphology. However, Huntington's collection also contained a variety of human specimens -- body parts ranging from brains to bones -- that were used in the research of physical anthropologists and race scientists such as Ales Hrdlicka.

An ongoing project of Huntington's during his time at Columbia was his museum of morphology and comparative anatomy, which was set up in such a way that visitors and students could browse the exhibits and view for themselves the anatomical differences among mammal species. Before the College moved to 59th street in 1884, Huntington's collection was stored in the cellar of their anatomy department. When P&S finally did move to 59th street, Huntington raised funds for a full four-story anatomy department, two floors of which were dedicated to his museum. The basement of this building was a storage space for formalin-preserved body parts that were meant for instructional use and the bone collection[8]. According to Hrdlicka, when Huntington began this collection of bones in 1893, "it started with a heterogenous lot of unidentified older bones and skulls, to which was added a rather large series of Indian crania"[9]. In addition, the bones of all the bodies used by the College were added to the collection. Apparently at the time that Hrdlicka arrived at Columbia, P&S was using over 150 bodies per year for instructional purposes, and most of the remains of these bodies went into Huntington's collection. Hrdlicka records that by the time he left New York about six years after arriving, Huntington's bone collection amounted to around 1700 individual skeletons. He reported that "Many of the subjects at that time came from the immigrants of various nationalities in which New York abounded and were neither abnormal or decrepit…No such anthropologically valuable material existed at that time"[10]. Hrdlicka believed wholeheartedly that difference in skeletal structure and brain anatomy indicated biological differences of the races. Most of Hrdlicka's work was done by examining skeletons, and his research contributed to the study and classification of the races.

One section of this museum, according to the proposal that Huntington wrote in 1894, was dedicated to osteological structures, or skeletons. Part of this department displayed Huntington's collection of human bones. In his proposal Huntington wrote, "The plan of this department includes in the second place a reference collection of human bones on a scale which will render possible a thorough comparative study in reference to racial character, variations and reversions, measurements, etc. We have in our mind a collection which shall comprise 5,000 of each of the bones of the body."[11] While it was his and the anatomy department's goals to collect "5,000 of each of the bones of the body," in the end the number of complete skeletons totaled around 3,070[12]. Huntington's enormous collection was one of the biggest of its kind in the United States when he was alive. It is not clear what happened to this collection immediately after Huntington died in 1927, as one source says it was transported to P&S's new location in Washington Heights, and another says that it stayed in the building on 59th street for a period after his death[13]. However the collection ended up at and is now housed at the National Museum of Natural History in Washington, D.C.

From what Huntington wrote in his proposal, as well as from what is referenced in articles and research, we know that this collection played a role in the research and justification of race science and related fields. Ales Hrdlicka used Huntington's collection as well as his lab space extensively in his research during his time in New York at the turn of the twentieth century. This was a period when the racialization of science was still widely accepted, and Hrdlicka made influential contributions to such study. Hrdlicka was known for his numerous anthropological theories, including the theory that American Indians migrated to the Americas from Asia, and that the human race originated in Europe and spread across the globe from there. According to Hrdlicka's own biographical memoir, written by Adolph H. Schultz, Hrdlicka's career centered around the need to study proportions of the "normal" man based on their skeletons.[14]

Schultz writes, "Professor G.S. Huntington had started a collection of human skeletons at the anatomy department of the College of Physicians and Surgeons in New York which at the time was unique in this country. Hrdlicka not only studied this material in detail, but assisted in augmenting it and began in 1898 to use it as a standard for his

later comparisons with skeletons of other races"[15]. Hrdlicka aligned himself with the Eugenics movement and his work in physical anthropology and comparative anatomy of the races. He embarked on numerous expeditions all over the world, contributed to racial science, and provided racist justifications for differences between peoples that were used by leading eugenicists and social Darwinists of the day.

Huntington ascribed to the same approach to science as his contemporaries and colleagues. As a comparative anatomist, many of his published articles and research focused on the anatomies of different animal species to show how the theory of evolution could be supported by looking at analogous structures of different mammals. Not much of his published work was related to anthropometry or comparative human anatomy. However, Huntington's influential anatomical collection and museum, his intention to display the human bones according to his proposal, and the fact that other race scientists studied his collection represented significant contributions to the field of race science. Furthermore, during his time at Columbia, Huntington was deeply involved in the broader scientific community. He was editor of multiple scientific periodicals, including the *Journal of Anatomy and Physiology*, the *American Journal of Anatomy and Physiology*, and *Anatomical Memoirs*. He was also president of the American Association of Anatomists from 1899 until 1903, and was a fellow of the New York Academy of Science[16]. His involvement, especially as editor of multiple publications and president of the American Association of Anatomists, indicates that he played a significant role in the research and discussion being put forth by anatomists in the late nineteenth and early twentieth centuries, during the time when the social Darwinist and Eugenics movements were still at their strongest in the United States.

Huntington is also listed as a charter fellow of the Galton Society for the Study of the Origin and Evolution of Man in a 1921 issue of the *American Journal of Physical Anthropology* (edited by Ales Hrdlicka). The society, created in 1918 was devoted to "the promotion of study of racial anthropology, and the origin, migration, physical and mental characters, crossings and evolution of human races, living and extinct"[17]. His name appears alongside those of Charles B. Davenport, Madison Grant, Henry Fairfield Osborn, and William K. Gregory[18]. All of these people were leaders of the American

Eugenics Movement, based out of New York, and three of them had direct ties with Columbia University.

Madison Grant was a graduate of Columbia Law School and while much of his career focused around environmentalism, conservationism, and zoology, he is perhaps best known for his contributions to Eugenics and racial theory. In 1916, he published a book entitled *The Passing of the Great Race, or The Racial Basis of European History*. In this book, he asserts the belief that “Nordic” people are the naturally superior race being threatened by the “Alpine” and “Mediterranean” groups[19]. His book was praised by both Hitler and Theodore Roosevelt. Hitler wrote to Grant, referring to the book as his “Bible”. Roosevelt too, wrote to Grant, calling it a “capital book; in purpose, in vision, in grasp of the facts our people most need to realize”[20]. This striking agreement of Hitler and Roosevelt feels jarring to today’s common conception of history, where in the mainstream narrative Hitler is the epitome of evil and Teddy Roosevelt a Great American Hero. Yet, their correspondence with Madison Grant shows that they shared similar ideologies and similar visions for a White Christian future.

Passing of the Great Race went so far as to influence government policy, playing a part in the creation of the Immigration Act of 1924. This act aimed to limit the number of people coming to the United States from each country and barred people coming from Asia almost completely[21]. While there were already quotas in place designed to limit the amount of people immigrating to the United States, the 1924 Immigration act changed these quotas to increase available visas to people coming from Western Europe and decrease the amount available to people coming from outside of that area. The Immigration Act was especially racially charged in that it denied entry and citizenship to certain groups as a result of their race. The migration of Asians to the U.S. was already very limited, but this act completely barred people of Asian descent from migrating, including the Japanese, who previously had not experienced these restrictions[22]. The purpose of the act, as inspired by Grant’s writings, was to attain and ensure the ethnic purity of America.

Henry Fairfield Osborn came to Columbia in 1891, when he was hired by President Low to establish and become head of the department of biology. In 1892, after the

establishment of the biology department at the College of Physicians and Surgeons, Osborn became the professor of zoology. He also became the first Dean of Faculty of Pure Science at Columbia, a position he held for three years[23]. In the same year that he came to Columbia, Osborn also began employment at the American Museum of Natural History, charged with organizing the department of mammalian paleontology. In 1908 he became the president of the museum, expanding the size and scope of the museum enormously during his term. Osborn, while working within the field of zoology, was also a eugenicist and a race scientist. He wrote the preface for Madison Grant's *Passing of the Great Race*, in which he supports Grants claims of superior and inferior races, and backs the position that the "purity" of the American people is at risk. The whole preface-and indeed the whole book-is riddled with racist ideology and white supremacy, and perhaps one of the most dangerous things that Osborn says in his preface is:

Conservation of that race which has given us the true spirit of Americanism is not a matter either of racial pride or of racial prejudice; it is a matter of love of country, of a true sentiment which is based upon knowledge and the lessons of history rather than upon the sentimentalism which is fostered by ignorance.[24]

In denying the idea that this is an issue of racism and arguing that it is about national pride, he allows for racism to prevail under the guise of patriotism. As ideas surrounding "race" and "racism" progress with increasingly negative connotations attached to them, this is one way in which they fail to go away but continue to grow stronger under a new name. This way of thinking about eugenics and ethnic purity continues to prevail as white America finds ways to reconcile their so-called intolerance of rising white supremacy in Europe with their own personal brand of ethnocentrism.

Maurice Bigelow was a biologist and the director of the school of practical arts at Teacher's College from 1907 to 1939. He was a long-time member of the American Eugenics Society, and served as president of the society from 1940 until 1945. He was also closely tied to the Social Hygiene movement and advocated for sex education and hygiene classes among all education levels. He believed that at the college level, students in hygiene classes should be taught social responsibility regarding their sexual

and reproductive habits. In a 1914 issue of the Journal of the Society of Sanitary and Moral Prophylaxis, it is stated that Bigelow developed several subdivisions of sex education which were being generally followed by organizations wishing to provide it. These subdivisions were: “sex hygiene for personal and social health, sex ethics and sociology for sex conduct, sex psychology for health and conduct, biology, including physiology, for mental attitude and the essential facts of reproduction, eugenics for sex conduct and race improvement”[25]

Numerous publications came out of Columbia that discussed the race sciences and the study of racial characteristics. One such article is called “Contributions to the Encephalic Anatomy of the Races” and was written in 1902 by Edward A. Spitzka, an anatomist and P&S alumnus. In the article, Spitzka describes the anatomical structure of three eskimo brains from Huntington’s laboratory, comparing their weight and anatomy to that of the European brain. Spitzka begins the article by emphasizing the regrettable lack of research done on the anatomy of the “lower races” and stresses the importance of studying those races that were becoming “extinct” or “impure,” such as the North American Indians, Australian Natives, certain African tribes, and the Eskimos. Spitzka also comments on the observed behavior of living Eskimo people, taking a paternalistic and patronizing view of them and their culture. The way in which he writes about them, even when lauding their mental capabilities and resourcefulness, assumes their inferior status as a people and as a culture. He writes,

“notwithstanding the crudeness of delineation and imperfection in detail, their ivory sculptures of birds quadrupeds, marine animals and even the human form, display considerable individuality in conception and intelligent perception. Travellers needed merely to place the necessary materials in their hands, in order to profit by their ability to make drawings and maps which were practically as reliable as corresponding efforts of the civilized man unaided by instruments”[26].

Spitzka assumes the Eskimo people’s inferior societal status, seeing a culture that is different and supposedly less complex and ascribing labels like “uncivilized” to them. His approach to science and anatomy belongs to a tradition of scientists who fit their findings to their prejudices. The purpose of his “contributions to the encephalic anatomy

of the races" was to provide an avenue by which to justify these preconceived notions regarding non-white cultures. Spitzka seems to think that documenting and categorizing brain anatomy of different races is essential, saying, "the vital necessity of obtaining a large amount of available material to pursue the comparative study of cerebral development is, of course obvious"[27]. He does not state the so-called "obvious" reasoning for documenting comparative anatomy of the races. However it is clear that he intends whatever is found to corroborate the conclusions he has already made about the intelligence and civilization of the Eskimos.

Spitzka cites earlier studies that were similar to what he is writing about, including the dissection of the brain of the "Hottentot Venus"-real name Saartjie Baartman. Baartman was a black South African Woman who was brought to Europe in 1810 and put on display as a result of fascination surrounding her abnormally large buttocks. She was paraded around in freak shows. Even before her death, she was studied by scientists in the very beginning stages of the age of racial science. When Baartman died in 1815, French naturalist George Cuvier made a plaster cast of her body, dissected it, and preserved her skeleton, her brain, and other parts of her body. The plaster casting, as well as the preserved and pickled parts of her body, were on public display in The Museum of Man in Paris until 1974, when they were taken off display, but not returned to South Africa and given a proper burial until 2002, almost 200 years after she had left[28].

Spitzka cites Baartman's case as being one of the factors to inspire rising interest in comparative brain anatomy. He says,

"Observed in her life by Cuvier, her skeleton and brain were preserved after death, to afford a valuable basis for the work of many investigators. Tiedmann figured the brain in 1837, Gratiolet again in 1854, Bischoff in 1868. Two additional brains of Bushwomen were described by Marshall (1864) and Koch (1867). The interest of the brains of the lower races soon increased and observations began to accumulate"[29]

Baartman's life-and death-is a prime example of the way that scientific study has backed colonialist attitudes and ownership over non-white bodies that extends beyond

the bounds of slavery. Baartman and others like her who were so ruthlessly dehumanized in the name of a supposed science are early examples of a mode of thought that prevailed for centuries, acting as predecessors to such recent aberrations in science as the Tuskegee Experiment and the use of Henrietta Lacks' cells without permission[30][31]. As Craig Wilder says in *Ebony and Ivy*, "Social and scientific racism demanded such desecrations. Black penises, for example, were on view in natural history museums and academies across Europe and North America"[32]. Black bodies were not only used to support a pseudo-science designed to uplift white supremacy, but put on display as trophies and emblems of entitlement. While Baartman and her story is a benchmark for white colonialism, voyeurism, and dehumanization of other races, she was by no means the beginning or the end of such a culture. The collection, study and display of non-white bodies being done at Columbia by Spitzka, Hrdlicka, Huntington and more continued this destructive attitude of society and science.

With the Cold Spring Harbor Laboratory on Long Island, and the American Museum of Natural History in Manhattan, New York was home to some of the leaders of the American Eugenics movement, including Charles Davenport and Madison Grant. Columbia too housed some prominent figures of the Eugenics Movement. Interestingly, however, at the same time that some of the leaders of the Eugenics Movement were working out of New York, and some out of Columbia, there were also academics disputing the modes of thought that came with racial science. Most notable of the latter group is Franz Boas, who began lecturing at Columbia while simultaneously holding a position at the Museum of Natural History in 1896[33]. Eventually, Boas resigned from the museum and became a full-time faculty member at Columbia, where he remained for the rest of his career. Boas was the University's first Anthropology professor, and he played a pivotal role in shaping the science of Anthropology into what it is today. He is often considered the "father of modern anthropology"[34]. Boas is famous for his opposition to scientific racism and eugenics. He argued that there was no scientific basis for racial superiority and that there was very little evidence to suggest that there were significant anatomical differences in the first place. In an article that was published in the black periodical *Crisis: A Record of the Darker Races*, Boas says,

it is true that the average size of the Negro brain is slightly smaller than the average size of the brain of the white race; but it must be borne in mind that a wide range of brain forms and brain sizes occur among the white race, beginning with very small brains and extending to very large ones; that the same is true of the Negro race, and that the difference between the averages of the two races is exceedingly small as compared with the range of variability found in either race[35].

Boas' claim is very simple and seemingly obvious. After years of studying brain weight and anatomy, it seems likely that someone would have pointed out that there was no real difference in the overall average of sizes between the races. Boas' simple yet somehow revolutionary opposition to racialized science highlights just how significant white scientists' biases were.

A particular example of the impact of these biases is Paul Broca, known for his work on the section of the brain called "Broca's Area". In the mid nineteenth century Broca began studying the brain and the relationship between its size, structure and anatomy. He decided that intelligence was associated with the frontal sutures, and concluded that in black people, they closed before the back sutures, meaning that after a certain point black people could no longer develop intellectually. He also studied the foramen magnum, or the hole in the skull which the spinal cord passes through. He concluded that a more posterior foramen magnum would signify that a race was biologically closer to apes. After actually examining skulls, however, and finding that white people had the more posterior foramen magnum, Broca changed his hypothesis. This happened again when he also concluded that black people must have longer lower-arm bones, which made them more ape-like, but when actually studying the skeletons of white people and non-white people, found that whites had the longer lower-arm bones as compared to Australian Aborigines, Eskimos, or black South Africans[36]. The example of Broca's brain study and the extreme biases that color his science embody the way that many eighteenth, nineteenth and twentieth century scientists approached their work. These widespread confirmation biases encouraged scientists to ignore simple fact and common sense. Broca and his peers overlooked the fact that there is hardly a difference

in brain size between black people and white people in favor of creating scientific truths that defended a worldview based around a racial hierarchy.

In 1911, Boas published *The Mind of Primitive Man*, a book which set out to challenge the existing presumptions that there were fundamental biological and evolutionary differences between the races. Interestingly, *The Mind of Primitive Man* was published four years prior to Madison Grant's *Passing of The Great Race*. The publication of both of these books within five years of each other indicates that eugenics and race science were still seen as legitimate well into the twentieth century. Grant's book was praised by his colleagues and by world leaders, and it influenced race-based legislation. However, there were dissenting views taking hold, including people taking a more rational approach to anthropology and other sciences relating to human life. If the Western world had not been interrupted by World War Two, racialized science may have persisted in influence longer. Did we as a society accept Franz Boas' version of science after Hitler began to employ eugenics in his extermination of ethnics groups, because we didn't want to associate with "Nazi Science"? Or were things progressing that way anyway?

Conclusion

Many organizations and institutions that still exist today have their origins in eugenics or some other equally convoluted field of "science" which existed to legitimize racism and white supremacy. Many established scientific and medical organizations started out with their roots in these movements, and while they have made worthwhile contributions to science and health, their history poses an ethical dilemma. In New York City alone, there are a number of places of science and higher learning that have their roots in racism. Columbia, the most prominent university in the city, was not only a part of this history, but played an active and influential role in the promotion and racialization of science.

The Social Hygiene Movement, the first widespread effort to promote sex education and prevention of sexually transmitted diseases and infections, was heavily connected to

eugenics and aimed to teach eugenics as a part of responsible sexual and reproductive habits-that is, part of the planned curriculum of college level sex education was teaching "responsible" reproduction for "race improvement". This movement spawned organizations dedicated to reproductive and sexual health. While promoting safe sex is a positive ambition, it is a largely ignored fact that the roots of these organizations lie in eugenics and the goal of race improvement, and sometimes even forced sterilization for women of nonwhite races. Cold Spring Harbor Laboratory is another example. Today it is a research and education facility dedicated to research in cancer, genetics and other fields of biology. However in the early 20th century, it was home to the Eugenics Records Office, created by the director of the time, Charles Davenport. While the eugenics records are made fully available to the public, and CSHL makes no concerted effort to conceal their history of eugenics research, there is no mention of it on their history page or in the timeline of their research that is on their website. This means that unless one were looking for specific information regarding eugenics, they would not be likely to come across it. This poses the question: how much responsibility do institutions like Cold Spring Harbor Laboratory have in acknowledging the darker aspects of their own history? Should more explicit efforts be made to let the general public know about the origins of some of the most prominent scientific institutions of the country?

Endnotes

[1] Audrey Smedley and Brian D. Smedley, *Race in North America: the Origin and Evolution of a*

Worldview p. 16

[2] Audrey Smedley and Brian D. Smedley, p. 17

[3] "Manifest Destiny." History.com. 2010

[4] Smedley and Smedley, 218-219

[5] Smedley and Smedley, 220

[6] Gavin Evans, *Black brain, white brain: is intelligence skin deep?* p. 61

[7] Evans, 70

[8] Ales Hrdlicka, Biographical memoir of George S. Huntington, p 262

[9] ibid.

[10] Ibid, p 263

[11]Proposal for Museum of Morphology, George S. Huntington, 1894 box 1, file 15, Coll. Records of the Department of Anatomy and Cell Biology, Augustus Long Health Sciences Library, Columbia University.

[12]Nystrom, Kenneth C. *The Bioarchaeology of Dissection and Autopsy in the United States*. 2017, p.189

[13] In Professor Charles McClure's article "George Sumner Huntington: An Appreciation", which was written only a short time after Huntington's death, McClure states that at the time of writing, the collection was being packed up in order to be moved to Columbia Medical Center's new location. However in Hrdlicka's biographical note, written some ten years after Huntington's death, he says that the collection remained in the same place for a while, and at the time of writing there were no plans

for transferring the collection to a new location. Some time after the publishing of Hrdlicka's article, the collection was moved to the Smithsonian institute.

[14] Schultz, Biographical memoir of Ales Hrdlicka, p 307

[15] ibid

[16] George Sumner Huntington Papers, box 1, file 15, Augustus Long Health Sciences Library, Columbia University.

[17] Ales Hrdlicka, ed, "Special Communications." *American Journal of Physical Anthropology* p. 77

[18] ibid

[19] Jedediah Purdy. "Environmentalism's Racist History."

[20] ibid

[21]"The Immigration Act of 1924 (The Johnson-Reed Act)." U.S. Department of State.

[22] ibid.

[23]Gregory, William K. "Biographical Memoir of Henry Fairfield Osborn." p.68

[24]Madison Grant and Henry Fairfield Osborn, *The passing of the great race; or, The racial basis*

of European history. P. 9

[25]Edward L. Keyes, "Social Hygiene Activities in 1914." *Journal of the Society of Sanitary and*

Moral Prophylaxis, p. 298

[26] Edward A. Spitzka, M.D, "Contributions to the Encephalic Anatomy of the Races." p. 28

[27] Spitzka, p. 26

[28] Justin Parkinson, "The significance of Sarah Baartman."

[29] Spitzka, 27

[30] The “Tuskegee Study of Untreated Syphilis in the Negro Male” was a scientific study conducted by the U.S. public health service, beginning in 1932 involving 600 black men. The objective of the study was to observe the progression of untreated syphilis over an extended period of time. The men, many uneducated and from poor backgrounds, were told they were being treated for their illnesses, when this was not the case. The subjects of the study went decades without treatment, even when Penicillin became widely available in 1947. The study lasted until 1972, when it was stopped as a result of public outcry. "U.S. Public Health Service Syphilis Study at Tuskegee." Centers for Disease Control and Prevention.

[31] Henrietta Lacks was a poor black tobacco farmer who died in 1951. Her cells were taken without her or her family’s knowledge or permission, and have been a vital part in some of the biggest contributions to modern medicine, including the polio vaccine, gene mapping, cloning, etc. Although her cells have been priced at billions of dollars, her family remained poor and unable to afford health insurance. Skloot, Rebecca. "About The Immortal Life of Henrietta Lacks.

[32] Craig Steven Wilder, *Ebony and Ivy: Race, Slavery, and the Troubled History of America's*

Universities, p. 209

[33] "Franz Boas." Department of Anthropology.

[34]ibid.

[35] Boas, Franz. "The Real Race Problem."

[36] Evans, 65