The Hardening of Scientific Racism, 1900–1945

Despite Darwin's idea that there were no fixed divisions between species, let alone races, polygenist notions of race, which assumed that the divisions between races were ancient and fixed, thrived in the new evolutionary thought. Moreover, the idea articulated by Spencer, that evolution was a struggle between races rather than between individuals, became a dominant fixture of twentieth-century racial thought. Finally, the notion that there were several European races, such as those sketched by William Z. Ripley, would begin to loom large in the twentieth century.

Evolutionary thought grew into a significant ideology that can be called "scientific racism" at the end of the nineteenth and beginning of the twentieth century. Scientific racism was the result of two lines of scientific thought merging. First, new ideas about heredity provided an explanation of the way traits could be held stable for generation after generation. Second, ideas flowered about the supremacy of the north European races—what was called Aryanism or Teutonicism in the nineteenth century and Nordicism in the twentieth. These two lines of thought were conceptually distinct. That is, one could firmly believe in the notion that heredity was fixed and immune from environmental influences while rejecting the idea that the Nordics were the supreme race. Alternatively, one could believe in Nordicism and reject the findings of modern science regarding heredity. However, among some thinkers these two ideas joined in the eugenics movement and changed how the Western world thought about race.

The Problem of Heredity

After the publication of *On the Origin of Species*, Charles Darwin needed to answer a strong objection to his work: how were the characteristics that allowed organisms to survive transmitted from generation to generation? Natural selection turned on the idea that tiny advantages could accumulate in an organism's

line of descent, but Darwin had no mechanism that could explain this process. Indeed, most ideas about heredity argued that it would be impossible for characteristics to be transmitted down the generations.

There were two fundamental problems. The first was "blending" inheritance. Darwin's theory depended on a beneficial trait in a parent generation being transmitted, more or less intact, to the offspring generation. The problem was that the dominant theory of inheritance did not allow for the survival of a trait in this fashion; rather, in succeeding generations a favorable trait would eventually be obliterated by other traits over time. So, if tallness of a plant was a beneficial trait, and two tall plants crossed to produce offspring, the offspring would not be as tall as the taller of its two parents but would be midway in height between the two. In artificial selection, the breeder could control crosses to ensure that a specific trait was selected for. However, Darwin's natural selection did not allow for a guiding hand in this manner. Hence, it was not clear exactly how an advantageous trait could be passed down without being swamped by random crosses with inferior types.

In a famous review of Darwin's *On the Origin of Species*, Fleeming Jenkin put the case for blending inheritance in explicitly racial terms. Jenkin argued that a white man who was shipwrecked on an island inhabited by Negroes would naturally rise to become their king. However his natural superiority over the savages would not last through generations as the superior white qualities would be swamped by the inferior Negro stock. "Can any one believe" asked Jenkin, "that the whole island will gradually acquire a white, or even a yellow population, or that the islanders would acquire the energy, courage, ingenuity, patience, self-control, endurance, in virtue of which qualities our hero killed so many of their ancestors, and begot so many children; those qualities, in fact, which the struggle for existence would select, if it could select anything?" (Jenkin 1867, 289–290)

To deal with the problem of blending inheritance, natural selection needed a mechanism that would allow for beneficial traits to be passed to succeeding generations intact and there was no clear idea what that mechanism could be.

The second problem natural selection faced was the inheritance of acquired characteristics. In the late twentieth century and continuing now into the twenty-first, the accepted idea is that heredity is largely isolated from environmental influences. In the nineteenth century, most ideas about heredity did not distinguish so sharply between heredity and environment. Indeed, such a distinction made little sense given widespread ideas about how an organism's characteristics were formed by the environment and passed along to subsequent generations. Most learned people of the nineteenth century believed in the doctrine of "inheritance of acquired characteristics." Most often associated with the

French evolutionist Jean Baptiste de Lamarck (1744–1829), the doctrine taught that environmental pressures change the physical nature of an organism and that these acquired characteristics were inherited by subsequent generations.

In this view, an organism acquired traits through interactions with the environment and passed those changes to offspring. Thus, there was no sharp distinction between heredity and environment. Even Darwin argued for a version of the doctrine of the inheritance of acquired characteristics when he put forth "pangenesis" as the mechanism by which characteristics were passed from generation to generation. Darwin argued that there were tiny particles that cells dissipated through the body and passed into the offspring. Because each part of the body manufactured its own particles, the environment could directly affect heredity as changes in bodily form that owed to the environment would be transmitted to the offspring. Darwin's theory of pangenesis gained few adherents and quickly disappeared as a mechanism for heredity after Darwin's death; however, most scientists continued to accept that traits acquired through environmental influences could be inherited biologically.

As early as the 1830s, the inherited nature of some mental diseases was widely understood in Great Britain. Early statistical measurements helped hospital administrators track the prevalence of certain diseases and conditions in certain families and lineages. Such knowledge of "good" and "bad" families was disseminated widely in marriage advice manuals. Although there was no clear idea that such conditions were immune from environmental influences, there was also a general belief that heredity and destiny were intertwined. There was also a notion that such pathological conditions were increasingly a matter of public concern. Utopian writers, such as William Lawrence and Thomas Edwards, claimed that the state should take control of marriage more firmly to insure that good lines propagated and poor ones were eliminated. William Farr, in a series of writings beginning in the 1830s, argued that the state should take an active role in guaranteeing the health of the British population by quarantining those with undesirable traits. Farr pointed to the success of stockbreeders and others in agriculture who controlled the breeding of their animals and crops to guarantee the best possible product.

Francis Galton

Most British intellectuals in the 1830s dismissed the utopian schemes of Farr and others who argued for controlled breeding, but they were taken up by Darwin's cousin, Francis Galton (1822–1911). Galton coined the phrase "nature versus nurture" and he came down strongly on the side of nature. Galton's early life and

Nineteenth-century British anthropologist Francis Galton (Library of Congress)

upbringing was much like his cousin's. He was born into a wealthy family and expected to become a physician. Also like Darwin, he was miserable at medical school. He was spared from completing his medical education by his father's death in 1844. Upon inheriting the family fortune, Galton was free to pursue his interest in natural history.

The kind of science Galton produced exemplified a widespread understanding in Great Britain about what counted as good science. Galton claimed to be a strict adherent to induction, the form of reasoning that moves from specific instances to a general rule. Following the philosophy of science laid down by Francis Bacon (1561–1626), most nineteenth-century British scientists argued that a good scientist proceeded by induction, gathering as many facts as possible without any theory or general principle that might prejudice a neutral and

objective view of these facts. Darwin, for example, made much of his inductivist principles in *On the Origin of Species* although historians have shown that Darwin clearly had his theory of natural selection in mind and he set out to find examples to help him prove it.

Galton, however, seemed to be an avid inductivist who was convinced that the road to science was collecting and tabulating as many examples as possible. For Galton, the inductivist method helped him sidestep the central problem of the mechanism of heredity. Galton argued that we did not need to know the mechanism of heredity to see its effects. We could observe and enumerate how traits passed from generation to generation while remaining agnostic on the actual mechanics of how this occurred. In other words, as long as we could see the effects of heredity, we could control its deleterious social impacts.

The most gifted protégé of Galton, and a key figure in promoting Galtonian views of heredity and science, was Karl Pearson (1857–1936), who set out his views about science in an influential work, *The Grammar of Science* (1882). For Pearson, a good scientist avoided all speculation about unobservable entities and focused only on directly sensed evidence. Pearson argued that there was no point in trying to uncover the "real" causes of anything in science; they were, in principle, unknowable. However, the scientist could apply mathematics, in particular statistics, to scientific phenomena without actually committing to the existence of an underlying causal agent. In other words, if statistics showed that heredity worked in a particular manner, then the scientist's work was done.

The idea that the scientists should focus only on biological traits that could be directly measured and tabulated became known as biometrics. Pearson founded the journal, *Biometrika*, in 1901, which became the main outlet for statistical studies of the physical traits of organisms. This view of the sufficiency of statistical constructs to explain scientific phenomena would continue on into the twentieth century, particularly in psychometrics and IQ testing. Galton and Pearson are correctly seen as the founders of this approach and both contributed key ideas to the science of statistics.

One of Galton's most famous works makes his approach clear and underscores the social motivations of his work. In *Hereditary Genius*, published in 1869, Galton undertook a statistical analysis of "men of genius" in the United Kingdom. His book attempted to rank the geniuses in the country in order to determine if mental ability was inherited and concluded that it was. For Galton, society should take steps to ensure the emergence of more geniuses and fewer of lower intellectual ability. Galton believed that improving the race meant that the government should encourage breeding among the best people and take steps to keep the superior stocks from mixing with inferiors. The death of classical Greek civilization, for example, owed to the lax morality that

discouraged marriage and to women of high ability refusing to become mothers. Additionally, "in a small sea bordered country, where emigration and immigration are constantly going on, and where the manners are as dissolute as were those of the Greeks . . . the purity of a race would necessarily fail" (Galton 1869, 331).

Galton did not shy away from racial interpretations of his data. He believed that Negroes were at least two grades below Anglo-Saxons in ability and intelligence. "Every book alluding to Negro servants in America is full of instances" of the half-witted nature of the race, he wrote, "I was myself much impressed by this fact during my travels in Africa" (Galton 1869, 328). Like Spencer, Galton believed that the inferior races were losing the evolutionary battle for existence in the face of their superior European conquerors. Galton also argued for a social program that would prevent the same fate for England, and he was very concerned about the low level of the common English population. "It seems to me," he concluded, "that the average standard of ability of the present time should be raised" because "the needs of centralization, communication, and culture, call for more brains and mental stamina than the average of our race possess" (Galton 1869, 332-333).

Hereditary Genius drew mixed reviews from the English press in the 1870s. Many scientists appreciated Galton's sophisticated statistical technique but many religious reviewers objected to his unapologetic naturalism, which seemed to leave no room for God's grace or people's control over their own salvation. Many reviewers criticized Galton's assumption that heredity and not environmental factors was the cause of genius, an idea that cut against most of the common thinking of the time. Galton argued that the numbers showed that the hereditary material was somehow immune from environmental influences, an idea that belied widely held ideas about the inheritance of acquired characteristics. But evidence for Galton's view would soon be forthcoming from German cytologists—scientists who study cells. However, Galton and Pearson would not necessarily appreciate the new evidence.

Hard Heredity

The move from "soft" heredity, which drew no sharp distinctions between heredity and environment, and "hard" heredity that did, had two scientific components. First, by the 1880s, advances in the microscope led cytologists, particularly German ones, to many new scientific discoveries: the nucleus of cells, for example, and the process of mitosis, wherein cells divide. In the 1880s, several German cytologists, including August Weismann, Moritz Nussbaum, Oscar Her-

twig, and Albert Kölliker put forth a number of new ideas that joined these discoveries in cytology to inform scientific understanding of *Vererbung* or heredity.

Although most late-nineteenth-century German cytologists had similar findings and arguments, the most famous contribution was that of August Weismann, who argued that the body actually contained two kinds of cells. Most of the body was made up of somatic cells. Germ cells, by contrast, were found only in the gonads and produced the sperm and egg. Germ cells were the units of heredity and, unlike somatic cells, were immune to environmental influences. This separation of germ cells from somatic cells required a drastic reorientation of the common attitudes toward the body and reproduction. In Weismann's view, the body and all of its somatic cells were merely the conveyors of germ cells. The body did not really produce germ cells, it just transmitted them, unaltered, from generation to generation. This Weismann called the continuity of the germ plasm.

Weismann believed that his theory meant the death of the theory of acquired characteristics. In a rather grisly experiment, he cut the tails off mice, generation after generation. Yet each time a new generation of mice was born from mutilated parents, they were born with tails. Weismann pointed to this as proof that germ plasm was immune from environmental influences and acquired characteristics could not be transmitted from generation to generation.

The second major contribution to the new notion of heredity came from the work of the Austrian monk Gregor Mendel (1822–1884). In the 1860s, Mendel published a paper that argued that characteristics of pea plants were preserved as they passed down through generations. When he crossed tall pea plants with short pea plants, the resulting offspring were not medium in height but were almost uniformly tall. Mendel could calculate the ratio of tall with short pea plants and found that inheritance was always in a 3:1 ratio. Mendel argued that this could be explained by supposing that the units of inheritance, what he called "factors," existed in pairs in the plants. Crossing these factors brought mathematically precise and very predictable patterns of inheritance. Mendel published his work but it was ignored in the 1860s and for three decades afterward. But on the eve of the twentieth century, when many scientists were looking for a new theory of heredity they found Mendel's explanation very promising. Mendel's ideas dealt a serious blow to the theory of "blending" inheritance just as Weismann's work had to the theory of acquired characteristics.

There was no firm consensus over these issues at the dawn of the twentieth century. The biometricians, Galton's followers, did not immediately appreciate Mendelism because biometrics focused on continuous rather than discontinuous variations. Pearson, in particular, objected to Mendelism because of its

Austrian botanist and geneticist Gregor Mendel, ca. 1880 (Bettman/Corbis)

focus on discontinuous variations. It also violated his views on the place of unobservable entities in science with its talk of unobservable "factors" that caused these variations. Additionally, Lamarckians, particularly in France, resisted Weismann's theories of the continuity of germ plasm.

Nonetheless, the new scientific ideas had important implications for the development of racial ideologies. The notion that heredity was everything and environmental factors could not change the essence of a person's talents and abilities certainly resonated with racist notions that there was some inherited racial essence that could not be erased by education or civilization. To see how

racial themes blended with the new ideas about heredity, we first need to look at the developing ideas about race among social thinkers.

The Rise of Nordicism

Nordicism and Civilization

William Z. Ripley's tripartite division of Europeans into Teutonic, Alpine, and Mediterranean races in 1899 was widely accepted even though no one could find a pure example of any of these races. A significant group of writers believed the most superior of the three was the Teutonic race, which was also called the Aryan race in the nineteenth century and came to be called the Nordic race in the twentieth.

The Nordicists added several important ideas to racial ideology. First was the notion that civilization itself was the product of race, and many Nordicists devoted their work to discovering the Nordic nature of all great civilizations of the past. The belief in Nordic superiority was not new at the end of the nineteenth century. Many writers in the United States before the Civil War trumpeted the superiority of the Teutons. The ancient Roman historian, Tacitus (ca. 55–120), expressed admiration for the Teutonic tribes who lived north of what Tacitus considered a decadent Rome. Many writers in the United States in the early nineteenth century took Tacitus's writings as proof that democracy as a form of government was actually an ancient practice that began in the woods of ancient Germany. These writers used this theory of the "Teutonic origin" of democracy as proof against conservative critics who argued that democracy was an inherently unstable form of government. Not so, they argued: democracy originated in the German tribes with their primitive parliaments and protorepresentative government and was therefore an ancient form of governance rather than an untested theory. The Teutonic tribes of Angles and Saxons brought this heritage to England; it then crossed the Atlantic to the United States. Hence, democracy was in some sense part of the racial heritage of the Germanic people who settled in the United States.

The second contribution of the Nordicists to racial thought was the claim that race, not nation or political alliance, was the basis of social order. In the late nineteenth century, the defense of democracy became deemphasized in favor of more general arguments that the very capacity for civilization was racial in nature. In the 1880s, during a lecture tour of the United States, writer Edward A. Freeman argued that there were three homes of the Teutonic race: the United States, England, and Germany. These nations, Freeman argued, should put their differences

behind them, for they could surely rule the world. The division between superior Anglo-Saxons and inferior Celts as well as other lower races was succinctly stated by Freeman: "The best remedy for whatever is amiss in America would be if every Irishman killed a Negro and be hanged for it" (Freeman 1882, 200).

Comte Joseph-Arthur de Gobineau (1816–1882) gave one of the most widely read and elaborate defenses of the Teuton. Gobineau was from an aristocratic French family and was a firm believer that the aristocratic elite had always ruled the masses through their protection of virtue and honor, as had the ancient Teutons. In the modern age, the masses had risen and destroyed the natural order. Gobineau pointed to the political turmoil of the French Revolution wherein the ruling classes had been overrun by the masses.

Both the central ideas of Nordicism—that race was the basis of all civilization and that race must be the basis of political order—came together in Gobineau's most extended treatment of race, the *Essay on the Inequality of the Races* published in four volumes between 1853 and 1855. Gobineau was not concerned with biology as much as history and linguistics. He affirmed the widely accepted division of the races into white, black, and yellow, and introduced the idea that civilization itself was based on race. The white race, which Gobineau called the "Aryan" race, was the only one capable of creative thinking and civilization building. The downfall of such great civilizations as Egypt and Greece owed to the commingling of Aryan blood with that of the lesser races.

The Supremacy of Nordics

Houston Stewart Chamberlain (1855–1927) followed and extended Gobineau's theories. Although he was English by birth, Chamberlain was a fervent admirer of Germany, moving to Bayreuth, Germany, at the end of the nineteenth century. In 1899, Chamberlain published *Foundations of the Nineteenth Century,* which laid out his racial ideas in full. Like Gobineau, Chamberlain believed that race was the key to all of history and the only truly creative race was the Aryan. Much of the *Foundations* is devoted to showing that all great historical figures were, on close examination, Aryan. For example, Marco Polo, Copernicus, Galileo, and especially Jesus Christ were Aryans in Chamberlain's account.

Both Gobineau and Chamberlain were, in some significant sense, "racial mystics." Their discussion of the great Teutonic race was shot through with talk of German blood that mystically bound all Teutons together with a racial soul. Although Chamberlain accepted all the anthropological evidence for the existence of the Teutonic/Aryan/Nordic race, for him the reality of race turned on a spiritual sharing of the "race-soul." Hence, the importance Chamberlain placed

on the supposed Aryan identity of Christ can be understood as an embrace of a mystical racism that had a spiritual, not materialistic, core.

A French writer, Vacher de Lapouge (1854–1936), firmly and forcefully rejected racial mysticism. Lapouge was the founder of a science he dubbed "anthroposociology." He was a tireless correspondent and organizer within the scientific community (he provided William Z. Ripley with photographs for Ripley's *Races of Europe*, for example). Lapouge was one of first to successfully develop a full-blown version of scientific racism. Lapouge grounded his theories of race firmly in Darwin rather than in some mystical "racial soul" and this would have profound influence on twentieth-century racial theories.

Lapouge's theories were developed most fully in two works: *Social Selection* (1896) and *The Aryan and His Social Role* (1899). For Lapouge, the key racial marker was the cephalic index, which anthropologists had used to divide the European population into different races based on the shape of their heads. Lapouge tied the index, not just to head shape, but also to a range of socially desirable characteristics. He was the champion of the dolichocephalic Aryans, long-headed, blond, blue-eyed, creative, strong, and natural leaders. By contrast, brachycephalic types were round-headed, dark-skinned, and timid. "Brachies," as Lapouge called them, were natural followers who did not have the imagination necessary to create and lead. Lapouge's "Dolichos" dominated northern Europe, England, and Germany. Additionally, Lapouge followed Gobineau in arguing that the French Revolution had destroyed the ancient aristocracies, which, according to Lapouge, had been dominated by Dolichos.

An outspoken atheist, Lapouge had no patience for Chamberlain and Gobineau's emphasis on a "race soul." Anthroposociology was completely materialist and rejected any and all appeals to any sort of quasi-religious mysticism. For Lapouge, the science spoke for itself and had no need for any other concepts—certainly not for any religious or moral ideas. He called for the elimination of all moral sentiment that would stand in the way of a massive breeding program that would eliminate racial inferiors. In his writings, Lapouge demanded that sentimentality, especially religious faith, blocked the necessary social reforms for the elimination of racial inferiors through selective breeding. Like Ernst Haeckel in Germany, Lapouge rejected all religion and all morality. He did not attempt to replace traditional morality with any other view and tipped into nihilism in pursuing the perfect breeding population.

Lapouge was also unusual in his embrace of "hard heredity." Most of his fellow French scientists still embraced versions of the inheritance of acquired characteristics, Jean Baptiste Lamarck being something of a national hero. Not so Lapouge, whose strict breeding program left no room for environmental improvements. For Lapouge, the only solution to the racial crisis would be the

elimination of the inferior races. This cavalier attitude toward human life would be one of the key "contributions" that Darwinism made in Germany. By the dawn of the twentieth century, these ideas were in the air: the notion of a heredity immune from environmental influences and a notion of Nordic supremacy. These two views would be combined in the early twentieth century in the United States and Germany as part of a larger eugenics movement.

The Rise of Eugenics

Between 1900 and 1945 nearly every modernizing society had some form of eugenics movement. Recent work on the history of the eugenics movements underscores how diverse the ideologies and policies were that went under that name. Popular understanding of eugenics is often restricted to the horrors of Nazi Germany, but, in fact, leftists proclaimed their adherence to eugenic doctrines as much as those on the political right. In many countries, eugenics was confined to what we might think of as prenatal care, focusing on the "future generations" carried by pregnant women. In other countries, particularly those where Lamarckian doctrines were still scientifically respectable, eugenics focused as much on environmental improvement as it did on selective breeding.

Still, despite the diversity of eugenic doctrines, there were some commonalities. Eugenics was the idea that good people should be encouraged to reproduce and bad people should be discouraged from it. Taken in this light, eugenic thinking was a way to think about social problems in scientific terms. The decades between 1870 and 1939 were confusing and exciting times. Industrialization spread throughout western society; the focus of life was no longer the small town or the farm. The dawn of the twentieth century brought with it large, industrial cities and attendant labor unrest, urban poverty, and slums. The worldwide economy experienced a number of economic shocks, the largest of which was the Great Depression that began in 1929. This new social order included a new belief in the responsibility of the government to take an active part in solving social problems. The old, laissez-faire, free-market solutions proposed by writers like Herbert Spencer were seen as increasingly inadequate, even while many accepted his notions concerning racial struggle.

Eugenics and Race in the United States

In the United States, for example, the idea of an activist government in the early part of the twentieth century is often called "Progressivism." In the Progressive

era, an increasing number of leaders called for the government to take action to regulate a capitalism that could no longer be controlled by Adam Smith's invisible hand. This view led to many governmental interventions such as the Sherman Anti-Trust Act (1890), the Food and Drug Act (1906), and the Federal Trade Commission (1914). The aim of legislative acts like these was to put issues of public concern under expert control so that the deleterious effects of industrialization could be predicted and the impacts minimized. If food, water, housing, and health care could be put under governmental control to make them safer, why not our breeding as well?

Although not all eugenicists in the United States were racists, certain key figures certainly were. In the United States, the doctrine of Nordic superiority had one of its most eloquent and forceful voices in Madison Grant (1865–1937). Much like Charles Darwin, Grant was not a scientist by training. Trained as an attorney, Grant was wealthy and had no need to practice his profession in order to make money and could therefore indulge his passion for natural history.

Like his close friend, President Theodore Roosevelt, Grant was very active in the nascent conservationist movement. He was a great organizer of causes for the environment and was an active member of the Save the Redwoods League and president of the Bronx Parkway Commission, which created the Bronx Zoo. Grant was instrumental in saving from extinction the American bison, whales, pronghorn antelopes, and bald eagles. He was a key figure in preserving pristine wilderness for future generations to enjoy. Just as he wanted to preserve the environment, Grant wanted to preserve the race; for him these were two sides of the same coin. Grant's racial *magnum opus* was published in 1916 as *The Passing of the Great Race or the Racial Basis of European History.*

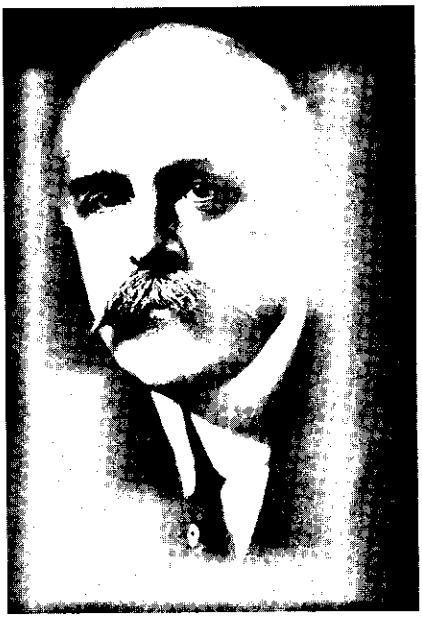
Like Lapouge, Grant offered his racial theories as grounded in materialist science rather than on race mysticism. This was no accident, since Lapouge had read the entire book and offered his advice to Grant before publication. Grant celebrated the Nordic stock that made the original colonial population of the British colonies. The Nordics created the United States, according to Grant, but were in danger of being swamped by the inferior races in what he called the "survival of the unfit"(Grant 1916, 82). Grant blamed "sentimentalists" who held the "fatuous belief in the power of environment . . . to alter heredity." Not so, Grant declared: "Speaking English, wearing good clothes, and going to school does not transform a Negro into a white man."

Immigration was a similar threat. "We shall have a similar experience with the Polish Jew," Grant warned, "whose dwarf stature, peculiar mentality, and ruthless concentration on self-interest are being engrafted upon the stock of the nation" (Grant 1916, 14). The danger, Grant warned, was allowing more than one race in the same geographical area under the common "melting pot" notion that

Madison Grant (1865–1937)

American lawyer, conservationist, and eugenicist, Grant was a key figure in the popularization of Nordic supremacy in the United States and Europe. Born into a wealthy and established New England family, Grant was educated at Yale (B.A. 1887) and Columbia (LL.B., 1890). A substantial inheritance, however, relieved Grant from the burdens of everyday work, leaving him free to pursue his interest in political reform and natural history.

Grant was a member of many exclusive and established private clubs in the Northeast and it was his membership in one of them, the Boone and Crockett Club, that brought his first substantial project to life. Grant proposed to fellow member, Theodore Roosevelt, that the Club create a wildlife sanctuary just outside New York City. Roosevelt, like Grant, was a big-game hunter and was very concerned with the rapidly disappearing American wilderness. The wildlife sanctuary eventually became the Bronx Zoo and was the first of many triumphs Grant had as a leading figure of the American conservationist movement.



(Courtesy of the Save the Redwoods League)

For Grant, the conservation of nature and the conservation of the Nordic race went hand in hand. Like many upper-class Americans of his generation he was deeply concerned with the growing immigration of "undesirable stocks" into the United States. Grant's *magnum opus*, *The Passing of the Great Race* published in 1916 was an unapologetic defense of what Grant considered the "pioneering type" that made the country great: the Nordic. For Grant, the Nordic race was in danger of being swamped by the inferior racial types that were coming to the country from southern and eastern Europe. Grant's book became a touchstone for Nordicists both here and abroad, most notably for Adolph Hitler who wrote approvingly of Grant's book in his 1924 autobiography, *Mein Kampf*.

Well-connected politically, Grant was a key figure in orchestrating the passage of the 1924 Immigration Restriction Act, which prevented further immigration from those races he considered inferior. However, the increased internal migration of African Americans out of the Deep South and into the North led him to further despair that he might be losing the battle to maintain the racial purity of the United States. His last book, *Conquest of a Continent* reiterated the Nordic supremacy of *The Passing of the Great Race*. However, Grant's time had passed and *Conquest* was roundly criticized for its racism. Grant died of nephritis in 1937.

the environment would erase racial differences. Grant argued, "Whether we like to admit it or not, the result of the mixture of two races, in the long run, gives us a race reverting to the more ancient, generalized and lower type. The cross between a white man and an Indian is an Indian . . . and the cross between any of the three European races and Jew is a Jew" (Grant 1916, 15–16). The solution, Grant declared, was two-fold: man "can breed from the best, or he can eliminate the worst by segregation or sterilization" (Grant 1916, 47). Grant believed that it would be very difficult to increase breeding of the best types, so, "under existing conditions the most practical and hopeful method of race improvement is through the elimination of the least desirable elements in the nation by depriving them of the power to contribute to future generations" (Grant 1916, 49).

Grant's call for a eugenically pure United States merged with wider concerns about the degeneration of inferior social types. This view was cast in terms of the new thinking about heredity, epitomized by Richard L. Dugdale's 1874 *The Jukes: A Study in Crime, Pauperism, Disease, and Heredity.* Dugdale's work on the Jukes was a family study in which the researcher studied an impoverished family in order to discover how social problems were transmitted through generations. Dugdale found that the family of Jukes, a fictional name for a real family, was predisposed toward a life of crime and poverty. But, in keeping with commonly held views of heredity of the time, Dugdale argued that by providing education and medical care, this hereditary tendency toward crime in the Jukes family would be reversed. In other words, Dugdale argued that environmental changes could lead to changes in an inherited condition.

In 1915, eugenicist Arthur Estabrook published a second edition of Dugdale's classic work, *The Jukes in 1915*, which reflected the new thinking about heredity. Estabrook called for eugenic segregation and sterilization as the solution to the problem of the Jukes, claiming that environmental changes would do nothing to change their inherited tendency toward crime. This change in the evaluation of the Jukes family indicated that the eugenic proposals of the late nineteenth century differed from those of the early twentieth century, which came in the wake of Mendelism and Weismannism.

The first eugenics organization in the United States was the Eugenics Committee of the American Breeder's Association (ABA) formed in 1906. The ABA was dedicated to the development of American agriculture, fostering cooperation between farmers and ranchers, who had been developing their stocks of animals and crops through selective breeding for some time, and the growing number of academic biologists interested in developing the mathematical and theoretical understanding of heredity.

The Eugenics Committee of the ABA was chaired by David Starr Jordan, the president of Stanford, and included a number of prominent biologists: Ver-

non L. Kellogg, William E. Castle, and Luther Burbank. Eventually the work of the Committee became so wide-ranging that the ABA reorganized into the American Eugenics Association in 1913, and they began publishing the *Journal of Heredity* that same year.

Among those involved with the Eugenics Committee was Charles B. Davenport (1866–1944). Davenport had been trained as an engineer as an undergraduate and received his Ph.D. in biology from Harvard in 1892. He was a professor at the University of Chicago until 1904, when he convinced the Carnegie Institution to underwrite a biological laboratory at Cold Spring Harbor in New York. The laboratory was the Station for the Study of Experimental Evolution and leaped to the forefront of the scientific study of heredity with Davenport firmly in control.

Davenport was an established scientist; he had served on the editorial board of Karl Pearson's *Biometrika* and had published some of the first papers by an American scientist on Mendel. Davenport embraced both the biometric approach and Mendelism, even though the two schools of thought were in the midst of a feud over the nature of continuous versus discontinuous variations. This reflected Davenport's plan for Cold Spring Harbor, where he aimed to unite theories of heredity, evolution, and cytology. Davenport himself contributed studies of heredity in mice, poultry, canaries, and horses using both biometrical and Mendelian approaches. But Davenport was also interested in human heredity. He published papers on the Mendelian inheritance of human eye color and a paper on the complex inheritance patterns in human skin color.

Davenport's interest in human heredity translated into a branch of the Station at Cold Spring Harbor. Davenport petitioned Mary Harriman, heir to her husband's railroad fortune, to underwrite the Eugenics Records Office (ERO) at Cold Spring Harbor in 1910. Davenport chose Harry H. Laughlin (1880–1943) as the administrator of ERO. Laughlin was teaching biology in the agriculture school of the Missiouri State Normal School and had been corresponding with Davenport on matters of heredity since 1907. In 1910, Davenport hired Laughlin to overtake the administrative needs of ERO. Laughlin was dedicated to the twin purposes of the ERO: to undertake serious research in human heredity and to educate the public about eugenics.

Unlike researching heredity in farm animals or insects, scientists could not experiment on human beings, and the long generations of humans made tracing lineages difficult within the lifetime of a researcher. To avoid these problems, Laughlin and Davenport set out to collect family histories by sending specially trained eugenics fieldworkers out to question families about their history of disease, feeblemindedness, or other eugenic disabilities. The fieldworkers would visit families with questionnaires and try to collect information

relevant to the goals of the ERO. They would then take the collected information and create family histories that could yield useful information for inherited traits. Some traits actually followed a strict pattern of Mendelian inheritance. By the mid-1910s, researchers at the ERO had discovered a number of them including polydactylism (having more than 10 fingers or toes) and Huntington's chorea, for example.

But the family histories went far beyond these physiological traits and included characteristics such as "feeblemindedness"—a catch-all phrase that covered not only what we might consider mental retardation but also any failure in scholastic performance—pauperism, alcoholism, criminality, musical ability, and other social traits interpreted as owing entirely to heredity. One famous example was a 1919 report Davenport prepared for the Navy on "thalassophilia" or love of the sea. Davenport argued that the tendency for naval officers to come from the same family owed to a Mendelian trait for the love of the sea. Ignoring possible environmental pressures for sons to follow in their father's footsteps, Davenport reasoned that since the "tendency to wander" was a racial trait, as it appeared in Gypsies, Comanches, and Huns, the tendency to wander on the sea must also be an inherited trait.

Eugenics, however, was never just a science destined for the ivory tower: another part of its mission was to translate scientific truths, like thalassophilia, into public policy. Eugenicists called for two different kinds of social programs. A 1926 popularized pamphlet, "A Eugenics Catechism," published by the American Eugenics Society, spelled out the two approaches. Negative eugenics dealt "with the elimination of the dysgenic elements from society. Sterilization, immigration legislation, laws preventing the fertile unfit from marrying, etc., come under this head." By contrast, positive eugenics dealt "with the forces which tend upward, or with the furtherance of human evolution. Encouraging the best endowed to produce four or more children per family, encouraging the study of eugenics by all, etc., are positive eugenics" (American Eugenics Society 1926, n.p.). These policy options had no greater champion in the United States than Laughlin, who tirelessly promoted eugenic policies throughout the nation.

Although both positive and negative eugenics were possible, Laughlin, like his friend Madison Grant, concentrated on the negative aspects. As the "Eugenics Catechism" made clear, there were three policy choices for proponents of negative eugenics: sterilization, immigration control, and laws preventing marriage of eugenic undesirables. Eugenicists had various degrees of success with these programs of action.

As far as race was concerned, the option of preventing eugenically undesirable marriages was a nonissue. Marriages between whites and blacks were legally prohibited long before eugenics became a popular doctrine. Laws against

miscegenation, interracial marriage, were a mainstay of American legal culture beginning in the eighteenth century and were not declared unconstitutional by the US Supreme Court until 1967. Even the authoritarian Madison Grant admitted that "in a democracy" it would be "a virtual impossibility to limit by law the right to breed to a privileged and chosen few" (Grant 1916, 47).

Although eugenicists had limited impact on the racial aspect of marriage laws they were much more successful in limiting immigration, mainly because their concerns dovetailed with widespread anxieties about increased immigration into the United States after World War I. Although the United States has long proclaimed itself a nation of immigrants, such a view waxed and waned according to economic and social concerns. In the late nineteenth century, for example, concerns that cheap labor from China was swamping out "white" jobs in California led to the Chinese Exclusion Act of 1882, which cut off all immigration from China. Beginning around the same time, the nature of immigration from Europe began changing as more and more immigrants arrived from southern and eastern Europe, many of them Jewish and Catholic.

By the 1910s immigration had touched off a reaction from many circles. Labor leaders worried about the new immigrants taking jobs from their traditional constituencies, and many conservative Americans were concerned that the new immigrants were political radicals espousing Marxist ideas. Many Americans worried that the immigrants were Jewish or Catholic, and thus unable to assimilate into the traditionally Protestant United States.

Eugenicists expressed concern that the new immigrants were from inferior racial stock and would bring with them the biological degradation of the United States. Madison Grant was especially concerned with the influx of eastern and southern European immigrants, for example the "swarm of Polish Jews" who were coming to New York City. "While he is being elbowed out of his own home," Grant despaired, "the American looks calmly abroad and urges on others the suicidal ethics which are exterminating his own race" (Grant 1916, 81). His chief disciple Lothrop Stoddard agreed: "even within the white world," Stoddard wrote in *The Rising Tide of Color* in 1921, "migrations of lower human types like those which have worked such havoc in the United States must be rigorously curtailed. Such migrations upset standards, sterilize better stocks, increase low types, and compromise national futures more than war, revolutions, or native deterioration" (Stoddard 1921).

The eugenicists presented their concerns about immigration before Congress in the early 1920s. Representative Albert Johnson, who chaired the House Committee on Immigration and Naturalization and was also an honorary president of the Eugenics Research Association, brought Harry Laughlin before the committee's 1922 hearings on immigration reform as an "expert eugenic wit-

ness." Laughlin came prepared with an elaborate statistical analysis that tracked the relationships between social ills and race. As early as 1914, Laughlin had worked with Judge Harry Olson of the Psychopathic Laboratory of the Municipal Court of Chicago on a study that showed that immigrants were hereditarily predisposed to crime; over 75 percent of the juvenile delinquents in Chicago had foreign-born parents, predominantly Slavic or Italian. Pointing to poverty as the cause of crime was mistaken, Laughlin and Olson argued, because poverty was created by poor genetic constitution.

In his testimony before the House Committee, Laughlin extended this kind of analysis to include not just crime, but a host of "inadequacies" such as feeblemindedness, insanity, epilepsy, tuberculosis, blindness, deafness, deformity, and pauperism. "The outstanding conclusion," Laughlin declared for the committee, "is that . . . the recent immigrants, as a whole, present a higher percentage of inborn socially inadequate qualities than do the older stocks" (Laughlin 1922, 755).

In 1924, Laughlin added another arrow to his quiver: the intelligence test. Alfred Binet had developed intelligence tests in France in 1904 as a way to help the French government educate children, especially those who had trouble learning in the regular curriculum. In 1908, psychologist Henry H. Goddard brought the tests to the United States. As the director of the Vineland Training School for Feeble-Minded Boys and Girls, Goddard sought a tool to help him classify his charges to provide them with an education fitting their abilities. Goddard eventually published a eugenic family study of his own, *The Kallikak Family: A Study in the Heredity of Feeblemindedness* in 1912.

Intelligence testing received an enormous boost during World War I when Stanford psychologist Robert M. Yerkes and others developed a series of tests to help the Army with the induction process. The aim of the Army tests was not to detect the feebleminded but to sort draftees into appropriate positions in the military. The Army did not want to have highly intelligent applicants assigned to ditch-digging and dull draftees sent to Officer Training School. After the war, intelligence testing generally, and the Army tests in particular, took on new life. The Army tests showed that black soldiers were far less intelligent than white solders. This surprised no one and created little stir in the academic community until these conclusions were challenged in the 1930s. Of more immediate importance during the 1920s and the great immigration scare were the results that pointed to racial differences among the white inductees. One of the staff psychologists who had worked with the Army, Carl Brigham, published a volume in 1923 from the Army data. Brigham declared that only applicants from the Nordic countries fared well on the intelligence tests and recommended strict laws forbidding race mixing and radically curtailing immigration of Alpine and Mediterranean stocks. In

the meantime, Henry H. Goddard gave a series of intelligence tests to recent immigrants on Ellis Island and declared that two out of five were feebleminded.

The result of this widespread intelligence testing together with all of Laughlin's other data and the enormous political popularity of immigration restriction caused Congress to pass the Immigration Restriction Act in 1924. Under the 1924 Act, immigration quotas would be set according to the population ratios that existed in the United States according to the 1880 census. The reason for choosing the census from four and a half decades before the Act was passed was explicitly racial: that year predated the waves of immigration from southern and eastern Europe. Hence, immigration was encouraged from the Nordic countries and discouraged from the Alpine and Mediterranean countries, just as Madison Grant had hoped.

The 1924 Immigration Restriction Act had an important effect on racial theorists in the United States. Madison Grant's *Passing of the Great Race* paid almost no attention to "the Negro Problem" in the United States, instead focusing on the dangers of inferior white racial types overtaking the heroic Nordics. However, the 1924 Act solved the problem of inferior white races coming into the country. Additionally, World War I brought with it the "Great Migration" of blacks from the rural south to the urban north as they attempted to leave the authoritarian Jim Crow system, the crushing poverty of the tenant farming system, and systematic disenfranchisement. Grant, and others, despaired at the growing number of dark faces they saw on the city streets and declared that something must be done about it. In his last book, *Conquest of a Continent*, published in 1933 Grant declared that, "The Negro problem must be taken vigorously in hand by the Whites without delay. States which have no laws preventing the intermarriage of white and black should adopt them" (Grant 1933, 288). Consequently, beginning in the 1930s American scientists lost sight of the different white races and focused increasingly, if not exclusively, on the "black" and "white" races.

The third program of negative eugenics was sterilization. Madison Grant had proposed mass sterilization, "beginning always with the criminal, the diseased, and the insane, and extending gradually to types which may be called weaklings rather than defectives, and perhaps ultimately to worthless race types" (Grant 1916, 47). However, unlike immigration restriction, in the United States sterilization was not targeted racially as Grant had urged. The involuntary sterilization of individuals who had become public charges, especially those institutionalized, was a patchwork affair in the United States, varying widely from state to state and from institution to institution. The first law requiring compulsory sterilization of criminals, idiots, rapists, or imbeciles was passed in 1907 in Indiana. By 1922, seventeen other states had similar statutes on the books. These laws were not racially targeted but were aimed at institutionalized people

Harry H. Laughlin (1880–1943)

Born in Oskaloosa, Iowa, Harry Laughlin was raised in Missouri. He received a college degree in 1900 from North Missouri State Normal School in Kirksville, Missouri. He went onto to Iowa State College where he studied for a short time without receiving an advanced degree. Between 1900 and 1907, he taught high school biology and served in various administrative posts in the school system in Kirksville. In 1907, he took a post in the agriculture school at North Missouri State Normal School where he had received his degree.

(Courtesy of Harry H. Laughlin Collection/Pickler Library/ Truman State University)

In 1907, Laughlin began corresponding with Charles B. Davenport, who had founded the Station for Experimental Evolution at Cold Spring Harbor. Davenport was impressed with Laughlin's enthusiasm for matters concerning heredity and offered Laughlin an administrative post in 1910, directing the Eugenics Record Office (ERO) at Cold Spring Harbor.

At ERO, Laughlin trained eugenics fieldworkers who collected vast amounts of data on the family histories of individuals they had interviewed. Laughlin worked hard to organize and present the data on the dangers of inferior breeding that emerged from the fieldworkers' efforts. He also worked hard to present the case for eugenic sterilization. By 1919, Laughlin had amassed a thirteen-hundred-page document on the scientific and legal case for the eugenic sterilization of undesirable individuals but was unable to find a publisher. Laughlin, undaunted, continued to collect data, working closely with Judge Harry Olson of the Chicago Psychopathic Laboratory on the inherited nature of crime.

In 1922, Laughlin published a meticulous and detailed study entitled *Eugenical Sterilization in the United States*, which catapulted him into the first rank of eugenic experts in the United States. His stature was such that he was asked to serve as an expert witness on the eugenic dangers of immigration in the 1920s in a series of hearings that led to the passage of the Immigration Restriction Act of 1924. Laughlin also served as an expert witness for the state of Virginia in the case of *Buck v. Bell* that eventually led the Supreme Court to find that involuntary sterilization was not a violation of the Constitution.

In 1936 the University of Heidelberg, by then under firm Nazi control, awarded Laughlin an honorary doctorate for his tireless efforts at promoting eugenics. However, in the United States, Laughlin's star was fading. Eugenics was increasingly seen as a political campaign with scientific dressing rather than as a pure scientific program. The overt racism of the Nazi regime, moreover, made eugenics increasingly unpopular as a political program. The Carnegie Foundation, which had underwritten Laughlin's efforts at ERO, withdrew its support in 1938 and he moved back to his hometown of Kirksville where he died in 1943.

who had, for one reason or another, become charges of the state. The reasons for these laws, moreover, were not exclusively eugenical: some physicians believed that sterilization lowered the sex drive, making it easier to manage people under institutional care. Others simply did not want those who had shown a propensity to become public charges to have children for whom they could not care.

As with immigration reform, the champion of compulsory sterilization was Harry Laughlin, who believed that at least ten percent of the population was defective and needed sterilization. He published a number of works between 1914 and 1922 that outlined the legal aspects of involuntary sterilization. The key legal problem was that sterilizing people against their will faced the constitutional objection of denying people their rights without due process of law. Laughlin drafted, and urged states to adopt, a "Model Sterilization Law," designed to withstand constitutional challenges.

In 1927, Laughlin played a key role in the Supreme Court decision in *Buck v. Bell*, which held that involuntary sterilization was constitutional. The state of Virginia had attempted to sterilize Carrie Buck, feebleminded mother of a feebleminded child, under a sterilization statute based on Laughlin's Model Sterilization Law. At the trial to determine the constitutionality of the measure, Laughlin served as an expert witness, testifying that Carrie Buck's immorality and feeblemindedness were hereditary in nature. In 1927 the Supreme Court decided that Virginia's actions were constitutional. The renowned jurist, Oliver Wendell Holmes, Jr., in issuing the court's opinion wrote, "It is better for all the world if, instead of waiting to execute degenerate offspring for crime or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes. . . . Three generations of imbeciles are enough" (*Buck v. Bell*, 208).

Despite the triumph in *Buck*, sterilization in the United States remained a haphazard affair. The nature of the American federal system left the enactment of sterilization statutes in the hands of state governments, which meant there was no central authority for making sterilization decisions. Moreover, despite *Buck*, there were legal concerns as laws needed to be carefully drafted in order to pass constitutional muster. Moreover, the guarantees of freedom of speech meant that involuntary sterilization was always open to public criticism. The Roman Catholic Church was a powerful critic of involuntary sterilization and many scientists, including geneticist Herbert Spencer Jennings and political scientist Joseph Gilman, took public stands against Laughlin's policy recommendations. Despite the controversies surrounding involuntary sterilization, however, between 60,000 and 90,000 Americans were sterilized under various state programs in the twentieth century.

German Rassenhygiene

For many the very term "eugenics" is equivalent to Nazi racism and the genocide of Jews, Gypsies, and others under the Nazi regime. However, it bears repeating that nearly every industrialized country embraced eugenic doctrines in the early twentieth century. Only in Nazi Germany, however, did eugenical thinking play a substantial role in genocide. There was no inevitable relationship between eugenics, even racist eugenics, and genocide, but this does not change the fact that under the Nazi regime, genocide was the result.

Just as the United States had Madison Grant, Germany had its own champion of Nordicism in Hans F. K. Günther (1891–1968). His most popular work, *Rassenkunde des deutschen Volkes* (*Racial Studies of the German People*) was published in 1922 and went through fourteen editions by 1930. Günther drew on all those who went before him, including Gobineau, Chamberlain, and Grant, but his greatest influence was Lapouge. Like Lapouge, Günther presented himself as a pure scientist, unaffected by sentimentality and race mysticism. For Günther, like Lapouge and Grant, science had proven that the Nordic was the best race

Nazi officials use calipers to measure an ethnic German's nose. The Nazis developed a system of facial measurement that supposedly determined racial descent. (Hulton-Deutsch Collection/Corbis)

and the Nordic's natural home was Scandinavia, Germany, Britain, Holland, and the United States. Günther accepted Lapouge's estimate that there were 25 million Nordics in the United States and 10 million in Britain.

Günther joined the Nazi party in 1932, a year before Hilter's rise to power. In 1933, Günther was given a chair at the University of Jena, Ernst Haeckel's old university. Although the faculty at the university objected to his appointment, Lapouge, who wrote a stirring letter of recommendation, guided it along. In fact, Günther's position was professor of anthroposociology, the field named by Lapouge. Wilhelm Frick, the Nazi official in charge of the region, eventually appointed Günther over faculty objections. Hitler himself attended Günther's inaugural address.

Günther was the most famous of the Nordicist writers in Germany, but Nordicist doctrines also appeared from other scientists who embraced eugenics. One of the most important was Alfred Ploetz (1860–1940). Ploetz's book *The Fitness of Our Race and the Protection of the Weak*, published in 1895, underscored the same question that Darwin had faced: does the modern world protect the weak from extermination and thus operate against natural selection? Herbert Spencer's solution to this problem was to embrace unfettered competition and a minimalist government. Ploetz was a socialist and rejected Spencerian laissez-faire in favor of governmental programs to improve the environment and to improve human breeding: improving hygiene not only for individuals, but also for the race. Ploetz coined a new term for his program: *Rassenhygiene* or "race hygiene."

What Ploetz meant by "race" was not always clear in his writing. At times he wrote as if the Germans were a race, at other times as if all white people were a race, and still other times he wrote as if he meant the entire "human race." That being said, there is no doubt that he considered the white race, and the Nordic race particularly, to be superior to all others. Ploetz was a member of a secret Nordicist organization called the Mittgartbund. In 1905 Ploetz and others founded the Society for Racial Hygiene, and Ploetz organized a secret Nordic society within that group. By 1909, the secret became public when membership in the Society for Racial Hygiene was limited to "whites" or "Nordics." However, and unlike the Nazi theorists who would follow him, Ploetz believed that German Jews were included in the broad category of "Aryan" since they had intermingled with the Germans for so long.

Another important founder of German eugenics was Wilhelm Schallmayer (1857–1919), whose first eugenic work was published in 1891 as *Concerning the Threatening Physical Degeneration of Civilized Humanity*. Here, Schallmayer warned of the increasing drag that "defective individuals" had on the selection process and the welfare of the German nation. Schallmayer achieved a certain

measure of fame when he won a prize in a contest sponsored by Friedrich Alfred Krupp, heir to an arms-manufacturing fortune amassed by his father. Krupp had sponsored an essay contest, judged by Ernst Haeckel, on the question, "What can we learn from the theory of evolution about internal political development and state legislation?" Schallmayer's answer rejected capitalism and minimalist government, just as Ploetz had earlier, and called for state management of both economic resources and racial stock through restriction of marriage of criminals, the insane, the feebleminded, and others who suffered from hereditary defects. Schallmayer rejected Nordicism and spoke out frequently against mixing the mysticism of Nordicism with the scientific program of eugenics.

In the Weimar Republic, the democratic government established after World War I and eventually replaced by the Nazi regime, eugenics was a topic of national concern. In 1927 the Kaiser Wilhelm Institute for Anthropology, Human Genetics, and Eugenics (KWI) was established and soon became an important center for the study of *Rassenhygiene*. KWI was a direct response by Weimar officials to the support the United States provided to eugenics and was dedicated to the study of hereditary diseases, crime, mental illness, and the race. The Institute had three divisions: Eugen Fischer (1874–1967) was the head of the institute as a whole and also of the department of anthropology, Hermann Muckerman (1877–1962) was the head of the eugenics department, and Otmar von Verschuer (1896–1969) was the head of the department of human heredity.

Fischer was a pioneer of a new kind of anthropology. Traditionally, anthropology was confined to the measurement of physical features and classification of people into racial types. Fischer, however, embraced the new thinking about heredity and expanded anthropology to include the study of heredity, especially as it related to mental and social traits. He was a follower of Günther's teachings about racial purity and the danger of race mixing.

Muckerman was a former Jesuit priest and did not take race as a particular object of study. His Catholicism forced him to abandon his advocacy of sterilization after the Pope condemned the procedure in 1930. When the Nazis came to power in 1933, he was replaced by Fritz Lenz (1887–1976) who was more reliably racialist in his outlook, although he did not share the rabid anti-Semitism of the Nazi regime.

Verschuer was an outspoken anti-Semite and an important figure in the development of "twin studies." Identical twins, because they share identical genetic composition, had been recognized as key instruments in the study of heredity at least since Galton. Verschuer published an extensive study of hundreds of pairs of twins in 1933 to sort out the relative effects of heredity in relationship to the environment. This work would take on grotesque forms under the Nazi regime. Verschuer arranged for his student, Joseph Mengele, to be the camp

doctor at Auschwitz. Mengele sent back body parts, particularly eyes, from twins who were shipped to the camp. Mengele also conducted studies at Auschwitz by injecting Jews, Gypsies, and others with typhus and typhoid to determine if resistance to disease was racial in nature.

As the careers of the directors of KWI show, some scientists suffered under Nazi rule, while others flourished. When Adolph Hitler came to power in 1933, Nazi Germany overtook the United States as the leading eugenical state. Rudolph Hess, a high-level Nazi functionary, made the phrase "National Socialism is Nothing but Applied Biology" famous, but it actually originated in the medical literature that embraced National Socialism even before 1933.

Historians have conceptualized the applied biology of the Nazis in two ways. The first is the "selectionist" metaphor, which viewed the world as engaged in a struggle of race against race, and the survival of the fittest demanded racial purity and the elimination of racial inferiors. This view is clearest in Nazi propaganda calling for the elimination of Jews, Gypsies, and Slavs as a Darwinian imperative. The second is the "organicist" metaphor in which society is like an organism and each group within society needed to keep in its place for the organism to function correctly. In Nordicist terms, this meant that the Nordics would be the leaders, the brain, and the Alpine and Mediterranean races would be the workers, the hands or feet. This view accounts for Nazi propaganda that painted Jews as "parasites" on the Aryan body. Rats were a common Nazi metaphor for Jews; the Nazis argued that such parasites needed to be eliminated.

Eugenic laws came quickly under the Nazi regime. A few months after coming to power, the Nazi government passed the Law for the Prevention of Genetically Diseased Offspring, aimed at sterilizing those carrying hereditary defects. The Nazis instituted an elaborate system of "Genetic Health Courts" to ensure that all whom they sterilized had adequate legal protections. Across the Atlantic, American eugenicists were delighted. Harry Laughlin boasted that the German law was based on his own Model Sterilization Law. Indeed, Laughlin received an honorary doctorate from the University of Heidelberg in 1936 for his work in eugenics. Paul Popenoe editorialized in the *Journal of Heredity* that the German law was not racist in origin and the legal safeguards in place would prevent any possible abuse. A few months later, American eugenicists greeted with joy the extension of the sterilization laws to cover "habitual criminals." American eugenicists admired the German system which, unlike the frustrating patchwork state-by-state system in the United States, enjoyed a strong central authority to guarantee the eugenic purity of the country. Further laws followed the sterilization law. In 1935, Hitler signed into law three measures often called the "Nuremberg Laws." These laws stripped non-Aryans of citizenship, prohibited the marriage of Jews and Aryans, and required all couples wishing to marry to submit to

medical examinations to ensure the purity of the race. By 1939, the urge to purify the race would take another step beyond preventing the conception of inferior children: the elimination of children whose lives the Nazi government deemed not worth living.

In 1939 Hitler signed an order directing physicians to determine if institutionalized patients who were incurably ill should be granted a mercy killing by the state. This would relieve the state and the German people of carrying the load of "racially valueless" people. By 1941, the Nazis had euthanized over 70,000 hospitalized people under this program. The Nazis tested and improved many of the technical aspects of the Shoah, or Holocaust, in the medical elimination of lives deemed not worth living: the gassing, the transport of prisoners so as to not induce panic, and the use of these deaths to advance medical knowledge.

The Nazi regime, of course, culminated in the paroxysm of destruction called the Shoah. Scholars have written literally thousands of books on the Nazi genocide of Jews, Gypsies, and others in the search for an explanation for these atrocities. Scientific ideas about race certainly were not solely responsible for all the horrors produced by Nazis, but it is worth noting two aspects of science that were significant and tell us something about the relationship between science and society. One of the lessons of Darwinian racism was that not all lives were equal in value and hence society should not fear the death of some inferior individuals. Certainly that was the lesson of Lapouge and Haeckel. Ploetz and Schallmayer argued that the eugenic imperatives of Darwinism trumped traditional moral inhibitions against killing because these were inferior lives. This view was not limited to European Darwinists. "The laws of nature," Madison Grant declared, "require the obliteration of the unfit, and human life is valuable only when it is of use to the community or race" (Grant 1916, 45). The United States, however, never wed this ideology to political power as happened under Hitler.

The second way that science contributed to the Nazi genocide was by providing the appearance of a value-neutral judgment on the worth of some human lives. Science reported "the facts" about human inequalities, and to object to "the facts" on sentimental grounds was foolish. As an illustration, consider the fates of the two chief ideologues of the Nazi regime: Alfred Rosenberg and Hans F. K. Günther. Rosenberg was part of the Nazi inner circle and his racial writings, notably *Foundations of the Twentieth Century*, echoed the race mysticism of Houston Stewart Chamberlain. After the war, Rosenberg was hanged as a war criminal. Günther, by contrast, lived a full life after the war and continued to publish until his death in 1968. Because he was a scientist, and science was divorced from political concerns, he was immune from the ramifications of his writings. A more chilling example is that of Otmar von Verschuer, the direct beneficiary of

the immense human suffering at Auschwitz, who continued to serve on the boards of scientific journals until his death in 1969.

After World War II, the science of race would undergo a stunning transformation. Science, which had provided a substantial underpinning for racist doctrines before the War, would be enrolled against racist concepts afterward. Even as the Nazis rose to power in the 1930s, the fundamental doctrines of scientific racism were under attack. After the War the objectivity of science would be dedicated to denying the truth of racial differences, a complete reversal of orientation.

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5

The Retreat of Scientific Racism, 1890–1940

By the 1890s, race had become the major organizing principle of the biological, human, and social sciences, and the scientific study of race was afforded widespread ideological and institutional sanction. We have explored the reasons that a worldview based on race became established. What is remarkable is that, given its solid establishment, this worldview ever got undermined. Why should it have fallen into disrepute and eventually have vanished almost completely? So entrenched were its assumptions about racial types, racial hierarchy, and racial struggle that its retreat and ultimate decline come as nothing short of a surprise. We need to ask why and how those assumptions ever began to be questioned, and why the racial theories that had served the sciences so well for a century or more began even at the peak of their influence to break down.

The retreat of scientific racism began in the 1890s and had multiple and complex causes—scientific, political, and social. Among the scientific reasons was the rise of cultural anthropology and of population genetics, both of which helped to question the notion of fixed and stable racial types. Ethnography in particular, the central method of cultural anthropology, threw doubt on the Eurocentrism by which those types had been ordered. With the breakdown of the racial hierarchy, the denigration of Africans, Asians, Native Americans, and Latinos began to look less like a rational scientific conclusion and more like a pathology, and sociologists and social psychologists—influenced by the ethnographers' egalitarian ideals—studied it as a new phenomenon they called racism. Both the term and the concept of racism were inventions of the 1930s. Meanwhile the new population genetics and a new, more subtle, liberal eugenics allowed for important environmental influences on all manner of traits and questioned the older eugenic influence on single genes as causes of complex mental and moral characteristics. The new genetics, with its focus on populations as continuously varying groups of individuals, directly opposed the nineteenth-century ethnologists' search for unchanging racial essences.

But the rise of new sciences, and of new directions in established sciences,

cannot alone account for the retreat of scientific racism. Political and social causes were also crucial. The composition of the scientific elite was changing: leftists of all types, from moderate liberals to socialists and Marxists, found representation among the geneticists, while women, African Americans, and Jews, many of whom were also leftists, made up a significant fraction of anthropologists, sociologists, and psychologists. The changing demography of the sciences, the increase in female and minority members in their ranks, had a definite impact on theoretical perspectives and methods. Moreover, the political contexts in which these sciences were done were broadly influential. In the wake of World War I, there were race riots in more than twenty American cities, and a revived Ku Klux Klan terrorized the African American population throughout the 1920s. These clear evidences of racial antagonism shaped the efforts of liberal social scientists to use their science to work for justice and democracy. In the 1930s the Great Depression proved that poverty could happen to anybody and was not an outcome of bad genes; and late in that decade the Holocaust showed the horrible extremes to which scientifically sanctioned racism could go.

Though World War II and its aftermath marked the official end of scientifically sanctioned racism and the establishment of a new liberal orthodoxy on race, the decline of the race concept began decades earlier. That decline was not the automatic consequence of any single political, social, or scientific cause, but resulted from a complex of causes in combination—scientists with new professional goals, working in changed political and social circumstances, and slowly becoming aware of the power of their sciences to effect social change. The retreat of scientific racism was thus an incremental process. There was no definitive break from the past or sudden overthrow of reigning ideas but rather a gradual chipping away at a grand and imposing edifice. The questioning of nineteenth-century racial assumptions grew out of the very sciences that those assumptions had supported. The new ideas that replaced the traditional ones appear radically different in retrospect because we know the outcome to which they ultimately led. But at the time they were intended as variations or improvements on well-established themes. This kind of continuity can be seen in nearly all the scientific developments discussed here, in anthropology, psychology, sociology, and genetics. Nowhere is it more clearly demonstrated than in the career and work of the anthropologist Franz Boas.

Boas and the Culture Concept

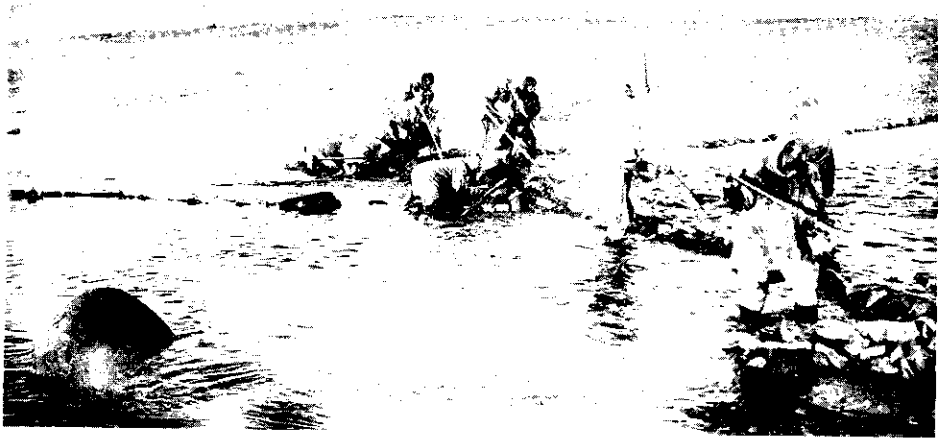
No one person in the first half of the twentieth century did more to defeat scientific racism than Boas. Of course he did not do so single-handedly. Even more

important, he was definitely a Janus-faced figure, strongly rooted in the traditions of nineteenth-century anthropometry even as he laid the foundations of a new science of culture and a new approach to race. Boas could not have foreseen the ends to which his critique would lead, and he would not have always agreed with them. Still, his critique was an essential starting point. Boas's anthropology basically broke apart the link between race, language, and culture that the nineteenth-century ethnologists held dear. He thus separated biology from culture, and placed culture on its own autonomous level—looking at cultures as independent, integrated wholes that must be understood on their own terms and judged only by their own values, not by a Eurocentric standard. In doing so, Boas cast serious doubt on the validity of the concept of race and established a relativistic view of culture that became paradigmatic not only in anthropology but in all the other social sciences as well by the mid-twentieth century. Boas rejected the evolutionary racial hierarchy of the nineteenth century that arrayed the races of man in singular linear hierarchical sequence of savagery, barbarism, and civilization.

Boas (1858–1942) was born in Minden, Germany, into a family of Jewish liberals and freethinkers. Though Boas always strongly identified himself as German both before and after his immigration to the United States, his Jewishness made him culturally marginal in both places. In 1881 he received a Ph.D. in physics, with a minor in geography, after studying at the universities of Heidelberg, Bonn, and Kiel, with a dissertation on laboratory studies of the color of seawater. These early studies raised the problem of the extent to which the subjective perception of the observer determined what was considered to be reality.

To pursue the problem of the relationship between observer and reality, the psychological and the physical, knowledge of nature and nature itself, Boas traveled to Baffinland in the Arctic Circle in 1883. There, living among the Inuit, he studied how the members of an entirely foreign culture understood and perceived the physical world around them. In the notebook he kept during his ethnographic fieldwork, he expressed the relativistic view of culture that would become a hallmark of his cultural anthropology. He questioned the notion that his own society could be considered more advanced than that of the so-called savages. He concluded that the idea of a cultured individual was a relative one: while the Inuit were not cultured according to the Europeans, the Europeans were not cultured according to the Inuit.

In 1886 and again in 1888 Boas traveled to Vancouver, British Columbia, to live among the Kwakiutl, the Native Americans whose way of life, folklore, traditions, and beliefs he spent years studying, collecting, and interpreting. These travels and studies resulted in an 1894 article, "Human Faculty as Determined by Race" (in *Proceedings of the AAAS*), which was his earliest public expression of



Inuit killing salmon with spears, Canada (Library of Congress)

antiracism. Here he specifically attacked Herbert Spencer's notion of the inferior mental capacity of the so-called lower races, using the Kwakiutl as an example to disprove Spencer's claim that savages were inattentive. This use of ethnographic examples to counter sociocultural evolutionism formed the basis for Boas's 1911 volume, *The Mind of Primitive Man.*

In 1887 he emigrated from Germany to the United States. After some difficulty he obtained a position at Clark University, in Worcester, Massachusetts, and later at Columbia University, where he spent the remainder of his career. From 1896 to 1906 he was also associated with the American Museum of Natural History in New York City.

In 1887, Boas became involved in a controversy with Otis Mason and John Wesley Powell, the dominant American ethnologists, which shows Boas's developing views on cultural relativism. Mason and Powell, both unilinear evolutionists, believed that each material object—from whatever culture it originated—should be classified according to type—tool, weapon, or musical instrument—and arranged according to the evolutionary stage of cultural development that it typified. Boas, on the other hand, grouped all the items from a single tribal culture and argued that each culture must be represented as a whole, as neither higher nor lower than any other, with objects displayed in their original cultural contexts. His impulse was historical and descriptive, rejecting Mason and Powell's evolutionism.

In the 1890s Boas pursued two lines of inquiry. The first, while he was at Clark, was a study of growth in the schoolchildren of Worcester, Massachusetts,

concluding that physical differences between them were due to differences in the pace of their development, which was a mixture of hereditary and environmental influences. The second was his study of Native American populations, particularly his focus on the "Half Blood Indian," in which he found that race mixing did not impair fertility, that in some cases it had "a favorable effect upon the race," and that the "half bloods" tended to be taller (Boas, 1894/1940, 140). Both of these studies show Boas as a physical anthropologist working within a Galtonian tradition of anthropometry. In this tradition, in 1903 Boas began his studies of headform, and from 1908 to 1910 he carried out a major anthropometric project—"Changes in Bodily Form of Descendants of Immigrants"—for the United States Congress Immigration Commission. This was the same commission that supported the Immigration Restriction Act of 1924, but Boas managed to get funding from it to pursue his own project. His findings were not in keeping with the rest of the Commission's, though Boas himself, a creature of his era, was not entirely opposed to immigration restriction.

In his study Boas, assisted by his graduate students at Columbia, took body measurements on nearly 18,000 people, in schools, private homes, and at Ellis Island, representing what were believed at the time to be the major European types: Nordic, Alpine, and Mediterranean. He noted the differences between the body and headforms of the immigrant parents—Neapolitans, Sicilians, eastern European Jews, Poles, Hungarians, and Scots—and their U.S. born children. Neither body type nor cephalic index remained stable once the second generation was removed to a new environment. The American surroundings and upbringing, Boas concluded, produced changes even in those aspects of bodily form thought to be most unchangeable and considered therefore the best indicators of racial type. Boas's findings directly challenged the assumption of the stability of headform and therefore of the entire type concept. As he wrote in a paper based on his report for the Commission, when discussing race, "we must speak of a plasticity (as opposed to permanence) of types" (Boas 1912/1940, 71).

Boas found that changes in physical type varied directly with the length of time elapsed between the arrival of the mother in the United States and the birth of her child, a result that showed the effect of environment. A population could not be reduced to a pure type, nor could any one individual be definitely identified as one type or another, because types overlap, and individuals falling within the overlap could belong to either type. Such a finding shows that Boas was at this point still trying to clarify the type concept—still, that is, working very much within the framework of nineteenth-century physical anthropology and formulating criticisms that had occurred to the likes of Otto Ammon. But in the years afterward, Boas's critique became increasingly radical as his skepticism of the type concept grew. Type, he argued, is only an arbitrary classification, not indica-

tive of a natural kind. Variation within the type is greater than between types, and in a local population isolated from other groups, subtypes could develop. All of these criticisms of the type concept and emphasis on the variability of populations were later echoed and expanded by population geneticists during the evolutionary synthesis of the 1930s.

Boas's critique of the type concept helped him to undercut the traditional assumption of the hierarchy of races, and in *The Mind of Primitive Man* he set out his theoretical alternative. The main theses of the book were that race must be separated from language and culture, which were to be treated as independent variables; that the racial superiority of Anglo-Saxons has no basis; that the observer must adapt his mind to the culture observed; and that there is no unbridgeable gap between primitive and civilized cultures. Many of the differences between so-called primitive and civilized men were in fact not racial but environmental and cultural. If types could no longer be reliably defined, and if hereditary and environmental influences could not be easily distinguished, then the idea that one race was superior to another in mental ability must also be abandoned. Individuals must be treated as individuals and not as members of a type. These were new ideas for the time, but even in them Boas showed his debt to an earlier era. He still spoke in terms of civilized and primitive and believed that the latter was the true subject of ethnography. And though he argued for egalitarianism, he still believed that on the whole Negroes were inferior to whites—though many of them were just as capable as whites.

The Mind of Primitive Man set out Boas's anthropological definition of culture as historical (changing and developing over time), relativistic (taking cultures on their own terms, and fostering a respect for difference and diversity), integrated, determinative of behavior, and plural. In the first generation of Boas's students, in the 1910s, one finds frequent use of the word "cultures," in the plural. This use is in striking contrast to the sociocultural evolutionists Tylor, Lubbock, and McLennan, who used "culture" in the singular and as present to a greater or lesser extent in all peoples. In *The Mind of Primitive Man* Boas argued that seemingly similar phenomena might stem from diverse cultural causes and not be the result of the mind passing through linear evolutionary stages. He constantly emphasized local ethnographic study and the histories of individual cultures and critiqued evolutionary hierarchies of marriage forms, myth, and religion. His focus was always on the differences among peoples rather than on their commonalities. Taken together, these ideas represented a radical departure from nineteenth-century evolutionism, even if Boas himself was formed in that mold and it was really his students who fulfilled his radical suggestions. For example, in 1911 Boas still made reference to the "genius of a people," a phrase reminiscent of the nineteenth-century typolo-

gists. Boas meant it in a cultural rather than racial way, but it does show that he was not always consistent in his individualist emphasis and still sometimes thought in terms of types.

The anthropological concept of culture—fully worked out by Boas's students—rejected the Spencerian idea of evolution from simple to complex, from savage to civilized societies progressing along a single line and judged by a single, European, standard of value. In the Boasian framework, values were relative and ethnocentrism was rejected. Talk of plural *cultures* replaced that of cultural *stages*. Behavior was determined not by heredity or race but by the culture in which a person lived. And the folklore or mythology of a people was particularly important for getting to the heart of their culture.

Boas and his students represented not only a theoretical departure from the armchair evolutionary anthropologists of the nineteenth century but a professional one as well. The Boasians saw themselves as scientific professionals, made so by their ethnographic fieldwork, and looked down on their armchair predecessors as speculative amateurs. Spencer's culling of facts about savages from travel books in his study could not have been more different from the Boasians living for extended periods as participant-observers among the peoples whom they were studying. In 1905 the Boasians took over the major professional anthropological society—the American Anthropological Association—and by the 1920s they were a dominant force in anthropology.

The Boasians' impact on and relationship to physical anthropology was a complex one. How much direct impact the Boasians' cultural anthropology had on physical anthropology is an open question; for the most part the two branches of the science seem to have worked in parallel, rather than in direct confrontation. In the 1920s and 1930s physical anthropology was a discipline in crisis, with little agreement among its practitioners on its proper subject matter or methods—and the Boasians seized on and critiqued such perceived weakness. On the other hand, despite the disciplinary chaos, the physical anthropologists were more mainstream and more conservative than the Boasian cultural anthropologists and held positions of power and prestige in scientific institutions. The Boasians therefore had to accommodate to them, coexist, and in some cases even cooperate with them. The coexistence of these two groups of anthropologists that were at a basic level deeply opposed to each other—the typologists and racists of physical anthropology and the relativists and egalitarians of cultural anthropology—demonstrates well the politics of a divided discipline and also shows the limits of the Boasian critique. Such a critique could never become too radical lest it lose the support of representatives of mainstream institutions and funding sources. The examples of Ales Hrdlicka, Earnest A. Hooton, and Clark Wissler clearly demonstrate how this coexistence worked.

Hrdlicka (1869–1943), an M.D. and physical anthropologist, was curator of anthropology at the Smithsonian Institution in Washington, D.C.—a central and powerful location for the science. He was an immigrant from Bohemia, but in contrast to Boas's situation there were no liberal politics associated with his ethnic status. Hrdlicka cooperated with the notorious racist Madison Grant on the measurement of World War I army recruits and was a member of the racist and eugenist Galton Society. Hrdlicka's best known work, *Old Americans*, argued that the most recent immigrants to America were beginning to resemble the "old Americans" (those with four grandparents born in the U.S.) in stature and body type, but he never used these findings to combat immigration restriction, on which question he always remained neutral. He represented the immigrant outsider who adopted mainstream racist attitudes—or at least an attitude of scientific neutrality—in order to be accepted in powerful scientific circles. And yet Boas supported and encouraged Hrdlicka, especially in Hrdlicka's editorship of the *American Journal of Physical Anthropology.*

Earnest Hooton (1887–1954) was even more central to the discipline of physical anthropology and cooperated even more closely with Boas. Hooton was professor of physical anthropology at Harvard for forty years and held views on race reflecting the racist conventions that prevailed in the sciences up to World War II. The four great groups of mankind—Negroids, Mongoloids, Whites, and Composites—were divided into races, and the different physical qualities of each race were associated with different mental and temperamental characteristics. Hooton rejected Boas's conclusion that changes in skull shape reflect changing environmental conditions and from the mid-1920s on turned to the study of the biological basis of criminality. Hooton's work in this area definitely hearkened back to an earlier tradition of criminal anthropology, arguing that criminals contribute to the degeneration or de-evolution of humankind and that patterns in crime were associated with different races and nationalities. That his work in this area was largely ignored by the scientific community signifies the change in opinion on the legitimacy of biological determinism on the eve of World War II.

Yet Hooton and Boas worked together in the mid-1930s to try to draft a statement to define race scientifically in response to the Nazi program of racial hygiene that the Germans were making public. The anthropologists whom Hooton and Boas consulted never came to any consensus on the matter of race, reflecting the lack of consensus in the discipline as a whole. Public opposition to racism by anthropologists speaking as a community did not appear until after 1938. But despite their failure with this initial statement, Hooton continued to support Boas in the latter's attempts to reach a wide public audience, and in 1936 Hooton himself published his own statement on race in which he criticized the crimes committed by whites in the name of racial purity. Yet he was also both

openly and privately critical of Boas, calling him an environmental extremist on matters of race whose views were shaped by the fact that Boas was Jewish. Hooton's support for antiracism was thus tempered by his political conservatism and his general pessimism about humankind, and throughout his long and powerful career he both supported and criticized Boas.

The third example of a physical anthropologist who worked with Boasians even while disagreeing with them is Clark Wissler (1870–1947). Wissler studied psychology and anthropology at Columbia, in part with Boas. He succeeded Boas as curator of anthropology at the American Museum of Natural History in New York City, yet never became a Boasian. Wissler was a member of the Galton Society's inner circle and believed in such traditional ethnocentric ideas as the marginality of dark-skinned peoples, the superiority of Nordics, and the passage of each culture through rigid stages from primitive to civilized. Yet because of Wissler's central position at the Museum, the Boasians who worked there had to cooperate with him. Moreover, Wissler was a member of the Committee on Scientific Problems of Human Migration, one of a number of such government-funded scientific committees that served as clearinghouses for grants and support of research. The Migration committee was set up to work for immigration restriction, yet it funded at least one Boasian, Melville Herskovits. On this committee and others like it, scientists of markedly different opinions on race had to cooperate and coexist. Wissler's cooperation with and support of his Boasian opponents demonstrates the importance of this professional coexistence.

Boasian Anthropology and Black Folklore

Boas and a number of his students took major strides in the fight against scientific racism through their theoretical contributions and by cultivating a professional demeanor that they contrasted to the speculative evolutionists. They also established and maintained contacts and associations with African American intellectuals. Boas, for example, allied himself professionally and personally with W. E. B. Du Bois (1868–1963), a leader in the struggle for black equality and a major thinker on matters of race in the first half of the twentieth century. Even before he began his association with Boas, Du Bois had developed a line of thought similar to the anthropologist's, arguing that race must be distinguished from culture and that race is not a biological category. Boas, for his part, sympathized with Du Bois's radical arguments for equality and integration. Boas opposed the case made by Du Bois's rival Booker T. Washington, who advocated a slower program of progress in which black people must accommodate themselves to the inequities of American society and focus on gaining technical and

industrial training rather than higher education. In 1896, Du Bois, who had received a doctorate in sociology from Harvard University, published *The Philadelphia Negro*, an ethnography based on his participant-observation in that community; the following year he became a professor of economics and history at Atlanta University. At Atlanta, Du Bois initiated an ambitious project to study all aspects of Negro life and culture and imagined each aspect being revisited and updated every ten years for a century.

In 1906, Du Bois invited Boas to participate in one of the conferences organized around the longitudinal study, and also to give the commencement address at Atlanta University. Boas used the opportunity to heighten the students' awareness of and pride in their African ancestry. Du Bois later described the impact that Boas's speech made on him: "Franz Boas came to Atlanta University where I was teaching History in 1906 and said to the graduating class: You need not be ashamed of your African past; and then he recounted the history of black kingdoms south of the Sahara for a thousand years. I was too astonished to speak. All of this I had never heard and I came then and afterwards to realize how the silence and neglect of science can let truth utterly disappear or be unconsciously distorted" (Du Bois, *Black Folk Then and Now*, 1939, vii). Du Bois also wrote that "Dr. Boas has done more to clear away the myth of inherent race differences than any living scientist" (Du Bois 1941, 190).

In 1910 Du Bois left Atlanta to focus on social activism, becoming an officer of the newly organized National Association for the Advancement of Colored People and editor of its journal *The Crisis*. He invited Boas and the Cornell zoologist Burt G. Wilder to the first conclave of the NAACP, where they delivered the opening addresses. Boas also spoke at the meeting the following year, publishing his talk in *The Crisis*. He maintained his alliance with Du Bois, the NAACP, and their fight for integration and equality until his death.

Boas also encouraged and helped to institutionalize the study of Negro folklore. He had always considered the investigation of folklore a key method of understanding a culture and had founded the American Folklore Society (AFS) in 1888. In the 1920s Boas and Elsie Clews Parsons (1875–1941), an independently wealthy anthropologist who trained with Boas and worked with him at the *Journal of American Folklore* (JAFL), made an intensive effort to recruit and train black graduate students both to collect Negro folklore and to take anthropometric measurements on black people. The JAFL dedicated fourteen issues between 1917 and 1937 to studies of Negro folklore by such prominent black anthropologists as Arthur Fauset, Zora Neale Hurston, Arthur Schomburg, Alain Locke, and Carter Woodson.

Fauset (1899–1983)—the younger brother of Jessie Redmon Fauset, a Harlem Renaissance novelist and the literary editor of *The Crisis*—was an

Zora Neale Hurston (1891–1960)

Writer and anthropologist Zora Neale Hurston was born in Eatonville, Florida, the first African American town incorporated in the United States. Her father, John Hurston, was a three-time mayor of the town, and she was educated in an all-black community that emphasized self-reliance. As a teenager, she left home and worked in various menial positions in Baltimore, Maryland, before getting a high school diploma from a preparatory school operated by Morgan College in 1918. Hurston then moved to Washington, D.C., and became a part-time student at Howard University from 1919–1924. There she worked with philosopher Alain Locke, one of the leaders of the New Negro Movement, which celebrated the literary and artistic accomplishments of African Americans. With Locke's encouragement, Hurston began writing fiction, publishing in both Howard University's literary magazine and in *Opportunity*, a major outlet for New Negro writers.

(Library of Congress)

In 1925, Hurston moved to the heart of the New Negro Movement, New York City, where she continued to publish. She enrolled as a student at Barnard College and in 1928 became the first African American graduate there. While at Barnard, Hurston took classes from Franz Boas, which increased her interest in African American folklore. Between 1927 and 1932, Hurston made several ethnological trips through the American South to collect folklore under the sponsorship of Charlotte Osgood Mason, a white patron of folklore activities. Hurston's fiction increasingly demonstrated her

anthropologist trained at the University of Pennsylvania. Though not a Boas student, Fauset published in the JAFL and was supported financially by Parsons in his fieldwork in the American South, the Caribbean, and Nova Scotia. Fauset's work clearly demonstrated the diversity of the African American experience and pointed out the problems with stereotypes about black people. In his collection of *Folklore from Nova Scotia* (1931), Fauset wrote that, despite common stereotypes, Negroes who lived in Nova Scotia did not want to move further south because they did not like hot weather. Nova Scotia Negroes also did not share common folktales that were well known among black populations of the southern United States. Fauset's emphasis throughout was on the variability of Negro cultures (in the plural) and the great extent to which they adapted and changed in new contexts—a thoroughly Boasian theme.

Another example of a folklorist and anthropologist supported by Parsons

interest in African American folklore as evidenced by her first novel, *Jonah's Gourd Vine* (1934), which was criticized for letting the folklore overwhelm the plot. Hurston's fiction was also criticized for underplaying or ignoring white oppression.

In 1934, with a Rosenwald Fellowship, Hurston enrolled in graduate school, studying anthropology with Franz Boas at Columbia. Frustrated with the extensive library research required for Ph.D. study, Hurston never completed the Ph.D. degree. However, she did publish numerous works on her fieldwork in folklore, notably *Mules and Men* in 1935, which focused on gender relationships within the African American community.

African American folklore also played a role in Hurston's most celebrated novel, *Their Eyes Were Watching God* (1937), a celebration of African American folkways. In the 1940s, Hurston continued to do fieldwork and publish novels and stories. However, she was increasingly frustrated by the reception of her work within the anthropological community. White scholars often objected to her work as lacking objectivity and many questioned whether African Americans had sufficient distance from their communities to be reliable recorders of their own culture. Her fiction also began to suffer poor reception, and a scandal involving false charges that Hurston had seduced a sixteen-year-old retarded boy shook her reputation in the African American community.

By the 1950s, Hurston had been reduced to working as a domestic servant for rich white people. Her celebration of African American folkways and her refusal to condemn white oppression brought her a different kind of notoriety. Increasingly bitter, her criticisms of the *Brown* decision and the civil rights movement were eagerly publicized by segregationists. She died penniless in Fort Pierce, Florida, in 1960. In the years since her death, however, her work recording African American folklore and her innovative methodology of deep involvement in the lives of her subjects are increasingly seen as pioneering and scientifically valuable.

and active in Boas's AFS was Zora Neale Hurston (1891–1961). Hurston used her interest in Negro folklore to promote African American cultural pride—a hallmark of the 1920s "New Negro Movement"—and also to stress continuities from Africa throughout the diaspora. Hurston studied at Howard University and then transferred to Barnard College where she met Boas. Carrying out Boas's ideal of fieldwork, Hurston became a participant-observer of black communities in New Orleans, Florida, Haiti, and Jamaica. Like Fauset, Hurston used her fieldwork to debunk stereotypes about black people and to dismiss the idea that black cultures were inferior. Like Melville Herskovits, a white Jewish student of Boas's, Hurston noted the African cultural patterns that were retained in African American cultures. Like Margaret Mead and Ruth Benedict, two other Boasians, Hurston was interested in the ways that culture shapes personality, as demonstrated in her fieldwork in Jamaica. Hurston's study of Negro folklore in rural

Florida, *Mules and Men*, emphasized its connections to African ancestry and argued that it had a rich and complex tradition that helped blacks adapt to the New World. Hurston also studied Haitian Voodun, stressing its complexity and its associations with Africa, and stripping it of its negative connotations.

Hurston and Fauset both contributed to an anthropological literature on African Americans that was aimed at destroying stereotypes and at reconstructing the richness, complexity, and diversity of their cultural traditions; Boas and Parsons supported their work both intellectually and financially. Meanwhile others among the Boasians also worked in antiracist directions.

One of the most notable of these was Melville Herskovits. Born in Illinois to a family of Jewish immigrants, Herskovits (1895–1963) received his Ph.D. in anthropology in 1922. Under the influence of Boas and Parsons, Herskovits made anthropometric measurements of blacks both in Harlem and at Howard University, where he taught for several years, as well as throughout the American South. His physical measurements showed that blacks in America were becoming more homogeneous and even forming a new physical type. This conclusion was quite similar to Boas's study of bodily form in immigrants, as both constituted a critique of the notion of a pure race. In Herskovits's work, the blacks he studied were of mixed ancestry, yet their physical form was strikingly homogeneous. At this point in his career, Herskovits was an assimilationist, a believer that justice and equality for African Americans would come only through acculturation to white society and its values. The assimilationist argument held that slavery had destroyed any remnants of African culture among black people. Herskovits's anthropometric study supported the possibility of assimilation; in fact the assimilationist argument was always present in Boasian discourse, evident in Boas's own study of immigrant headform, and in his claim that race mixing—leading to the eradication of all racial difference—was the ultimate solution to all racial conflict. The assimilationist strand stood in stark contrast to the equally Boasian stress on relativism and created an important inconsistency in cultural anthropology that would play itself out in later decades.

Under the influence of certain African American intellectuals, like W. E. B. Du Bois and James Weldon Johnson, however, Herskovits had a change of heart. From the late 1930s on, he gave up on assimilationism and began to argue the cultural pluralist and relativist line that there existed among African Americans strong ties to an African heritage. Continuities to an African past could help African Americans develop a distinctive culture. Herskovits's fieldwork in West Africa, the West Indies, and in North America confirmed his relativist position: he found vestiges of African culture especially among blacks in Harlem—in their folklore, religion, music, and language. In adopting this stance, Herskovits, like Hurston, contributed to the New Negro Movement of the Harlem Renaissance,

which celebrated African culture and noted its persistence among African Americans. Herskovits believed in encouraging ethnic pride in African Americans by attributing the positive features of their culture to their African heritage and the negative ones to their oppression in American society. In *The Myth of the Negro Past* (1941) Herskovits argued that it was myth to believe that the Negro had no civilization and no history. That belief, Herskovits argued, "validate[d] the concept of Negro inferiority" (Herskovits, 1941, 1). By contrast, Herskovits emphasized the richness of the cultural traditions he had encountered in his fieldwork in the West Indies and West Africa. Such emphasis, he believed, would increase the pride of African Americans and the respect of whites for their rich and complex traditions.

But Herskovits's emphasis on African cultural continuities brought him into conflict with the sociologists at Howard University, who were thoroughgoing assimilationists—taking up the other strand of Boasian discourse. Showing that African cultural traditions were so persistent, tenacious, and slow to change, the sociologists argued, would constitute an argument against the full Americanization of blacks, against their full integration, and against their fully equal treatment. Thus the underlying contradiction in Boasian anthropology contained the makings of a major disagreement about the best way to make black people a part of American society.

Arthur Schomburg well expressed Herskovits's side in the controversy: "The Negro has been a man without a history because he has been considered a man without a worthy culture. But a new notion of cultural attainment and potentialities of the African stocks has recently come about, partly through the corrective influence of the more scientific study of African institutions and early cultural history" ("The Negro Digs Up His Past" in *The New Negro*, ed. Alain Locke, 1925/1968, 237). But Herskovits's view was considered radical for the time, not only by the Howard sociologists, whose beliefs became mainstream, but even by most of the other Boasians as well, including Boas himself. As a result, Herskovits's and Hurston's New Negro view of African cultural continuities was marginalized, while the assimilationist perspective became orthodox social science and formed the basis for much social policy in the decades to come. The emphasis on African cultural continuities did not reemerge until it was taken up by black nationalists in the 1960s.

The alliances—personal, professional, and intellectual—forged between white and black anthropologists benefited both sides in important ways. For the black scholars like Hurston, Fauset, Schomburg, and Du Bois, connections to powerful white scientists like Boas gave them access to mainstream universities and institutions from which they otherwise would have been excluded because of the segregated nature of American science and society in the first half of the

twentieth century. The black scholars accepted Boas's anthropological framework and expanded it to study Negro life and culture, and the alliance gave them a legitimacy and a professional clout that they otherwise would have lacked. For the white scholars, black colleagues like Du Bois gave them access to activist political outlets, and black students like Hurston, who would be accepted more readily into black subject populations, allowed them an entrée into the African American cultures and populations they wanted to study. Recruiting black students and black collectors of folklore helped Boas fulfill his research agenda in anthropometry and cultural analysis, and the black anthropologists expanded the range and quality of Boasian ethnographic fieldwork.

Psychologists and the Critique of IQ Testing

The anthropologists' concept of culture formed one line of attack in the battle against scientific racism. A second line emerged from psychology, specifically out of the critique of IQ testing in World War I. As with the anthropologists, alliances were forged here too between white and black scientists. The best known and most influential of these attacks on the eugenically inspired IQ tests was by Otto Klineberg (1899–1992), a white Jewish psychologist trained at Columbia in the 1920s, where he came under the influence of Franz Boas. Klineberg's critique built on those made by lesser-known black psychologists, particularly Horace Mann Bond and Howard Hale Long.

For his dissertation research, Klineberg administered IQ tests to Yakima Indian children, African American children, and white children and used the anthropological concept of culture to explain the results. Klineberg argued that "speed" was a relative, cultural notion, and that the Yakima and African American children understood it in a different way from the whites. They tended to value it less, took their time with the tests, and as a result did less well. When the time variable was controlled for, the Yakima and African American children did better than the whites. Thus Klineberg showed that a supposedly neutral test could be compromised by cultural factors.

In his 1935 book *Race Differences*, Klineberg attacked the selective migration thesis, an argument used by scientific racists to point out innate racial differences in intelligence. According to the thesis, the higher IQ scores of northern blacks resulted from the fact that the more intelligent blacks migrated north, leaving the less intelligent ones behind in the South. Klineberg, however, showed that there was actually no superiority in IQ scores of recent migrants over those who stayed behind. He interpreted his results in environmental and cultural terms. The better educational opportunities in the North raised IQ scores in

blacks and whites, and wherever the blacks lagged behind the whites, this too was due to the environmental effects of unequal opportunity.

By the 1930s the idea of mental differences between the races, a hallmark of the eugenists' program of IQ testing, had fallen into decline. Several psychologists underwent well-publicized reversals. Carl Brigham (1890–1943), a psychologist who had been a strong proponent of racial differences in IQ in 1923, recanted his former claims in 1930. Howard W. Odum (1884–1954), who wrote a strongly racist psychology textbook in the 1920s, turned through the study of sociology to a much more egalitarian position, and eventually became a proponent of the study of southern black life. Thomas Russell Garth (1872–1939), an educational psychologist affiliated with the applied branches of psychology and social work, and therefore always more moderate than Brigham or Odum, also underwent a shift. From his work in the field with Native Americans and Mexicans, Garth grew sympathetic to their cultures, in the manner of a Boasian anthropologist. As the major race psychologist of his day, Garth had originally been certain of racial differences in mentality but thought that further scientific effort was needed to uncover them. After his research in the field, and in the context of the shifting emphasis within psychology on environmental conditioning of behavior, Garth concluded in the late 1930s that nurture, in the form of educational opportunities and other environmental factors, was in fact more important than nature, in the form of heredity.

Black psychologists also played an important role in the rejection of the hard-line eugenic emphasis on hereditary racial inferiority. Horace Mann Bond (1904–1972), an educator, sociologist, and university administrator, emerged in the 1920s as a strong critic of racist interpretation of IQ tests. He showed that the scores of blacks from the northern states of New York, Ohio, and Pennsylvania were higher than those of southern whites and explained the difference in environmental terms. Such an argument flew in the face of innatist explanations, as did Bond's demonstration that the scores of northern whites, including large numbers of European immigrants, were higher than those of southern whites, who were always held up by eugenists as the ideal of racial purity. If a mixed population scored better than a supposedly pure race, the IQ testers' emphasis on white racial superiority was thoroughly shaken. Nonetheless, despite his criticisms of hereditarian interpretations of the tests, Bond never condemned the tests outright and in fact used them in his work as a college administrator. Intelligence tests could, he argued, be used to remedy the subjectivity of individual teachers' judgments. If used properly—that is, for the diagnosis of learning problems—and if interpreted in an environmentalist way, Bond believed that the tests could actually subvert bias. Such an argument shows Bond's faith in the objectivity of science, its detachability from moral judgments, and its capacity to right

the wrongs of racism. By the mid-1930s, Bond's evidence and arguments had severely damaged the hereditarian interpretation of IQ test results.

One reason for the dominance of hereditarian interpretation of the tests in the 1920s was the exclusion of black researchers from the mainstream social sciences. As in anthropology, in psychology black scholars forged alliances with whites, like Klineberg, Herskovits, Garth, and Odum, who had, or came to have, environmentalist sympathies, and relied on those alliances to break through the color barrier. By the 1930s educational opportunities in all the social sciences, but particularly in psychology, were opening up slightly for African Americans. When black social scientists turned their attention to the critique of IQ tests they focused on several areas of research.

Howard Hale Long, an educational psychologist trained at Clark and Harvard universities, studied the relationship between socioeconomic status and length of residence in northern cities and scores on IQ tests—in all cases showing that environmental and educational opportunities strongly affected test performance. Horace Mann Bond and Martin D. Jenkins, a psychologist trained at Northwestern, examined the "mulatto hypothesis," according to which lighter-skinned blacks performed better on IQ tests because of their admixture of white blood. Jenkins debunked this claim, which had been used to argue against race mixing as compromising the quality of the white race. He investigated the numerous cases he had discovered of black children without any white ancestry who made exceptionally high scores on the tests. Like Long, Jenkins concluded that higher socioeconomic status produced higher scores, and he emphasized these students' intellectual gifts as individuals.

A third area of research pursued by black social scientists was the influence of testing methodology on IQ test performance. Herman Canady, also trained as a psychologist at Northwestern, asked whether it mattered if the person administering the test was black or white and designed experiments to answer the question. He found that the effect of the tester's race on the students' scores was negligible, but criticized the use of culturally biased tests. His colleague A. S. Scott, at West Virginia State College, showed that familiarity with testing situations and with standardized tests produced markedly improved IQ scores.

From Race Psychology to Studies in Prejudice

As the idea of inherent mental differences between the races fell into decline during the 1930s and the races came to be viewed as fundamentally similar, new ways of explaining racial antipathies had to be invented. Hatred of and disdain for the members of other races—so much a part of the race psychology of the

1910s and early 1920s—could no longer be seen as a rational response to the facts of racial hierarchy. With notions of superiority and inferiority largely abandoned, racial antagonism came to be explained as a basically irrational attitude—a *prejudice*—unreflective of reality. Studies of prejudice in the 1930s were pursued along two lines. Psychologists, particularly social psychologists, tended to focus on the irrationality of prejudice and its disconnection from any actual experience with members of the despised race.

Meanwhile sociologists, especially those associated with the highly influential Chicago school of sociology, tended to argue that racial antagonism and prejudice were necessary parts of the assimilation of a minority group into the mainstream, but that they could also cause severe social pathologies in the group being discriminated against. The sociological approach was favored by University of Chicago sociologist Robert E. Park and his students, who worked in the 1920s and 1930s on the problems of assimilation. Park formulated a social pathology model of the assimilation of minorities as occurring in four stages: competition, then conflict , followed by accommodation of the minority to the dominant way of life, and finally complete assimilation. For example, Emory Bogardus, a Park-trained sociologist, presented race prejudice as an inevitable feature of the stages of assimilation—of the progress of minority groups up the social scale—and therefore as an essentially benign force that preserved the distance between ethnic groups and maintained the social order. Many of the sociologists who trained at the University of Chicago took recent immigrants to the United States as the subjects of their assimilation model and argued that the experience of Negroes would eventually follow the same path as that of European immigrants.

The psychologists developed a different approach to the study of prejudice. Goodwin Watson (1899–1976), a Columbia-trained psychologist, made tests of racial animosity assuming that it arose from the actual experience of unfriendly contact between members of different races. Watson's view of prejudice made it less benign than Bogardus's but still treated it as a phenomenon based in real experience. Psychologists who followed Watson, however, began to cut its moorings in reality. Floyd Allport (1890–1970), an experimental social psychologist, and his students Daniel Katz and Kenneth Braly argued that prejudice was instead a matter of cultural stereotypes, inherently irrational and not based in any actual experience with individuals of the despised group. For Katz and Braly, race prejudice was a psychological phenomenon, a problem with people's internal mental states, a disorder of the mind. In this same vein, Gardner (1895–1966) and Lois Barclay (1902–2003) Murphy, and their students at Columbia University, Eugene (1912–2002) and Ruth Horowitz (1910–1997) (both pairs of psychologists were married couples), studied the racial attitudes of white children toward

Mamie Phipps Clark (1917–1983)

Mamie Phipps was born in 1917 in Hot Springs, Arkansas. She enrolled at Howard University at age 16 as a mathematics major where she met Kenneth Clark, who was majoring in psychology. Kenneth convinced her that psychology, rather than mathematics, would help her teach children, which is what she wanted to do with her degree. Kenneth and Mamie were married in 1938, when he was working on his doctorate in psychology at Columbia University and she was working as a secretary in the law offices of William Houston. Houston's brother was Charles Hamilton Houston, the dean of Howard Law school and lead attorney for the National Association for the Advancement of Colored People.

(Library of Congress)

For her Master's thesis in psychology at Howard, Mamie Clark collected data on racial identification in nursery school children in Washington D.C. In a number of articles based on the data collected for her thesis, Mamie and Kenneth argued that children are aware of their skin color at a relatively young age. The Clark's next project set out to test the "wishful thinking" hypothesis. Do black boys and girls wish they were white? In 1940 a grant from the Julius Rosenwald Fund allowed Mamie Clark to enter Columbia's Ph.D. program in

blacks. Their project was to try to understand the development of prejudice early in life, the assumption being that it was a learned behavior and not an innate trait. The Horowitzes showed that white boys (the sample included only males to avoid the extra variable of gender) from both the north and the south, and in segregated and in mixed groups, held prejudiced attitudes toward black people. Only those children who were raised in a communist commune in New York City showed no prejudice. The Murphys and the Horowitzes concluded that prejudice arises from stereotypes—from the negative beliefs and stories that circulate in a community—and not from actual contact with members of the other race.

Kenneth (1914–) and Mamie (1917–1983) Clark—another married couple—changed the focus of psychological examination to the attitudes of black children, rather than of whites toward blacks. Kenneth Clark received a Ph.D. in psychology from Columbia under Otto Klineberg in 1939. Mamie Clark studied at Howard University for her master's degree and earned a Ph.D. at Columbia in 1944. Both of the Clarks were African American. In one of the earliest studies of black children, the

psychology and begin gathering data for this project. At the same time, Kenneth was collecting data from selected northern and southern states. The Clarks found that black children, when presented with dolls identical in every way except for skin color, would often identify the brown doll as the "bad" doll and the white doll as the "good" doll. When asked to color pictures of children, black children often preferred to color them as lighter than their own skin color. The Clarks argued that racism had psychologically damaged these children to the extent that many of them rejected their own skin color.

In her Ph.D. work at Columbia University, Mamie Clark chose to work with the head of the psychology department, Henry E. Garrett. Garrett was the author of one of the first textbooks on statistics in psychology so he was a logical choice for Clark, a former mathematics major. However, Garrett was a notorious racist and Clark also chose him to prove to him that an African American student could perform as well as a white student. She received her Ph.D. from Columbia in 1944 but was unable to find employment. Her husband had found a position at the City College of New York, but an African American woman with a Ph.D. was an anomaly in the 1940s. After a year of being passed over for various research positions in favor of far less qualified whites, in 1946 she founded her own organization, the Northside Center for Child Development. The Northside Center was designed to offer psychological services to the community and provide them without regard to race. For more than half a century, the Northside Center has been a fixture in New York City, heavily involved in education, urban renewal, community action, and psychological services. It represents the dream of both Mamie and Kenneth Clark: a socially active and involved science that is part of the larger community in which it is located.

Clarks used projective psychological tests to gauge the attitudes of 150 African American nursery school students. Based on the ways these students identified and represented themselves on open-ended tests, the Clarks showed that the children were basically satisfied with their skin color and did not wish that they were white—contrary to some results that Ruth Horowitz had produced earlier.

Although the social psychologists emphasized the irrationality of prejudice and devised experiments to demonstrate its lack of basis in real experience, the Chicago sociologists and their radical variant, the Howard University circle, developed a social pathology model of African American culture. These sociologists, while maintaining Park's original stress on the inevitability of prejudice as a part of the cycle of assimilation, turned their attention to the impact of prejudice and discrimination on the formation of African Americans' personalities. They argued that racist attitudes created pathological social structures and malformed personalities in the members of the hated group. The sociological studies proceeded along two lines.

One was the ethnographic work on southern society pursued by Allison Davis (1902–1983), an African American Ph.D. in sociology from the University of Chicago and later a professor there, and John Dollard (1900–1980), a white anthropologist trained at Chicago and a professor at the Yale Institute of Human Relations. In *Caste and Class in a Southern Town* (1937), Davis and Dollard maintained that whites and blacks in the American South formed two separate castes, and that within those castes status was determined by membership in a social class. The authors conducted life-history interviews with African American families in Louisiana, concluding that class status within caste affected the personalities of African American youth even more significantly than caste itself did. But the organization of southern society based on caste and the race discrimination that caste sanctioned were definitely harmful for African American youth, frustrating their needs, impulses, and ambitions and causing them to act aggressively. Davis and Dollard argued that the belief, commonly held by white southerners, that "childlike" African Americans were content with "caste controls" was a fallacy designed to "prevent general human recognition of the basic deprivations and frustrations which life in a lower caste involves. But it is certain that the sting of caste is deep and sharp for most Negroes" (Davis and Dollard 1940, 245).

The second type of sociological study was pursued by Charles S. Johnson and E. Franklin Frazier, both associated with the radical Howard University variant of Chicago sociology. Johnson (1893–1956), an African American sociologist and student of Park at Chicago, studied the skin color preferences of rural African American children. He found that the children tended to reject the extremes of black and white skin, and to identify themselves as brown-skinned, which Johnson interpreted to mean that African Americans saw themselves as becoming a new brown race. Like the Clarks, Johnson argued that the children did not wish to be white—that in fact African American children preferred on the whole not even to associate with whites. As Johnson put it:

> The Negro community is built around the idea of adjustment to being a Negro, and it rejects escape into the white world. Community opinion builds up a picture of whites as a different kind of being, with whom one associates but does not become intimate. Without much conscious instruction the child is taught that his first loyalties are to the Negro group . . . . This doctrine is reinforced by stories of the meanness and cruelty of white people. To wish to be white is a sacrifice of pride. It is equivalent to a statement that Negroes are inferior and, consequently, that the youth himself is inferior. (Johnson 1941/1967, 301).

As a result of this view, segregation, according to Johnson, was not a pressing problem, since African Americans seemed to prefer it. In Park's four-

stage model of race relations, accommodation to the dominant white culture and attitude adjustment in the face of the societal norms of discrimination and segregation were central parts of minority assimilation. Johnson's study showed African American youth to be completely adjusted to their segregated status, a finding in keeping with his Chicago training. The one place where African American youth did not accommodate well was the segregated southern school system. Here, Johnson argued, the completely inferior schools—the product of segregation—created "misshapen personalities" in black children (Johnson 1941/1967, 134).

Johnson's social pathology argument—that segregation had harmful effects on the black personality—was taken in more radical directions by his fellow member of the Howard circle, E. Franklin Frazier. Frazier (1894–1962) was an African American sociologist who earned a Ph.D. from the University of Chicago under Robert Park and who taught at Atlanta University, Fisk University, and Howard University. For Frazier, as for Johnson, African Americans seemed not to reject their own skin color, and Frazier saw them as striving toward a brown-skinned ideal rather than wishing to be white. Unlike Johnson, however, Frazier stressed the pathological state of the African American family, a state that was the result not of the inherent degeneracy of the black race but was the outcome of slavery and segregation. Although Johnson's subjects appeared relatively well adjusted to their segregated status, Frazier's subjects—African American children whom he interviewed in Kentucky and Washington, D.C.—were being actively harmed by it. Segregation pervaded black life, Frazier wrote, and the "pathological feature[s] of the Negro community" resulted from "the fact that the Negro is kept behind the walls of segregation and is not permitted to compete in the larger community . . . . Since the Negro is not required to compete in the larger world and to assume its responsibilities and suffer its penalties, he does not have an opportunity to mature" (Frazier 1940, 290).

The Chicago school, led by Robert Park and the Howard circle that it deeply influenced, including the sociologists Johnson and Frazier, rejected the idea of African cultural continuities that the Boasians, notably Herskovits, had emphasized. Instead, the Howard sociologists argued that African Americans, because of their heritage of slavery, segregation, discrimination, and poor environmental conditions, had developed a pathological variant of mainstream American society. Their lives were shaped not by a culture but by cultural deprivation. The sociologists compared African Americans to a white-American standard and found that their deviations from the norm included high numbers of female-headed households and a greater incidence of divorce, both helping to produce crime, poverty, and delinquency in their communities. The more African Americans deviated from the standard, the more they would be prevented from

achieving the fulfillment of Park's race relations cycle—the development of normative patterns that would allow them to assimilate.

Segregation was not only psychologically harmful in its creation of social pathologies, it was considered physically harmful as well. The psychological toll of racism noted by the Howard sociologists had a physical parallel in the work of W. Montague Cobb (1904–1990). Cobb was a Howard University-trained M.D. who returned there to teach anatomy and physical anthropology. In the 1930s he worked with the NAACP National Health Committee to shape national health care policy. Cobb's work contravened ideas about African American infertility—a stereotype dating from the era of polygenism that the black race was inherently sickly and doomed to extinction. Cobb demonstrated instead the deleterious physical effects that segregation had on African Americans. He argued that ending segregation of hospitals and improving health care for African Americans would help solve the whole nation's public health problems. Similarly, effective public health policies would also help end the segregation and racism of the nation's medical institutions. Cobb was a political activist as well as a doctor and scientist, working on Capitol Hill to bring about health care reform and fight segregated institutions.

Park's social pathology model was highly influential not only among the Howard sociologists, especially Frazier. It also formed the basis for Gunnar Myrdal's *An American Dilemma*, a 1944 book on the problem of race relations, and for legal arguments in the 1954 *Brown vs. Board of Education* decision desegregating the public schools. According to the social pathology argument, African Americans could and should assimilate to Western white culture—any emphasis on their African heritage or African cultural roots would only get in their way. The means to achieve racial equality was through assimilation into the mainstream by overcoming whatever social pathologies prevented African Americans from becoming just like whites. Full integration and assimilation into white society would mean both psychological and physical health for African Americans. Anyone arguing for preservation of the unique culture that an African heritage created, according to those connected to or influenced by Howard sociology, was an apologist for inequality.

Another central aspect of the sociological and social-psychological study of prejudice was the degree to which it made prejudice a psychological problem. These scientists perceived prejudice as a problem of individual people's attitudes—a problem, specifically, of irrational attitudes, of attitudes not based in reality. It became a problem that could be solved only by understanding the inner workings of people's psyches, of their hearts and minds. As a psychological problem, the concept of prejudice became detached from broader sociological causes, like economics, relationships of power, or institutional organization. The

scientists discussed here psychologized the problem of prejudice, and, in doing so, depoliticized it.

Genetics and the Critique of Eugenics

The retreat from scientific racism among American and British geneticists was more measured than among the social scientists. Biologists repudiatied eugenics and its typological and hierarchical assumptions in several gradual but distinct steps that were not complete until after World War II. At first, during the1910s and 1920s, eugenists and geneticists—at this point there was no distinction between them—generally condemned race crossing as a central plank of their eugenist stance. Racial purity had to be maintained, and that meant avoiding race mixture. In the United States, antimiscegenation laws were on the books in 41 states in order to prevent interracial sex and marriage. No published opposition by geneticists to arguments about the dangers of race crossing existed before 1924. Such works as *Race Crossing in Jamaica* (1929) by the American eugenists Charles Davenport (1866–1944) and Morris Steggerda (1900–1950) condemned the practice.

Davenport and Steggerda divided the Jamaican population into three groups: blacks, whites, and the mixture of these two—browns or mulattoes. The authors believed that disharmonies appeared in the hybrid race of mulattoes. In a few cases the disharmonies were physical: for example, the long legs of the Negro combined with the short arms of the white to produce a poor physical specimen. But in most cases the different mental traits of the races produced mental disharmonies in the mixed offspring. Davenport and Steggerda used their study to argue against race mixture since one could never tell if a disharmony, either mental or physical, would result, and one could not control breeding thoroughly enough to prevent disharmonious combinations. Under such conditions it was best to avoid the mixing of two races altogether.

This argument resonated in the genetics community of the 1920s. Edward M. East (1879–1938), a Harvard University geneticist and, from 1919 to the mid-1930s, the most influential American scientific spokesman on the social and political impact of genetics, thoroughly agreed with Davenport and Steggerda's conclusions, placing them on a more secure scientific footing. East was a population geneticist and a political liberal, an advocate of civil rights for all people. Nonetheless, he argued that race mixing caused the breakup of a harmoniously integrated genotype. The interbreeding of different races would destroy the genetic composition of a race, which had been selected for, maintained, and coadapted over generations. Physical, mental, and temperamental dishar-

monies would be the result. Crosses between blacks and whites, East concluded, should be avoided, as the Negro is inferior to the white and would disrupt his integrated genotype.

East's Harvard colleague and fellow population geneticist, William Castle (1867–1962), provided one of the earliest arguments against the notion of the deleterious effects of race crossing. In 1916, Castle presented a general critique of eugenics, arguing that society could not be managed like a farm, even though he accepted contemporary eugenist views on the segregation and sterilization of the feebleminded. By the mid-1920s he had developed and expanded his critique to argue that genes do not determine social status. The higher average ability of the wealthy is an unproven assumption and probably due to the environment and, therefore, the differential birthrate is not necessarily dysgenic. Moreover, Castle concluded, negative eugenics interferes with individual liberty. Against East, Castle argued that there was absolutely no scientific evidence that biological disharmonies would result from wide race crosses. In a move that shows the basic conservatism of his critique, however, Castle felt that there could be social objections to the mixture of widely different races. And he had no hesitation in pronouncing his view, like that of many in the white scientific elite, that whites were as superior in intelligence to blacks as blacks were in amount of melanin to whites.

Herbert Spencer Jennings (1868–1947), an American zoologist and anatomist, also demonstrates, as Castle does, the distinctly mixed character of these early critiques of eugenics. In a 1923 article published in *The Survey* magazine, Jennings presented a solid, if measured, critique of eugenic immigration restriction policies, arguing that most mental or physical defects observed in immigrants resulted from environmental handicaps and not from racial degeneracy. Therefore, discrimination on the basis of race or nationality was unjustified. Nonetheless, in 1930 Jennings accepted Davenport and Steggerda's conclusions about the physical and mental disharmonies of hybrid Jamaicans and applied the same argument to dogs—that widely different breeds should not be mated lest biological monstrosities result. Under the influence of Castle's critique, Jennings later modified his view, arguing in 1941 that either hybrid vigor or hybrid weakness could possibly result from race mixing, and distinguishing biological reasons from social prohibitions against miscegenation.

The examples of East, Castle, and Jennings show that training in mathematical population genetics, and adoption of its antitypological stance that populations are comprised of continuously varying individuals, did not necessitate antieugenist or antiracist positions. Although both Castle and East were population geneticists, measuring gene frequency and flow in ever-fluctuating populations, their views on race crossing differed widely. The new science, particularly in its early days, did not link up to only one sort of racial belief. More important

than scientific theories in determining a stance on race were the social and political developments of the 1930s.

In response to the Nazi race doctrines that were being implemented in the 1930s before the start of World War II, the genetics community shifted from an earlier condemnation of racial mixing to a belief that more scientific investigation of the matter was needed before definite conclusions could be reached. This agnostic stage is represented by two influential and popular works published by prominent geneticists in the 1930s: *We Europeans: A Survey of "Racial" Problems* (1936) by Julian Huxley (1887–1975) and Alfred C. Haddon, and *Heredity and Politics* (1938) by J. B. S. Haldane (1892–1964). Both books concluded that the evidence for or against race mixing was inadequate and more scientific study was necessary.

Huxley, a geneticist, ethologist, embryologist, and popularizer of Darwinism, and Haddon, an anthropologist, attacked Nazi race doctrines, using genetics to show that Nazi claims about race were pseudoscience. The focus of the book was German racism with its doctrine of Aryan or Nordic superiority and Jewish racial inferiority. Huxley and Haddon argued that the idea of a pure race was a fallacy and that there was no way to reliably classify the races of Europe. All traits were a combination of nature and nurture; division of humankind by blood type bore no relation to racial classifications based on headform; nor did intelligence correlate in any way with physical type. Race, the authors concluded, was a confused term, especially when it came to the European races, and it should be replaced by ethnicity. But *We Europeans* stopped short of an outright denial of hereditary mental differences between the races or of condoning all race mixing.

In *Heredity and Politics*, Haldane, a major contributor to the evolutionary synthesis (the integration of evolution and genetics), argued the agnostic line that until a scientific study on the effects of race crossing was done, no dogmatism about it one way or the other should be countenanced. A similar shift toward agnosticism took place among geneticists on the issue of hereditary mental differences between the races. In the heyday of eugenics geneticists had been certain that such differences existed; between 1924 and 1939 they began to argue that, as with race crossing, there simply wasn't enough evidence to prove it one way or the other. Both privately, however, and in some published writings throughout the 1930s most geneticists continued to believe that racial differences in intelligence certainly did exist. Julian Huxley exemplifies this attitude well: for him racism combined with the awareness that the scientific jury was still out. He argued in 1931 that further study would probably show that racial differences existed and that Africans were inferior to Europeans in desirable traits. However, these differences would be slight and the overlap between the races would be great.

After the war, as the next chapter will explore in more detail, the genetics community underwent yet another shift, from the agnostic position to the outright condemnation both of Nazi racial doctrines and of the notion of hereditary mental inequalities. Similarly, the agnostic tone about race crossing that many geneticists maintained before the war shifted during and after the war to a more positive endorsement of the practice. Now race crossing was—at the very worst—biologically harmless. There could be no scientific justification whatsoever for arguing against it. But this last position led geneticists into the postwar dilemma that faced them in the drafting of the UNESCO Statements on Race. As geneticists they knew that, even if racial mental differences were nonexistent and strictures against race mixing scientifically unjustified, all people were not absolutely equal in genetic endowment. Biological differences among individuals were clear. The geneticists' problem in the 1950s was to detach this view, which they identified as scientific, from any moral considerations. People should be treated equally and afforded equal opportunities even if—and especially if—it was a scientific fact that they were not genetically equal. Science was to be disconnected from moral values; social views of equality need not be, and should not be, derived from or dependent on genetic or biological equality. To what extent this argument could be maintained—and to what extent it fell apart in the wake of the UNESCO Statements—will be taken up in the next chapter.

Haldane and Huxley were both politically liberal—Haldane, a socialist and communist, always more so than Huxley—but neither was as consistently leftist or as consistent a critic of racism and eugenics as Lancelot Hogben (1895–1975). Hogben was trained as a mathematical population geneticist at Cambridge, where he also became a feminist and a socialist. After being jailed as a result of his refusal to fight in World War I, he took up an academic appointment in South Africa, where he was horrified by apartheid, the state-sanctioned segregation and disenfranchisement of blacks. Upon his return to England he became professor of social biology at the London School of Economics, and throughout the 1930s published critiques of eugenics and its simplistic formulations. His critiques made three basic points. First, Hogben emphasized the role of the environment in forming traits, expanding the meaning of environment to include not only education and training but also the prenatal environment of the womb, which affects the way that the genotype, or genetic makeup, will be expressed in the phenotype, or appearance. Hogben cited the work of the geneticist Lionel Penrose, who showed in a famous set of experiments that Down's syndrome, known in the early twentieth century as "Mongolian idiocy," was a genetic defect caused by the environment of the womb of older mothers, not passed down the generations by defective germ-plasm, as the eugenists had argued earlier. Second, Hogben showed that most pathological or abnormal conditions in human

beings were caused by recessive genes, that is, those that were carried but not expressed because they were masked by a normal dominant gene. In the heterozygous condition, in which a dominant and a recessive were paired, the recessive trait would be hidden. Such defective recessive traits would be difficult to eliminate through eugenic sterilization, Hogben argued, because they do not show up regularly in the phenotype. Thus he questioned the efficacy of negative eugenics. Third, social biologists—of which Hogben was officially the first in Britain—must improve the precision of their definitions. Feeblemindedness, he said, was a grab bag, a catchall term that covered many different conditions caused in myriad different ways. No single gene lay at the bottom of it, and the environment was crucial in creating it. Thus Hogben questioned a central conceptual category of the eugenists.

None of these critics of the older eugenics, neither Hogben, nor Haldane, nor Huxley, ever actually gave up on the eugenic ideal. Hogben, for example, along with his wife, a demographer by the name of Enid Charles, became concerned with the declining birthrate in England and the uncertain future that the British population faced. To combat what they viewed as a growing crisis, Hogben and Charles wanted to encourage the development of what was called in later decades "medical genetics"—a science of medicine that focused on prevention—on the elimination of disease before it occurred by the elimination of those genetic defects that caused it. Though medical genetics was billed as pure science, as neutral in contrast to the open social agenda of the eugenists, its continuity with eugenic themes was clear.

Similarly, Haldane and Huxley always kept a place for eugenics. Haldane, like Hogben, argued that recessive genetic conditions were difficult to detect because they were often hidden, thus difficult to treat by sterilization. Moreover, Haldane noted, mutations, spontaneous changes in the genetic makeup, were constantly introducing new traits into the population, most of them harmful, and because of the unpredictability of their occurrence they were largely beyond control by sterilization. Haldane argued that the human population had not changed in genetic endowment in hundreds of thousands of years, so changes introduced by eugenists in a few generations could have little effect. And yet Haldane also believed that the sterilization of those with dominant sex-linked traits like deaf-mutism was thoroughly scientifically justified, as was the prevention of immigration of people who were not up to par physically or mentally. In the socialist state that Haldane envisioned, eugenics would have a central place, and a uniquely fair one, because the state would have equalized the effects of the environment. Huxley never took Haldane's socialist position, but he too held to an enlightened eugenics, which he thought ought to become part of religion. Huxley also believed, even as he argued against hereditary racial differences,

that class differences in England had a genetic basis. Thus the class biases of the older eugenics lived on even among its critics, and even as race was losing its power as a classificatory tool.

The example of these geneticists shows that the crucial combination of their science with a leftward shift in politics accounts for their critique of the older eugenics and the scientific racism that supported it. Population genetics alone could not have accounted for the development of this critique. Indeed, the geneticist Ronald A. Fisher (1890–1962)—along with Haldane and the American geneticist Sewall Wright, an architect of the evolutionary synthesis—was as steeped in population thinking as the others, but his politics were decidedly right-wing and he was an advocate of old-fashioned social selection of the "fittest." As a result, Fisher did not play the role in the retreat of scientific racism that Haldane did. On the contrary, Fisher and his fellow members of the conservative Eugenics Society looked with interest upon the Nazi sterilization campaign of the early 1930s. It was only as news of the Nazi atrocities spread that the members of the Eugenics Society had to retreat with some awkwardness from their eugenical views.

From this review of racial science in the first four decades of the twentieth century, a number of important themes emerge. First, in their most definitive break from the traditions of social Darwinism and eugenics, the scientists discussed here fully recognized the importance of the environment as a determining factor—a factor as important as, or even more important than, inborn biology. This was recognized by scientists in genetics, anthropology, sociology, and psychology. Geneticists began to treat nature and nurture as complex and interdependent, as mutually influential and constantly interacting. Anthropologists recognized the importance of environment by stressing the role of culture as the essential determinant of behavior. Cultural anthropology, social psychology, and sociology formed themselves during this period around the study of the environment as sciences of the environmental impact on behavior. Psychologists recognized the determining influence of socioeconomic status on IQ test scores, and sociologists studying prejudice came to see treatment by the dominant white culture as a central factor in forming African American behavior and identity. The environmental turn in all of these sciences helped to break apart the entrenched paradigm of race.

The second major theme here is that the critique of scientific racism, in whatever form, was a basically conservative one up to the beginning of World War II. None of the critics we have encountered here represented a complete overthrow of the traditions that produced them. Even as they rejected links between race and society, culture, and mentality, they shared important beliefs with their predecessors. The Boasians, for example, cooperated with and accom-

modated themselves to the conservative physical anthropologists. The critics of IQ testing never gave up on the tests. The geneticists continued to cling to a eugenic ideal. And the sociologists used norms of white society as their standard, rejecting the radical relativism of the cultural anthropologists.

Finally, a combination of political, social, and scientific developments produced the critique of scientifically sanctioned racism. Science did not do it on its own; it took science shaped by the political motives of political actors. Practitioners of both the biological and especially the social sciences turned toward political activism, toward the dream of achieving a just society. That commitment, combined with the fallout from the Great Depression, with revulsion at the lynching of African Americans, and with horror at the Nazi campaigns, helped shape their critique of racism in the sciences. We have seen here the roots of this critique and its gradual development during the 1930s. World War II radicalized the critique. The conservatism that was countenanced earlier and the ties to earlier racial ideas lost their acceptability during and after the war. Only after the war was the liberal orthodoxy on race definitively established.

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