“As Nature Has Formed Them”: The History and Current Status of Racial Difference Research

RUSSELL SKIBA
Indiana University

Background/Context: Research in the latter half of the 20th century purporting to show significant racial differences in intelligence and social behavior appears to pit civil rights concerns against the freedom of scientific inquiry. The core hypotheses and presumptions of recent research on racial difference are not new, however, but spring from a two-century-old program of research that has sought to demonstrate racial differences in socially valued traits.

Purpose/Objective/Research Question/Focus of Study: The purpose of this review was to explore the history of racial difference research in order to (1) elucidate the central themes of that research and (2) explore the reasons for the persistence of those themes into modern racial difference research.

Research Design: The investigation is a historical analysis of research on racial differences from the late 18th century to the present.

Conclusions/Recommendations: Both the methodologies and the willingness to express the core hypotheses of a fixed differential between races on socially important characteristics have changed over time, yet adherence to a set of core research questions has remained relatively unchanged across generations of researchers. Although the consistent conflation of its political and scientific aims has, to some extent, compromised the scientific status of racial difference research, consistent links to social and economic policy have also ensured its intergenerational reproduction. Convergent shifts across a number of disciplines suggest that a Kuhnian-type paradigm shift may be under way that will redefine both the strategies and the types of questions that may characterize future research in the areas of race, ethnicity, and culture.
On October 14, 2007, Dr. James D. Watson, winner of the Nobel Prize for his part in the discovery and elucidation of the structure of DNA, created an international furor when he stated in an interview with one of his former graduate assistants that he was “inherently gloomy about the prospect of Africa” because “all our social policies are based on the fact that their intelligence is the same as ours—whereas all the testing says not really” (Hunt-Grubbe, 2007). It was not the first time in recent memory that research-based claims concerning racial disparities have been made in a highly public forum. In 1994, Harvard psychologist Richard Herrnstein teamed up with policy researcher Charles Murray to publish *The Bell Curve*, a statistical tome that included consideration of the Black-White intelligence test score gap and warned of the dire consequences to American society of such discrepancies (Herrnstein & Murray, 1994). Twenty-five years previously, Arthur Jensen (1969) published a 123-page article in the *Harvard Educational Review* entitled “How Much Can We Boost IQ and Scholastic Achievement?” in which he put forth the “not unreasonable hypothesis that genetic factors are strongly implicated in the average Negro-white intelligence difference” (p. 82).

At the center of all three events were well-established, highly regarded figures in their field, and clearly their assertions created intense controversy in both the popular press and scholarly venues. Both Jensen’s article and *The Bell Curve* yielded hundreds of books, scholarly pieces, and popular articles debating methodological, conceptual, or political issues. Although the academic response to Watson was less extensive, his remarks led to the cancellation of a European speaking tour and his early retirement as chancellor of the Cold Spring Harbor Laboratory (Maugh, 2007). In all three instances, supporters argued in turn that such intense reactions were inconsistent with the principle of freedom of inquiry and might even be politically motivated (“Leading article: An unworthy intervention,” 2007; Murray, 1996).

Such arguments raise complex and difficult ethical issues concerning the scope and consequences of academic research. On the one hand, academic freedom is a virtual prerequisite to continued scientific progress. It is difficult to imagine how true science could survive absent independence from political constraints. On the other hand, given that the findings of research on racial differences have historically provided intellectual justification for social and educational policies promoting subjugation, oppression, and discrimination, those who have been the subjects of such research might well be forgiven for seeing themselves as its victims.

The identification of racial differences in socially important traits is by no means a recent or idiosyncratic development, but rather is firmly
grounded in a tradition of racial difference research extending back more than 200 years. Today, the term eugenics conjures up vaguely sinister impressions of better baby contests from the early 20th century. Yet at its zenith, eugenics represented both a scholarly and popular movement that was among the most widespread and successful in American history in translating its core tenets into social policy (Black, 2003). Eugenics was itself an adaptation, based on the theory of evolution, of the racial difference research of 19th-century American School of Ethnology (Nott & Gliddon, 1871). In turn, the central questions of ethnology can be traced back to the debates of 18th-century natural history concerning the place of different races in Creation (Ceaser, 2000).

It is the thesis of this article that modern controversies created by research on race-based differences in intelligence and behavior cannot be understood apart from the 200-year context of racial difference research from which the more current efforts emerged. Thus, the purpose of this article is to trace the history of research on racial differences from its origins to the current day, in the hope that the increased perspective of history can assist in the clear analysis of current exemplars. The article draws on historical analysis to address two research questions: (1) To what extent are modern (e.g., since 1960) examples of racial difference research consistent with historical exemplars, going back to the 18th century? (2) How has a research program that has been unsuccessful for 200 years in finding reliable evidence for its core hypotheses managed to survive? Consideration of the first question begins with a review of the emergence of race as a specific construct in the 16th and 17th centuries.

EMERGENCE OF THE CONSTRUCT OF RACE

Recent scholars have come to the understanding that the American concepts of race and racism were driven by the development of the institution of slavery in America (Frederickson, 1988; Nash, 2000; Smedley, 1999). Three important themes run through this emerging understanding of the development of the concept of race.

Race as a recent concept. The term and construct race is by no means an ancient understanding of human differences. Use of the term to describe groups of individuals appears to date back to the 16th century as a description of the noble and good lineage of kings, or bishops going back in a line to St. Peter (Hannaford, 1996). Despite its increased use as a descriptive term applied to geographically distinct peoples, use of the term race remained inconsistent and uncrystallized until the 17th century.

Slavery as an economic motivation for racial discrimination. Although the
importation of slaves into the American colonies began with the arrival of Africans as servants at the Jamestown colony in 1619, the institutionalization of lifelong slavery began later. In a series of laws passed throughout the colonies between 1660 and the turn of the century, Blacks lost the right to hold property, to engage in any kind of commercial activity, to testify in a trial, to congregate, to travel without permission, or to engage in marriage or parenthood (Finkelman, 1993a).

The primary determinant of the 17th-century crystallization of race appeared to be economic. As the slave trade expanded, it provided a cheaper source of labor than the recruitment and importation of indentured servants (Smedley, 1999). Regulations defining Blacks as a separate and lower class also served to reduce class tensions among White Europeans by reengaging White lower class men into an alliance with wealthy slave-owners.

Slavery and the moral necessity of inferiority. Economic necessity may have driven the emergence of racial categories in the early colonies, but it cannot fully explain the virulence of the distaste and eventual hatred for those who were enslaved. Ironically, it may well have been the moral context of the Christian world in which the colonies were developing that required the “transmutation of the Negro’s human status” (Smedley, 1999, p. 142). Enslavement of free peoples required high levels of socially sanctioned physical and emotional terror to maintain those individuals in captivity. Such levels of oppression could be justified in a Christian society only to the extent that those who were enslaved were seen as less than fully human. Noel (1972) argued that racism in America emerged as a consequence rather than a cause of slavery, stating, “The sharp inconsistency—indeed, the blatant clash—between slavery and . . . values necessitated a racist ideology to justify and thereby assure preservation of a profitable institution which overtly denied these central values” (p. 164).

RACE AND THE ENLIGHTENMENT

African enslavement led to a profound contradiction for a society based on the humanitarian principles of Christianity, a contradiction that could be resolved only through an appeal to nature. As the Enlightenment dawned, however, the authority for defining the natural order began to undergo a profound shift. No longer was an appeal to God’s creation sufficient; rather, the rules and processes of scientific inquiry began to be accepted as the ultimate arbiter in defining the nature of things. Thus, as
a conflicted society sought to justify the increasingly hardened divisions between master and slave, definitions of racial differences increasingly became the responsibility of science and scientists. The emerging Enlightenment field of natural history thus brought the consideration of race under the purview of science.

ENLIGHTENMENT THINKERS AND RACE

Just as the status of the slave was being formalized through legislation in the 16th and 17th centuries, so too did racial categories and racial stereotypes begin to crystallize in science during the Enlightenment. Carolus Linnaeus, whose vast classificatory system in *Systemae Naturae* formed the basis for much of the taxonomical nomenclature still used today, also provided the earliest European classification of the races of mankind (Linnaeus, 1735/1970): *Americus* (“reddish, choleric, and erect . . . obstinate, merry, free”), *Asiaticus* (“sallow, melancholy, stiff . . . severe, haughty, avaricious”), *Africanus* (“black, phlegmatic, relaxed . . . crafty, indolent, negligent”), and *Europeaeus* (“white, sanguine, muscular . . . gentle, acute, inventive”)

Enlightenment thinkers in the main accepted a set of racial categories similar to those proposed by Linnaeus, but with an increasingly pronounced hierarchy of associated value. Blumenbach (1776/1997) argued that, beginning with the Caucasians, the “most beautiful race of men” (p. 86), the races degenerated progressively to the lowest races, the Ethiopian and the Mongolian. Kant, writing in 1775, believed that all races had descended from a “stem race” of “white brunette people” who were, by his time, best approximated by the White inhabitants of Europe, particularly those of northern Germany. In a footnote to his essay, “Of National Characters,” British philosopher David Hume stated, “I am apt to suspect the negroes and in general all other species of men (for there are four or five different kinds) to be naturally inferior to the whites” (Hume, 1754/1997, p. 33).

For Americans, the prototypical Enlightenment thinker was Thomas Jefferson. Jefferson brought the natural rights philosophy of the Enlightenment to fruition with the soaring rhetoric of the Declaration of Independence. Yet even as he laid the groundwork for American democracy, he acted as progenitor to a long tradition of research based on racial inequality. It may be no accident that the thinker who best characterizes Enlightenment thinking for Americans also became a lightning rod for the complex and conflicted conversation about race.
THOMAS JEFFERSON: “AS DISTINCT AS NATURE HAS FORMED THEM”

In 1780, then governor of Virginia Thomas Jefferson received a request from the secretary of the French delegation, sent to all colonial governors, asking for an account of affairs and conditions in each state (Robinson, 1971). Jefferson wrote the response the next year, published in 1787 as Notes on the State of Virginia. The work, a compendium of descriptions of natural features, climate, population, military forces, religion, manufacturing, and even public revenue, was devoted in large measure to countering the French naturalist Buffon’s beliefs regarding the degeneracy of those who had settled in the New World. That work also contained some of the most tortured reasoning in any of Jefferson’s work, when he turned to the topic of slavery and race.

As both a proponent of natural rights and a lifelong slaveholder, Jefferson faced a deep personal dilemma. Although he recognized its effects on slaves and slaveholders, and he genuinely feared that the slavery debate would one day tear the republic apart, he was himself deeply mired in the institution of slavery (Ceaser, 2000). A poor money manager, Jefferson could never bring himself to reduce his dependence on the slave economy (Finkelman, 1993b). Thus, when he came to the topic of slavery in Query XIV, Jefferson described a proposal to emancipate all slaves. He offered specific suggestions for their education and the provision of supplies necessary for them to become “a free and independent people, and extend to them our alliance and protection till they have acquired strength” (Jefferson, 1787/1829, p. 144).

There followed an extended discussion as to why freed slaves could not be allowed to remain in White society and needed to be resettled, perhaps in the far west. Jefferson began by enumerating political reasons—deep-rooted White prejudices and “ten thousand recollections, by the blacks, of the injuries they have received”—that would make it impossible for the races to coexist. Beyond those political reasons, however, Jefferson spelled out a host of “physical and moral” reasons why intermixing would not be feasible. The subsequent eight pages were a disquisition on the inferiority of Blacks in America, whom he saw, in his words, “in reason much inferior, as I think one could scarcely be found capable of tracing and comprehending the investigations of Euclid; and that in imagination they are dull, tasteless, and anomalous” (Jefferson, 1787/1829, p. 146). In arguing for the natural inferiority of Blacks, Jefferson had to prove that observed racial differences were inherent, and not due to the depredations of slavery. Thus, Jefferson argued that
the condition of Roman slaves was “much more deplorable than that of the blacks on the continent of America” (p. 149), yet they were able to produce “the rarest artists” and scientists.

The Enlightenment represented a critical junction in the transition from religious to scientific reasoning; in matters of race, this expressed itself as a debate concerning single or multiple creation, *monogenism* vs. *polygenism* (Cea ser, 2000; Wolpoff & Caspari, 1997). There was little debate at the time that the inferiority of other races was preordained in the Great Chain of Being (Smedley, 1999). Yet although the possibility that Africans represented a separate species had been raised by Voltaire, few dared to challenge the authority of the church by declaring that different races were so distinct as to be different species (Cea ser). Jefferson was not unmindful of this debate and seemed to soften his arguments about the Black race “where our conclusion would degrade a whole race of men from the rank in the scale of beings which their creator may perhaps have given them” (Jefferson, 1787/1829, p. 150). The way out of this theological controversy for Jefferson was to express scientific skepticism regarding the monogenesis/polygenesis debate:

To our reproach it must be said, that though for a century and a half we have had under our eyes the races of black and of red men, they have never yet been viewed by us as subjects of natural history. I advance it therefore as a suspicion only, that the blacks, whether originally a distinct race, or made distinct by time and circumstance, are inferior to the whites in the endowments both of body and mind. It is not against experience to suppose, that different species of the same genus, or varieties of the same species, may possess different qualifications. (p. 150)

Through his apparent skepticism, Jefferson sidestepped the uncomfortable debate about creation, calling on the field of natural history to examine the inferiority of Blacks as a scientific object of study. Regardless of whether the reason for that inferiority was separate creation or a gradual degeneration since creation, Jefferson closed by reaffirming that there could be no doubt that the gulf was wide and fixed by nature, requiring the perpetual segregation of the two races: “Will not a lover of natural history then, one who views the gradations in all the races of animals with the eye of philosophy, excuse an effort to keep those in the department of man as distinct as nature has formed them?” (pp. 150–151).
Jefferson’s Data

For a man considered to be among the foremost naturalists of his time, Jefferson presented surprisingly little data in support of his assertions of Black inferiority. His reasoning was primarily an armchair consideration of the relative conditions of American and Roman slaves, or the status of Black arts and literature.

Yet the ultimate import of Jefferson’s essay on Black inferiority was in how it was framed and who did the framing. In his time, Jefferson was among the most revered of thinkers, the epitome of the Enlightenment man in America. As Winthrop Jordan (1968) noted, “His remarks about Negroes in the only book he ever wrote were more widely read, in all probability, than any others until the mid-nineteenth century” (p. 429). By stating his supposition concerning Black inferiority in the form of “a suspicion only,” Jefferson clearly meant to put forth a scientific hypothesis, encouraging further investigation of that hypothesis. Those who were to follow in the 19th century were more than willing to take up the challenge.

19TH-CENTURY RACIAL DIFFERENCE RESEARCH: FROM SKEPTICISM TO CERTAINTY

The earliest naturalist to explore the racial hypotheses laid out by Jefferson was the British physician Charles White (1799) in his book *An Account of the Regular Gradation in Man*. White drew on Jefferson and other leading naturalists to develop his central thesis: that there existed in nature a distinct hierarchy of creatures from man through lower animals reflecting the Great Chain of Being. He then applied that logic to varieties of men, rank ordering anatomical features, from slope of the skull to nose cartilage to penis size, from European man through “the African, who appears to approach nearer to the brute creation than any other of the human species” (White, 1799, p. 42). Although he reported that the African “exceeds the European in seeing, hearing, smelling, the faculty of memory, and the power of mastication,” White was less reticent than Jefferson in embracing polygenism. He concluded that “the Negro, the American, some of the Asiatic tribes, and the European seem evidently to be different species” (p. 134).

Indeed, the monogenesis/polygenesis debate, whether the varieties of man constituted one or multiple species, formed the core concern of racial difference research during the first half of the 19th century. Princeton University president Dr. Samuel Stanhope Smith supported an environmentalist interpretation of monogenesis, arguing that although
there was a clear racial hierarchy favoring Europeans in both beauty and intelligence, environmental changes would lead over time to a progressive disappearance of both physical and intellectual differences (Dain, 2002). Failure to observe such development in the physical characteristics of races over time, however, was interpreted by 19th-century thinkers as disconfirmation of monogenesis and evidence that the real science lay in polygenesis (Ceaser, 2000).

The favored data of what became known as the American School of Ethnology was anthropometry, the measurement of anatomical differences by race. Professor of anatomy Samuel Morton rose to prominence by making painstaking measurements using birdseed and lead shot to compare different races’ skull capacities. In his report on the racial differences in his collection of 600 skulls in *Crania Americana*, Morton (1839) described the Caucasian Race as “distinguished for the facility with which it attains the highest intellectual accomplishments” (p. 5) and reported that the Ethiopian Race or Negro Family included “a singular diversity of intellectual character, of which the far extreme is the lowest grade of humanity” (p. 7). Anthropometric measurements were made of virtually all parts of the human anatomy in an attempt to ground a racial hierarchy in physiological differences. Investigations after the Civil War focused on the size, weight, or number of folds in the brain; such data were used to support the hypothesis that although Whites and Blacks were equal in capability until puberty, negro brain development stopped at that point (Haller, 1995).

By the mid-19th century, tentative challenges to monogenesis had given way to a consensus among researchers that, from time immemorial, different races represented different species. Josiah Nott and Samuel Gliddon compiled anthropometric results into a massive encyclopedia of racial differences, *The Types of Man*, first published in 1854. Among the most popular works of the 19th century through its 10th printing in 1871, the volume was intended by its authors to lay to rest once and for all the doctrine of a single creation (Frederickson, 1988). In arguing that in physical stature or capability, “the Negro has remained unchanged in Africa . . . for 3000 years” (Nott & Gliddon, 1871, p. 249), the ethnologists sought to establish that racial differences must be presumed to be fixed and immutable (Gould, 1996).

**DATA OF THE AMERICAN SCHOOL**

Those who engaged in 19th-century race research saw themselves as investigating what were essentially scientific questions. Charles White (1799) professed to be a thoroughgoing opponent of the slave trade;
although he acknowledged the danger that his writings might be used in support of that institution, he insisted that his aim was to “simply investigate a proposition in natural history” (p. 137). In his preface to Types of Mankind, Nott described the science of ethnology as the scientific study of the mental and physical characteristics of races:

What was the primitive organic structure of each race?—what such race’s moral and psychical character?—how far a race may have been, or may become, modified by the combined action of time and moral and physical causes?—and what position in the social scale Providence has assigned to each type of man? (Nott & Gliddon, 1871, p. 49)

The methods of anthropometry that were the primary tool of the American School of Ethnology have been discredited in terms of their accuracy and validity (Gould, 1996; Lindqvist, 1997). At the time, however, those who conducted these measurements believed they had conclusively demonstrated three truths. First, ethnologists believed they had proved irrefutably that American Negroes were both intellectually and physically inferior, and the stability of that inferiority from the dawn of civilization ruled out the possibility that such differences could in any way be remediated (Nott & Gliddon, 1871). Second, 19th-century racial difference research was adamant in proclaiming that the mixing of the races, variously termed amalgamation, miscegenation, or hybridization, would inevitably lead to less evolutionarily fit offspring, and eventually to a very weak line. Third, erroneous data from the 1880 and 1890 censuses seemed in general to show the population of Black Americans declining precipitously relative to the White population. By the end of the 19th century, these data were woven together to form the basis for a widely accepted theory that the Negro race was on its way to extinction (Barringer, 1900; Hoffman, 1896; Tillinghast, 1902).

INFLUENCE OF THE AMERICAN SCHOOL OF ETHNOLOGY

The work of the American School proved central in supporting the institution of slavery in the first half of the 19th century and the Southern backlash against Reconstruction in the latter half of the century. Frederickson (1971) argued that as calls for abolition became stronger and more public beginning in the 1830s, scientific “proof” that Africans and their descendants in America constituted a different species became key in arguing that Blacks were in no way entitled to the rights guaranteed by the Constitution and Bill of Rights. As an inferior species since
time immemorial, ethnologists argued that the state of being dominated was in fact natural for African and American Negroes (Barringer, 1900; Nott & Gliddon, 1871). Indeed, the vice president of the Confederate States of America, Alexander H. Stephens, proclaimed in his famous Cornerstone Speech that the Confederacy was founded “upon the great truth that the Negro is not equal to the white man, that slavery—subordination to the superior race—is his natural or normal condition” (Frederickson, 1971, p. 64).

Thus, what had been offered as merely a suspicion by Thomas Jefferson at the close of the 18th century—that the difference between the races was vast and immutable—had become a well-articulated and pervasive certainty by the end of the 19th century. This certitude in turn informed policy decisions further circumscribing the rights and opportunities of Black Americans. In the Dred Scott (1856) case, in which the court decided that Scott, a runaway slave, must be returned to his master, Justice Roger Tawney argued in the majority opinion that the Founding Fathers could not have intended to extend Constitutional rights to Black Americans:

They [the Negro race] had for more than a century before been regarded as beings of an inferior order, and altogether unfit to associate with the white race, either in social or political relations; and so far inferior, that they had no rights which the white man was bound to respect. (Dred Scott, 1857, in Blaustein & Zangrando, 1970, p. 162)

In Plessy v. Ferguson (1896), Justice Billings Brown also drew on the prevailing wisdom that racial inequality had been conclusively proved:

Legislation is powerless to eradicate racial instincts or to abolish distinctions based upon physical differences, and the attempt to do so can only result in accentuating the difficulties of the present situation. . . . If one race be inferior to the other socially, the Constitution of the United States cannot put them upon the same plane. (Plessy v. Ferguson, 1896, in Blaustein & Zangrando, 1970, pp. 308–309)

So widespread was the acceptance of Black inferiority by the late 19th century that “accommodationist” African American leaders such as Booker T. Washington operated on the assumption of White superiority, counseling Blacks not to expect equality, but rather to contribute to American society within the limits of their accepted lower status (Haller, 1995). Yet,
however cemented the certainty of racial difference had become in the scientific and public mind, both the importance of racial themes and the certitude with which they were expressed would be further amplified in the new century with the emergence of the eugenics movement.

EUGENICS: THE ZENITH OF RESEARCH ON RACIAL DIFFERENCES

The first and main point is to secure the general intellectual acceptance of Eugenics as a hopeful and most important study. Then let its principles work into the heart of the nation, who will gradually give practical effect to them in ways that we may not wholly foresee. (Galton, 1909, p. 43)

SIR FRANCIS GALTON AND THE FOUNDING OF EUGENICS

The racial paradigm of the 19th century could well be said to have reached its fruition in the rise of the field of eugenics. The term, meaning “well-born,” was coined by Francis Galton in 1883. In establishing his laboratory for National Eugenics, Galton defined the field as “The study of agencies under social control that may improve or impair the racial qualities of future generations, either physically or mentally” (Pearson, 1909a, p. 10).

Sir Francis Galton, a cousin of Charles Darwin, was a 19th-century scholar who became known as the father of modern statistics (Blacker, 1952; Tucker, 1994). The theory of evolution was central to Galton; like his cousin, he believed that the same evolutionary laws that governed the reproduction and selection of physical traits in nature also governed the selection of moral and intellectual talents in a population. Fascinated with the mathematical description of populations, Galton developed the notion of the Gaussian or normal curve to describe the distribution of physical characteristics and mental abilities across the population.

The majority of his attention, however, was devoted to the upper end of that curve. In his early work culminating in Hereditary Genius (1892), Galton argued that “men of eminence” were also more likely to have relatives among those in leadership positions. Galton also introduced the notion of dysgenesis, that the lower, less well-endowed classes are more fertile, whereas the upper, more capable classes tend to propagate at a much slower rate; over time, this differential fertility could be expected to drive down the capacity of the race as a whole. This prospect he viewed with alarm, given that “the possibility of improving the race of a nation depends on the power of increasing the productivity of the best stock” (Galton, 1901, p. 663). To ensure the best stock, Galton proposed an
ideal state he called *Laputa*, in which competency examinations would identify the worthiest men and women, and governmental fiscal incentives, such as rent assistance, would be offered to increase the propagation of the upper classes.

Although much of his thinking focused on maintaining and improving the quality of the English society, Galton also expanded evolutionary thinking to focus on race competition, emphasizing that eugenics “co-operates with the workings of Nature by securing that humanity shall be represented by the fittest races” (Galton, 1909, p. 42). unsurprisingly, the fittest races he identified were those of Northern Europe. His descriptions of American Indians were based on the writings of “excellent observers”: “The mothers have been seen to commit infanticide without the slightest discomposure, and numerous savage tribes have died out in consequence of this practice. The American Indians are eminently nongregarious. They nourish a sullen reserve, and show little sympathy with each other, even when in great distress” (Galton, 1865, p. 321).

African Americans ranked even lower in Galton’s estimation:

> The number among the negroes of those whom we should call half-witted men is very large. Every book alluding to negro servants in America is full of instances. I was myself much impressed by this fact during my travels to Africa. The mistakes the negroes made in their own matters, were so childish, stupid, and simpleton-like, as frequently to make me ashamed of my own species. (Galton, 1892, p. 339)

In the end, echoing Kipling’s *White Man’s Burden*, the superiority of English and European society seemed to make the necessity of solving the problems of dysgenesis all the more urgent: “To no nation is a high human breed more necessary than to our own, for we plant our stock all over the world and lay the foundation of the dispositions and capacities of future millions of the human race” (Galton, 1901, p. 665).

*Galton’s Use of Data*

Galton’s contributions to a number of fields of scientific endeavor were due in large measure to his painstaking collection of data. He revolutionized the field of meteorology by devising the first meteorological charts, and he invented the field of fingerprinting through his system of cataloguing fingerprints (Black, 2003). In the field of statistics, Galton is recognized as the father of the normal curve and the theoretical basis of correlation.
Yet at no point during his long career did Galton apply his considerable skill in counting, measurement, or statistics to the collection or analysis of any data bearing on cross-racial comparisons. Rather, his observations on differential racial capacities were restricted to anecdotal reports of “excellent observers,” from which he concluded, “It is seldom that we hear of a white traveler meeting with a black chief whom he feels to be the better man” (Graves, 2001, p. 97). As was the case with Jefferson, Galton received and passed on the racial opinions of others of his time; his stature ensured that those ideas would become the basis for the extensive scientific exploration that would soon ensue on both sides of the Atlantic.

THE EARLY BRITISH EUGENICS MOVEMENT

Despite an initially cool reception to his early work (Paul, 1995), Galton’s work came to be widely recognized and highly influential in both Britain and the United States. Galton himself wrote the introduction for the first issue of the *Eugenics Review* in 1909. Many of the leaders of the British eugenics movement were highly recognized statisticians, like Sir Ronald Fisher, developer of the analysis of variance.

But the most influential voice in the growth of British eugenics was Galton’s pupil and handpicked successor, Karl Pearson, who became the first director of the Galton Laboratory of National Eugenics and the first Galton Professor of Eugenics at the University of London. Like Galton, Pearson was one of the most important early contributors to the field of statistics, developing the methodology of correlation and regression, and first defining the concept of the standard deviation. Pearson saw himself as something of a radical thinker and socialist, and he viewed his work in eugenics as part of an important social revolution (Bruinius, 2006).

As the heir apparent of Galton, Pearson brought the ideas of British eugenics into a clearer, if not harsher, focus. Although he insisted that the relative contributions of nature and nurture must not be assumed but measured, he asserted, “Thus far our experience is that nature dominates nurture and that inheritance is more vital than environment” (Pearson, 1909b, p. 19). Like Galton, he was convinced that the physically inferior and mentally slow were more fertile, and he feared the specter of dysgenic trends in character and intelligence over time. As an illustration, he presented a picture of a set of skulls he had collected, arguing, “The process of deterioration I have exaggerated in that series of skulls is in progress. . . . To check this movement I take to be the function of practical eugenic action” (Pearson, 1909b, p. 19).

Pearson viewed dysgenesis not simply as a problem of differential
fertility, but as an issue of man tampering with basic evolutionary processes (Pearson, 1909b). He reasoned that in nature and in more primitive societies, the laws of natural selection operated mercilessly to weed out the weaker organisms. In more advanced societies, charitable contributions that assisted the poorer classes interfered with that weeding-out process. Without that natural process, the continuing presence of those whom natural selection would otherwise eliminate would eventually threaten the strength of the race. Pearson concluded that, as this threat became increasingly clear, society would itself need to take on the selective work of nature:

How does Nature work through the selective death-rate? . . . . By the death of those who cannot stand the strain of life, she removes the weaker stock before it has had any, or its full quorum, of offspring. When man knows better than at present what are the qualities which fit him for his task and for his environment, he may consciously undertake what Nature has done for him by her selective death-rate; to prepare him for this function is the true aim of the science of eugenics. (Pearson, 1909b, p. 23)

In his lecture, The Problem of Practical Eugenics, Pearson (1912a) argued vigorously that labor reform laws promoting maternity leave for women and prohibiting the employment of minors in factories were decidedly noneugenic. He concluded, “A progressive and imperial nation can only afford to be kind to its weak in body or mind if that kindness synchronises with the determination that each successive generation shall be better born” (Pearson, 1909b, p. 38).

Like his mentor, Pearson extended the principles of eugenics to cross-race competition and clearly found no other race that was the equal to his own:

Consider the primitive races of to-day, and ask whether any amount of tradition would make them the equal of the higher races. Our views of the Red Indian are largely tinged with sentiment—study him dispassionately, and you will find his marked inferiority to the white man. . . . The Australian native is tens of thousands of years in all phases of development behind the white who has displaced him. (Pearson, 1912b, p. 6)

Pearson called the Negro “the most difficult of all problems, which the white man, through his lack of knowledge to act socially, has brought and
is still bringing upon himself” (Pearson, 1912b, p. 6). In his Biometric Laboratory, Pearson undertook as “complete a study of the Negro skull as lay in our power” and concluded that the selection processes that produced the White skull were more “stringent” and that the Negro thus lay closer to the stem or childhood of man. Pearson then reasoned that more childlike races must be treated as such: “If the negro or any other race belongs to the childhood of man’s evolution, we are justified, even for their own benefit, when we have suspended the stringent action of natural selection, in treating them as children” (Pearson, 1909b, p. 9).

Pearson’s Data on Race

An even more talented mathematician than Galton, Pearson invented or laid the groundwork for many of the statistical procedures still in use today, most notably correlation and regression. Yet the almost religious fervor with which Pearson approached the need for statistical measurement and proof did not extend to his sweeping conclusions on the topic of race. When he presented any data at all to buttress his arguments on race, it was based on the same methodology as that of Samuel Morton—the measurement of skulls—but without Morton’s precise measurement. Although Pearson believed that with sufficient funds and “dictatorial power,” it would be possible through selective breeding to lighten the skin color of Africans in a few generations, he stated, “I doubt whether the cranial changes would be nearly as simple, and those who assert that the intellectual differences are nothing or can easily be equalized by tradition and education are giving expression rather to hope and belief than to knowledge” (Pearson, 1909b, p. 8). It is indeed ironic to consider the quality of the data that Pearson called on to crush these unrealistic hopes and beliefs.

Although the intellectual underpinnings of the eugenics movement originated in Britain, the British adherents of eugenics were not in the main successful in transforming their social agenda into a political reality. The program of positive eugenics favored by Galton and Pearson, convincing the ablest to marry among themselves and increase their productivity, remained mostly a dream in Galton’s mythical land of Laputa. Although the British Eugenics Education Society tried, under the leadership of Charles Darwin’s grandson Leonard, to pass sterilization statutes, most of that legislation failed in England (Black, 2003). It was in America and Germany that eugenics found its deepest roots and most active translation into policy.
Whereas the British eugenics program had little lasting impact on social policy, the message of eugenics fell on more fertile soil in America. With the end of Reconstruction and the Supreme Court decision that the civil rights law of 1875 was unconstitutional (Gossett, 1997), the Southern states were free to begin the rollback of rights that became known as Jim Crow. Segregation received the imprimatur of the Supreme Court in *Plessy v. Ferguson* (1897), and Blacks had once again lost the right to vote in most Southern states by the turn of the century. Often, the reaction of Northern Whites to the rollback of those rights was not protest, but acquiescence and support. An editorial in 1900 in *The New York Times* opined, “Northern men . . . no longer denounce the suppression of the Negro vote in the South as it used to be denounced in the reconstruction days. The necessity of it under the supreme law of self-preservation is candidly recognized” (Gossett, 1997, p. 285). More than 2,500 Black men and women were lynched between 1889 and 1918, often for offenses such as disputing with a White man, attempting to register to vote, asking a White woman in marriage, or peeping in a window (Black, 2003; National Association for the Advancement of Colored People, 1919/1969; Gibson, 1979). In describing the tenor of the times, Black concluded, “America was ready for eugenics before eugenics was ready for America” (p. 21).

American academics and scientists made their contribution to the rising tide of American racism in the late 19th and early 20th centuries. Professor and soon to be president of Princeton University Woodrow Wilson wrote in 1901 that the nation faced imminent ruin from racial mixing unless “at last the whites who were the real citizens got control again” (Gossett, 1997, p. 284). It remained only for the movement to gain institutional support and a champion; those needs were realized in the leadership of Charles Davenport.

**CHARLES DAVENPORT AND THE RISE OF AMERICAN EUGENICS**

Charles B. Davenport was a Harvard-trained biologist who developed an interest in genetics and especially in the ideas of Sir Francis Galton, initiating a correspondence with him in the late 1890s. When Andrew Carnegie opened the Carnegie Institute in 1902, Davenport proposed an institute for the “analytic and experimental study of . . . race change” (Black, 2003, p. 36), and the Carnegie Institution’s Station for
Experimental Evolution at Cold Spring Harbor opened in 1904. Because eugenics was based on theories of breeding, Davenport helped establish the Eugenics Section of the American Breeders Association, whose members included Alexander Graham Bell, president of Stanford University and Indiana University David Starr Jordan, and Luther Burbank. In 1910, Davenport opened the Eugenics Record Office (ERO) at Cold Spring Harbor and finished his book, *Heredity in Relation to Eugenics* (Davenport, 1911). From then, and well into the 1940s, Davenport was recognized as the leading figure in American eugenics.

The forward movement of the field of eugenics received a significant boost in the national consciousness when President Theodore Roosevelt highlighted the work of sociologist Edward Ross, who warned America of the dangers of “race suicide” and declared that women of good stock who chose not to marry were “race criminals” (Kline, 2001; Paul, 1995). Soon eugenics began to be a household word in America. Indeed, by 1914, the popularization of eugenics had succeeded so well that Davenport expressed concern that widespread association of the field with sex hygiene, “baby shows and contests, and even pure milk committees” could confuse the public “as to the real scope and aims of eugenics” (Davenport, 1914, p. 2).

In contradistinction to such popular misinterpretations, Davenport defined eugenics as “a branch of applied biology which looks toward the improvement of racial qualities,” counteracting the “extensive, almost universal hybridization that is going on in mankind” (Davenport, 1914, p. 1). The goal of the program of eugenics was “to secure in our population as large a proportion as possible of persons belonging to the strains whose traits are of the greatest value to our social order” (p. 1). The means to accomplish this were through both positive measures that encouraged marriage among the fitter stock (positive eugenics), and restrictive measures to discourage breeding among the lesser stocks (negative eugenics).

**Positive Eugenics**

Although writers in the American eugenics movement were aware that development was due to both nature and nurture, the overwhelming concern of the school was with heredity; as Davenport (1914) noted, “Eugenics rests on heredity, for permanent social improvement depends on the acquisition by the race of good hereditary traits” (p. 7). The rediscovered work of Gregor Mendel was viewed as central to the theory of eugenics, and Davenport was one of the first American authors to highlight the importance of Mendel. Davenport believed that all behavioral
characteristics could be defined by a single gene or unit characteristic (Marks, 1995), arguing that the purpose of eugenics was to determine “as accurately as possible the law of heredity in each human trait” (Davenport, 1914, p. 7).

Taking up where British eugenics left off, the American school of eugenics stressed the danger of dysgenesis and the necessity of a program of positive eugenics to prevent hybridization. Like his British counterparts, Davenport was startled by, in his words, the “low fecundity of our best blood.” He attempted to demonstrate that lower reproductive rates for Harvard graduates would mean that 1,000 Harvard graduates in the 1880s would have only 16 descendents in 2080, who would be ruled by the “scores of thousands of descendants of 1000 of the Rumanians, Bulgarians, Greeks, and hybrid Portuguese of the 1880’s. Such figures must make one fear for the future” (Davenport, 1914, p. 11). To encourage eugenic marriages, the ERO offered a service wherein young people about to marry could fill out a eugenic schedule to check on the fitness of their prospective spouse. As in Britain, however, positive eugenics never really caught on; only 2% of the schedules sent out were ever returned to the ERO (Davenport, 1914). Thus, American eugenics turned to more restrictive measures.

**Negative Eugenics**

In America, the problem of defining the “fitter stock” was more complex than in Britain. In England, a long tradition of class separation made it natural to define the fitter as the upper socioeconomic classes. In America, however, the myth of Horatio Alger firmly embedded in American consciousness the idea that class was by no means an insurmountable barrier to the man of courage and character. Thus, Victor Vaughan (1914), dean of the Department of Medicine and Surgery at the University of Michigan, wrote,

> No child should be born into this world save from good stock. However “good stock” needs some explanation. It does not mean riches. This is certain. . . . We say that such a young man or woman has a great inheritance, and by this we mean riches, but this is not the meaning given the term “good inheritance” by the eugenist. (p. 59)

Rather, the fit were those who were “relatively free from undesirable unit characteristics” (p. 60), especially feeblemindedness and criminality. Feeblemindedness was viewed as the chief threat to the welfare of the
state and the race. Arthur Holmes, dean of the faculty at Pennsylvania State University, wrote, “Expert opinion is now overwhelmingly on the side of the theory that feeble-mindedness in all its degrees, blighting and perverting the minds of children from birth, is an infliction from parents who never should have been permitted to bear such mentally misshapen creatures” (Holmes, 1914, p. 194). Criminality, again defined as genetic inheritance, was the other major race threat, requiring state control through a strict program of genetic screening and selective breeding (Vaughan).

The seriousness of these twin threats demanded decisive action. First, those in danger of producing feebleminded or criminal offspring should be segregated, institutionalized by the state. Goddard (1912) recognized the financial burden of such an enterprise but argued that “if such colonies were provided in sufficient number to take care of all the distinctly feeble-minded cases in the community, they would very largely take the place of our present almshouses and prisons, and they would greatly decrease the number in our insane hospitals” (Goddard, 1912, p. 105). Second, involuntary sterilization became a central tenet of the movement. In 1907, Indiana became the first state to pass legislation authorizing the sterilization of criminals and the unfit, and the Eugenics Society compiled state sterilization bills and offered model legislation to the rest of the nation (Eugenics Society, 1928). Finally, the movement became increasingly concerned about the threat of feebleminded and criminal elements overwhelming America through immigration. Edward A. Ross, one of the first professors of sociology and eventual Sociology Department chair at the University of Wisconsin, wrote of the threat to the United States posed by immigrants from Southern and Eastern Europe, whom he saw as inferior intellectually, morally, and even physically:

It is unthinkable that so many persons with crooked faces, coarse mouths, bad noses, heavy jaws, and low foreheads can mingle their heredity with ours without making personal beauty yet more rare among us than it actually is. So much ugliness is at least bound to work to the surface. (Ross, 1914, pp. 287–288)

AMERICAN EUGENICS AND RACE

Like their British counterparts, American eugenicists did not restrict themselves to purification within a single race, but extended notions of survival of the fittest to racial competition as well. Herbert John Webber, dean of the Graduate School of Tropical Agriculture at the University of California, stated in a lecture on eugenics at Cornell University,
We cannot but recognize the negro as an inferior race and the blending of a lower with a higher race. . . . The average negro in the United States to-day, is contented, happy and unambitious, desiring only sufficient food to supply his needs. . . . The negroes are lax in morals and think little of the marriage bond. (Webber, 1914, p. 163)

Based on these premises, he concluded that the mixing of the races was to be avoided at all costs.

Some of the clearest indications of the racial thinking of eugenics can be found in a lecture given by G. Stanley Hall at the University of Virginia in 1905. A founder and the first president of the American Psychological Association (APA), Hall was probably the single most influential teacher of psychology in the late 19th century. By 1898, he had supervised 30 of the first 54 American PhD’s in American psychology (Hilgard, 1987).

It is less widely known that Hall was also a key contributor to the field of eugenics, publishing in the first volume of *Eugenics Review* (Hall, 1909). In a 1905 address at the University of Virginia entitled “The Negro in Africa and America,” Hall outlined his thinking on the “Negro question.” Beginning with the peoples of Africa, whom he described as “lazy, improvident, imitative, fitful, passionate, . . . devoted to music and rhythm” (Hall, 1905, p. 350), Hall described differences between the Caucasian and the African in America:

No two races in history, taken as a whole, differ so much in their traits, both physical and psychic, as the Caucasian and the African. The color of the skin and the crookedness of the hair are only the outward signs of many far deeper differences, including cranial and thoracic capacity, proportions of body, nervous system, glands and secretions, vita sexualis, food, temperament, disposition, character, longevity, instincts, customs, emotional traits, and diseases. All these differences, as they are coming to be better understood, are seen to be so great as to qualify if not imperil every inference from one race to another. (Hall, 1905, p. 358)

Like Jefferson, Hall was unwilling to credit Blacks whose accomplishments stood out in American society. Discussing the significance of “the infiltration of white blood” into the Negro race, Hall argued that men like Frederick Douglas, Booker Washington, and W. E. B. Du Bois were not “typical negroes” but rather had received “more or less of the best Anglo-Saxon cavalier blood, brain, and temper” (p. 360).
Hall drew on his knowledge of child development and criminology to explain what he saw as an elevated Black sexual appetite. He believed that although the Negro child up to age 12 was as bright as the White child, the early and intense onset of the sexual instinct retarded Black children’s mental and moral characteristics, freezing the Negro for life at puberty. He believed that during slavery, hard work and fear were “potent restraints,” but with the end of slavery, “idleness, drink, and a new sense of equality have destroyed those restraints of imperious lust, which in some cases is reinforced by the thought of generations of abuse of his own women by white men upon whom he would turn the tables” (Hall, 1905, p. 362). Thus unleashed, reported Hall, the Negro of the South demonstrated a startling predilection for the rape of White women.

Like many Americans of his time, Hall viewed Reconstruction as a greater evil than the institution of slavery. He commented that the “artificial selection” of slavery (e.g., the selection of fitter individuals by slavers), as well as its harsh physical conditions, gave African Americans an improved musculature over their forebears in Africa. Hall concluded that slavery had “found the negro a savage and left him a trained laborer” (Hall, 1905, p. 357), and he viewed the slave plantation as “an industrial school, not entirely without analogies to the old New England farm which has trained so many of its best citizens” (p. 365). Viewing Reconstruction as a tragedy for the South, “involving enormous waste and confusion, an indebtedness equalling the entire cost of the war plus the value of slaves as property, negroizing more or less one-third of the States of the Union” (p. 364), he reasoned that the rollback of Black suffrage in the late 1890s was “a slow development of a reaction of intelligent citizens against a saturnalia of political corruption that arose under negro rule” (p. 365). He admitted that he had changed his earlier thinking on these matters—“For myself, an abolitionist both by conviction and descent, I wish to confess my error of opinion in those days” (p. 364)—and seemed relieved at how much the “new South” had been able to outgrow the evils of Reconstruction.

Unlike many eugenicists, Hall believed that the difficulties faced by Blacks were not insurmountable, but could be gradually erased by education. Lamenting the efforts of Southern congressmen who sought to close Black schools, he reasoned that education could help the Negro “slowly develop his full rights on an industrial, economic basis, for money and business know no color line” (Hall, 1905, p. 367). He concluded on a hopeful note:

If he can only be made to accept without whining patheticism and corroding self-pity his present situation, prejudice and all,
hard as it is, take his stand squarely upon the feet of his race, respect its unique gifts, develop all its possibilities, make himself the best possible black man and not desire to be a brunette imitation of the Caucasian, he will in coming generations fill a place of great importance and of pride both to himself and to us in the future of the republic. (p. 368)

In his belief that education could make a difference, Hall did not, however, speak for all eugenicists. A common theme in eugenics literature was that African Americans were so inferior in both mind and body that their extinction was inevitable, if not imminent. Joseph Tillinghast argued in 1902 that, because of flaws derived from their African ancestors, American Negroes were “so distinct from the white race” as to be incapable of adaptation in American society. Indeed, some writers suggested that desegregation and voter disenfranchisement could be viewed as remedies that could help speed that process along (Haller, 1995).

If the perceived inferiority of Blacks and American Indians was a legacy of past generations of racial science, eugenics made its own contribution to racial difference research by differentiating other European racial groups from Northern Europeans, often in terms of their scores on the emerging technology of intelligence testing. One of Hall’s students, respected educational psychologist and pioneer in the field of intelligence testing Lewis Terman, commented on a number of racial differences in intelligence:

The intelligence of the American Indian has also been over-rated, for mental tests indicate that it is not greatly superior to the average negro. Our Mexican population, which is greatly of Indian extraction, makes little if any better showing. The immigrants who have recently come to us in such large numbers from Southern and Southeastern Europe are distinctly inferior mentally. (Terman, 1922, p. 658)

Carl Brigham (1923), summarizing the results of the Army Alpha testing, found a distinct depression in scores for Southern Europeans, concluding,

In general, the Mediterranean race has crossed with primitive race types more completely and promiscuously than either the Alpine or the Nordic, with most unfortunate results. We must now frankly admit the undesirable results which would ensue from a cross between the Nordic in this country with the Alpine
Slav, with the degenerated hybrid Mediterranean, or with the negro, or from the promiscuous intermingling of all four types. (p. 208)

These perceptions of threat posed by hybridization led American eugenics to advocate vigorously for immigration reform and segregation of the feebleminded (Davenport, 1914).

When it came to Black Americans, early psychologists appeared no less ready than other Americans to embrace harsh solutions when deemed necessary. In his 1905 address, G. Stanley Hall (1905) blamed the problem of Black rapes of White women on the overpowering sexual instinct of the American Negro, and he noted that “the number, the boldness, and barbarity of the rapists, and the frequency of the murder of their victims have increased, till whites in many parts of the South have told me that no woman of their race is safe anywhere alone day or night” (p. 362). Hall informed his audience that the people of the South had begun to take the law into their own hands: “Of the 3,008 lynchings in this country during the twenty years ending with the close of 1904, a clear majority are connected with murder or with this crime so associated with it” (p. 362). Hall worried about the impact of lynching, but it was not the victims he was concerned about: “As a preventive of crime, lynching has something to be said for it, but more to be said against it. This wild justice is brutalizing upon those who inflict it, who are usually young men and boys” (p. 363). To address the problem of “ravishing,” Hall enumerated some “drastic cures” that he had reported hearing: “A drumhead court-martial with immediate execution of the guilty, emasculation, instant trial and abolishment of appeal, and even the legalization of burning at the stake. These suggestions show at least how desperate is the resolution in the white South that this crime must be checked at whatever cost” (p. 363). Ultimately, Hall concluded that it was up to the Black community to “feel their own responsibility, and cooperate with the law in enforcing justice and teaching not to palliate crime or even shield criminal members of it” (p. 363). Only such a solution appeared sufficient to resolve the quandary of the brutalizing effects of lynching on its young perpetrators.

EU G ENICS IN A CA DEMIA AND PSYCHOLOGY

Like Thomas Jefferson’s staunch belief in the inferiority of Blacks, the racial opinions of a man who might well be regarded as the founder of the field of psychology come as something of a shock today. Yet G. Stanley Hall was by no means unique in his embrace of the racial credo
of eugenics. A number of the early presidents of the APA were active in the American eugenics movement; at the same time that Robert Yerkes was president of the APA and developing the Army intelligence testing program in 1917, he was also on the board of the ERO (Blum, 1978). Virtually all the early leaders in the fields of educational and psychological statistics, educational psychology, and mental measurement—Galton, Pearson, Fisher, Thorndike, Terman, Goddard, Brigham—were also deeply involved and influential in the development and spread of eugenics. The field of psychology was not unique in its enthusiasm for race betterment and race competition; by the mid-1920s, there were hundreds of university courses on eugenics in departments of psychology, biology, zoology, sociology, economics, and anthropology, reaching some 20,000 students annually (Black, 2003).

THE DATA OF AMERICAN EUGENICS

As with British eugenics, the central figures in the development of the science of eugenics were statisticians and specialists in educational measurement. But the Americans proved more active in developing measurement technologies suited to the study of eugenics. Two approaches were most widely used, the pedigree chart and intelligence tests.

Pedigree Charts

Central to the proof of the superiority or inferiority of a given lineage was demonstrating how a fit marriage yielded a healthy or productive lineage, whereas an unfit match led to a progressively more degenerate line full of feeblemindedness, criminality, and offspring who became burdens on the state. Pedigree charts became a staple among eugenics writers, tracing the lineage of both unfit genetic lines, such as the Jukes, the Tribe of Ishmael, or the Hill Folk, and fit genetic lines, such as the royalty of England (Thorndike, 1914) or the lineage of Jonathan Edwards (Davenport, 1911; Wolcott, 1914).

Among the most influential of these studies was Henry Goddard’s study of the Kallikak family of Maine (Goddard, 1912). According to Goddard’s research, the scion of the family, Martin Kallikak Sr., fostered both a line of respectable citizens through his marriage, and a line riddled with defect and feeblemindedness through an illicit union with a “nameless girl” in a tavern. More recent writers have found that Goddard’s work was shot through with error and misrepresentation. Gould (1996) showed that photographs of the family were retouched to enhance the maliciousness of the faces of the “bad” Kallikaks, and Smith
(1985) tracked down the two lineages and found that the stories of the two sets of descendants had been adjusted so as to increase the standing of the “good” Kallikaks and reduce it for the disfavored Kallikaks.

The Development of Intelligence Testing

The most significant methodological advance made by those associated with eugenics was the intelligence test. The test was first developed by Alfred Binet in 1903 as a tool to identify which children would need remediation. Henry Goddard brought the scale to America in 1908, and Lewis Terman adapted Goddard’s scale into what eventually became the Stanford-Binet. In contrast to Binet’s original purpose, those who adapted the test for American use had an agenda more eugenic in orientation (Gould, 1996). In the opening chapter of his first handbook on intelligence testing, Terman (1916) labeled educational reform efforts such as individualized instruction “disappointing.” Rather, he believed that the preferred purpose of intelligence tests was to identify those of moron or feebleminded status, whose best hope was to be segregated from society: “In the near future intelligence tests will bring tens of thousands of these high-grade defectives under the surveillance and protection of society. This will ultimately result in curtailing the reproduction of feeble-mindedness and in the elimination of an enormous amount of crime, pauperism, and industrial inefficiency” (pp. 6–7).

Intelligence testing also began to be used for identifying racial differences in intelligence. In his first manual for the Stanford revision of the Binet Intelligence Scale in 1916, Terman wrote of Negro, Spanish American, and Mexican families of the Southwest:

Their dullness seems to be racial, or at least inherent in the family stocks from which they come. The fact that one meets this type with such extraordinary frequency among Indians, Mexicans, and negroes suggests quite forcibly that the whole question of racial differences in mental traits will have to be taken up anew and by experimental methods. The writer predicts that when this is done there will be discovered enormously significant racial differences in general intelligence, differences which cannot be wiped out by any scheme of mental culture. (Terman, 1916, p. 92)

In 1922, Terman admitted that “no intelligence scale at present can be regarded as satisfactorily accurate. What they do seems wonderful only by contrast with the methods they have replaced” (p. 655). Such an
admission did not stand in the way of using the results of such tests to make generalizations about racial differences, however. By 1930, more than 70 studies had examined and compared Black and White intelligence test score results for students, from young children through high school age, using individual or group intelligence tests (Shuey, 1958). Today’s Standards for Educational and Psychological Testing (American Psychological Association/American Educational Research Association, 1999) explicitly regards as unethical the use of measurement data to draw inferential conclusions unless the tests generating those data can be shown to be technically adequate for the purposes for which they are intended. Unfortunately, those standards had not yet been developed when tests that were admittedly not yet accurate were used to illuminate racial dullness.

THE IMPACT OF EUGENICS IN AMERICA

If British eugenics provided eugenics’ conceptual framework while failing to bring that theory to practical fruition, American eugenics must be viewed as highly effective in putting the ideas of negative eugenics into action. Clear goals, a political agenda shared by some of the era’s most powerful leaders, and widespread popular support gave American eugenics the momentum it needed to become one of the more successful policy agendas in the 20th century.

Accomplishments of Eugenics

Under the direction of Charles Davenport and Harry Laughlin, the political arm of the eugenics movement, the ERO, proved remarkably effective in translating eugenic principles into public policy. By 1940, strictures against racial mixing in marriage, or “miscegenation,” had been promulgated in 30 states (Miller, 1996). Laws permitting or promoting compulsory sterilization were passed in 18 states and upheld by the U.S. Supreme Court in 1927 in Buck v. Bell. Those laws ultimately led to the involuntary sterilization of more than 70,000 Americans between 1907, when the first compulsory sterilization bill was passed, and the early 1970s (Black, 2003).

But the crowning achievement of the eugenics movement was the passage of the Immigration Reform Act of 1924; data from eugenics researchers provided the statistical support that immigration reformers needed to move that bill through Congress. In 1912, Henry Goddard tested immigrants at Ellis Island using his version of the Binet test and found exceedingly high rates of feeblemindedness among the sample.
During World War I, with the support of the ERO, Harvard professor and president of the APA Robert M. Yerkes was able to convince the army to administer an early intelligence test, the Army Alpha test, to 1.75 million recruits (Gould, 1996). Professor Carl Brigham found that those tests showed that America was in danger of being overwhelmed by “inferior peoples” and concluded that “immigration should not only be restrictive but highly selective” (Brigham, 1923, p. 210).

The methodologies used by both Goddard and Yerkes were highly flawed. Immigrants passing through Ellis Island were administered tests solely in English, regardless of whether they could speak or understand a word of that language. These problems were compounded by issues of standardization, test construction, and administration (Gould, 1996). Only 7 years after his publication of the Army Alpha data, Brigham (1930) published a retraction in *Psychological Review* in which he concluded that scores from a test in a given language could be considered valid only to the extent that all respondents had equal opportunity to learn that language, a condition clearly violated in the administration of Army Alpha. In the face of these and other methodological flaws, he concluded, “That study with its entire hypothetical superstructure of racial differences collapses completely” (p. 164).

But in 1924, advocates of a eugenic approach to immigration were able to combine Brigham’s results with political savvy to bring about sweeping restrictions that had eluded immigration reformers for 20 years (Reimers, 1998). In 1923, the influential chair of the House Immigration Committee, Albert Johnson, was elected president of the Eugenics Research Association; he in turn hired Harry Laughlin, director of the ERO, as the committee’s eugenics specialist (Tichenor, 2002). The committee soon thereafter passed the Reed-Johnson Immigration Act of 1924, dramatically lowering immigration quotas. The bill set immigration limits at 2% of the population of any country represented in the 1890 census, almost completely eliminating immigration from Southern and Eastern Europe (Tichenor). The most dramatic consequence of that restriction was for Jews seeking to leave Europe in the 1930s. It has been estimated that hundreds of thousands of Jews seeking to flee Nazi Germany were prevented from entering this country by the 1924 immigration quotas (Wyman, 1984).

The 1924 quotas became the law of the land for nearly half a century, resisting all attempts at moderation. In 1939, an interfaith coalition of religious leaders, civil rights activists, and social workers persuaded Senators Edith Rogers (R, Mass.) and Robert Wagner (D, NY) to sponsor legislation that would have permitted 20,000 German refugee children to
enter the country above the quota system. The bill received a chilly reception in Congress, however, and died in committee (Reimers, 1998).

INTO THE DARKNESS: EUGENICS AND NAZI GERMANY

While eugenics was developing in both Britain and America, German eugenicists were also developing their own work in eugenics, dubbed Rassenhygiene (racial hygiene). Some writers, including racial difference researchers, have minimized or denied a connection between American and British eugenics movements and the horrors of Nazi Germany (Bajema, 1976; Lynn, 2001). Yet recent research has traced numerous paths of connection between American eugenics and German eugenics program of Rassenhygiene, both in its early development and as it came to full fruition in the Third Reich (Black, 2003; Bruinius, 2006; Kuhl, 1994).

With the exception of the World War I period, there appeared to be regular contact and influence between American, British, and German eugenicists from 1910 until the United States entered World War II. Prior to the 1920s, American eugenics was clearly in advance of and a model for German racial hygienists. The most influential texts for German eugenicists in the early 20th Century—von Hoffman’s (1913) Racial Hygiene in the United States and Baur, Lenz, and Fischer’s Foundation of Human Heredity and Race Hygiene (1921)—were heavily influenced by and reported extensively on the accomplishments of American eugenics (Black, 2003; Kuhl, 1994). German influence in the international eugenics movement increased steadily after World War I. In 1929, the leading American eugenics journal, Eugenical News, appended the subtitle Current Record of Race Hygiene as a bow to the work of German colleagues (Bruinius, 2006).

The program of American eugenicists and their success in effecting policy change in the United States served as a model for many of the eugenics policies implemented by the Nazis when they came to power in 1933, and the relationship between eugenicists in those two countries was one of mutual admiration. One of the earliest acts of the Third Reich was the sweeping German sterilization law passed in July 1933 that led to the sterilization of more than 300,000 Germans. That law was directly modeled on the sterilization legislation proposed by ERO superintendent Harry Laughlin in the 1920s. Indeed, in several respects, such as its focus only on physical rather than social problems, the German law was more limited in scope than Laughlin’s original proposal (Bruinius, 2006). In implementing this and other eugenic measures, such as marriage restrictions and the euthanization of the disabled (Evans, 2004), German
scientists and policy makers clearly saw themselves as simply moving forward the work begun in England and America (Wullen, 1937).

As the end results of Nazi racial hygiene began to be apparent in the 1930s, many mainstream scientists in America and Britain renounced their connections with eugenics (Gould, 1996), but certainly not all. After the passage of the German sterilization statute, Dr. Joseph DeJarnette, a Virginia physician who provided expert testimony in *Buck v. Bell* (1924), complained, “The Germans are beating us at our own game,” while Dr. Clarence Gordon Campbell, president of the Eugenics Research Association, congratulated Germany at the World Population Conference in 1934 in Berlin for constructing “a comprehensive racial policy of population development and improvement that promises to be epochal in racial history. . . . Germany has set a pattern which other nations must follow” (Bruinius, 2006, p. 284).

Leading figures in British and American eugenics continued to maintain surprising levels of contact with Nazi Germany after the beginning of World War II, until America’s entry into the war. American geneticist T. U. H. Ellinger visited Germany in the winter of 1939–1940 and wrote in his report of the trip in the *Journal of Heredity* that “when the problem arises how the breeding project may be carried out most effectively, after the politicians have decided upon its desirability, biological science can assist even the Nazis” (Kuhl, 1994, p. 60). Lothrop Stoddard, a Harvard-educated physician and leader in the Eugenics Research Association, visited Germany in 1940, and was one of the few foreigners to be granted personal interviews with both Heinrich Himmler and Adolf Hitler. He described his experiences, and the contributions of eugenics to Nazi policies, in his book *Into the Darkness*:

> The relative emphasis which Hitler gave racialism and eugenics many years ago foreshadows the respective interest toward the two subjects in Germany today...Inside Germany, the Jewish problem is regarded as a passing phenomenon, already settled in principle and soon to be settled in fact by the physical elimination of the Jews themselves from the Third Reich...it is fair to say that Nazi Germany’s eugenic program is the most ambitious and far-reaching experiment in eugenics ever attempted by any nation. (Stoddard, 1940, pp. 189-190)

One of the few non-Germans allowed to observe German sterilization courts in action, Stoddard thought the courts fair and that “if anything, judgments were almost too conservative” (Stoddard, 1940, p. 196).

Yet the eugenic connection with the Third Reich ran deeper than
contact or mutual admiration. Rudolph Hess stated that “National Socialism is nothing but applied biology” (Kuhl, 1994). Hitler (1925/1971) himself was aware of and influenced by the philosophy and successes of American eugenics, commenting approvingly of America’s 1924 Immigration Act in Mein Kampf. He wrote a letter to zoologist Madison Grant, author of one of the most popular books on eugenics in the 1920s, The Passing of the Great Race, congratulating Grant and calling the book “my bible” (Black, 2003). The following four passages drawn from those two works indicate the extent of influence of American eugenics on Hitler’s basic philosophy:

Whether we like to admit it or not, the result of the mixture of the two races, in the long run, gives us a race reverting to the more ancient, generalized and lower type. (p. 18)

Every racial crossing leads inevitably sooner or later to the decline of the hybrid product as long as the higher element of this crossing is itself still existent in any kind of racial unity. (p. 41)

A rigid system of selection through the elimination of those who are weak or unfit—in other words, social failures—would solve the whole question in a century, as well as enable us to get rid of the undesirables who crowd our jails, hospitals and insane asylums. (pp. 50–51)

A prevention of the faculty and opportunity to procreate on the part of the physically degenerate and mentally sick, over a period of only six hundred years, would not only free humanity from an immeasurable misfortune, but would lead to a recovery which today seems scarcely conceivable. (p. 405)

The first and third statements are drawn from Grant’s Passing of the Great Race, the second and fourth from Hitler’s Mein Kampf. Indeed, it might well be argued that Hitler somewhat moderated the tone of the American, estimating that a eugenics program could lead to complete ethnic cleansing within 600 years, rather than the 100 years proclaimed by Grant.

In sum, recent scholarship (Black, 2003; Bruinius, 2006; Kuhl, 1994) has provided clear indications that the writings and activities of British and American eugenicists were influential and perhaps even foundational in the development of Nazi Rassenhygiene. Ultimately, German
racial hygiene chillingly fulfilled the prediction of Sir Francis Galton that, if the principles of eugenics were widely disseminated, future generations would “gradually give practical effect to them in ways that we may not wholly foresee.”

RACIAL DIFFERENCE RESEARCH AFTER EUGENICS

THE DECLINE OF EUGENICS IN AMERICA

Eugenics went into relatively rapid decline in America from the 1930s through the 1950s. As the implications of eugenics taken to its logical extreme in Nazi Germany were recognized, support for the harsh racial attitudes and social Darwinian features of eugenics diminished rapidly among respectable scientists (Gratzer, 2000). In addition, the methodological inadequacies and failure of prediction of a eugenic model of intelligence testing led a number of central figures in the development of standardized testing to recant their positions by the 1930s (Gould, 1996). Finally, in the aftermath of World War II, scientific support seemed to shift in favor of environmental explanations of racial difference. The work of Kenneth Clark and Gunnar Myrdal was central in mobilizing the theory and data that informed the 1954 Supreme Court decision in Brown v. Board of Education (Jackson & Weidman, 2006).

Yet programs of research on racial differences by no means completely disappeared in the aftermath of eugenics. A backlash among some scientists, most notably psychology professor and ex-president of the APA Henry Garrett, challenged the science that underlay Brown. In 1961, Garrett wrote, “The Negro has nothing to offer the white man . . . should American whites under the emotional goading of various pressure groups become convinced that it is their ‘duty’ to absorb the Negroes now living in this country, our country would inevitably deteriorate intellectually, morally, and materially” (Tucker, 1994, p. 154). In the end, however, Garrett appeared out of step with a time in which such explicit racism was falling from favor, and his thinking appeared to have little impact (Tucker, 1994).

MODERN RACIAL DIFFERENCE RESEARCH

Other late-20th-century racial difference researchers, however, have been more successful in garnering the attention of the popular media and generating a serious response from the scientific community. In 1969, University of California–Berkeley psychology professor Arthur Jensen published a 123-page article in the Harvard Educational Review entitled
“How Much Can We Boost IQ and Scholastic Achievement?” The article was a synthesis on a diverse set of topics related to intelligence, including the failure of compensatory education, the nature and heritability of intelligence, and the prospects for improving intelligence test scores through intensive programs like the Perry Pre-School Program. But it was the 10 pages he wrote on the topic of “Negro Intelligence”—and in particular his contention that it was a “not unreasonable hypothesis that genetic factors are strongly implicated in the average Negro-white intelligence difference” (Jensen, 1969, p. 82)—that attracted a near firestorm of public attention. He argued against the “ad hoc” nature of environmental explanations of that gap, noting that “American Indians are much more disadvantaged than Negroes, or any other minority groups [sic] in the United States, on a host of factors. . . . Yet the American Indian ability and achievement test scores average about half a standard deviation higher than the scores of Negroes” (p. 85). Like Hall before him, Jensen seemed to suggest that racial discrepancies in intelligence did not begin at birth, reviewing evidence that brain wave patterns of African newborn infants had been found to show greater maturity than those found in European newborns.

In 1994, Harvard psychologist Richard Herrnstein collaborated with journalist Charles Murray to publish *The Bell Curve*, a massive analysis of a diverse set of themes involving intelligence, social behavior, class, and race. Their controversial review of research on race and intelligence, often read as concluding that Black–White IQ differences were genetic, took up only one chapter out of 22. The remainder of the book was a compendium of data marshaled in support of arguments nearly identical to the hypotheses of early-20th-century eugenics: that there is a hierarchy of social classes in America and that intelligence is distributed unequally across that hierarchy; that crime, unstable marriage, illegitimacy, parenting quality, and “idleness” are related to both social class and IQ; that there are ethnic differences in intelligence that may be to some extent genetically based; and that such differences are unlikely to be affected by intensive educational programs or environmental changes. In their most explicit throwback to eugenics, Herrnstein and Murray devoted one chapter of their book to an analysis of “dysgenic pressures” in American society, concluding that there is evidence of “higher fertility and a faster generational cycle among the less intelligent and an immigrant population that is probably somewhat below the native-born population,” and thus “the mean IQ is dropping by a point or two per generation” (Herrnstein & Murray, 1994, p. 364).

Research on race-linked characteristics of intelligence and behavior, and concerns about the implications of that research continue to this
day. Rowe (2005) argued that new developments in genetics could enable a more accurate test of the extent to which racial differences in IQ are genetic or environmental in origin. Sociologist Robert Gordon (1987) has made the argument for inherent criminality in African Americans, showing that criminality is correlated not with socioeconomic disadvantage, but with IQ, placing African Americans at increased risk for crime.

THE CONTINUITY OF RACIAL DIFFERENCE RESEARCH

SIMILARITY OF CORE THEMES OVER TIME

In his 1998 book *The g Factor*, Jensen termed the idea that IQ differences between Blacks and Whites are at least partially genetic the “default hypothesis.” Indeed, racial difference researchers have been highly consistent in treating the presumption of inherent racial difference as the default. In 1787, Thomas Jefferson challenged natural scientists to bring their methods to bear in examining the hypothesis that the Black race was inherently inferior to the White race. Generations of racial difference researchers have since taken up that challenge, vigorously testing two core hypotheses over time: (1) There is a finite number of categories of race that can be identified, based on a correlated set of physical characteristics or traits (e.g., skin color, hair type) that act as markers for distinguishing among races. (2) There are socially important characteristics that co-vary with these physical characteristics and, like those physical characteristics, have a physical basis in nature, heredity, or genetics. These characteristics typically have a valence such that the races can be rank ordered from most to least or best to worst.

Beyond these two themes are a number of subhypotheses that run throughout the history of racial difference research. Indeed, one cannot consider the writings of successive generations of racial difference researchers without being struck by “eerie similarities” (Marks, 1995) between historic and modern exemplars. Table 1 shows some of the basic themes of this work as represented in the work of successive generations of researchers. This historical perspective adds a layer of depth and understanding to current attempts to identify racial differences in socially important characteristics. Rowe’s (2005) argument in *American Psychologist* that “a genetic hypothesis predicts that Black individuals who possess more Caucasian genes will approach the behaviors and traits of Caucasians, to the extent that those traits and behaviors have genetic origins” (p. 67) seems a viable scientific hypothesis, perhaps testable, as Rowe suggested, through structural equation modeling. Yet it is also true that the hypothesis largely replicates the thinking of 19th-century
Table 1. Themes of Racial Difference Research Across Successive Generations of Researchers

<table>
<thead>
<tr>
<th>Mental inferiority</th>
<th>19th-Century Ethnology</th>
<th>Eugenics (1900–1933)</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Comparing them in reason to the whites it seems to me that in memory they are equal to the whites, in reason much inferior.&quot; (Thomas Jefferson, 1787, p. 146)</td>
<td>&quot;I feel disposed to think that there must be a physical and, consequently, a psychological inferiority in the dark races generally. This may not depend altogether on deficiency in the size of the brain en masse . . . but rather, to specific characters in the quality of the brain itself.&quot; (Robert Knox, 1850, p. 151)</td>
<td>&quot;Army mental tests have shown that not more than 15 percent of American negroes equal or exceed in intelligence the average of our white population, and the intelligence of the average negro is vastly inferior to that of the average white man.&quot; (Lewis Terman, 1922, p. 660)</td>
<td>&quot;So all we are left with are various lines of evidence, no one of which is definitive alone, but which, viewed all together, make it a not unreasonable hypothesis that genetic factors are strongly implicated in the average Negro-white intelligence difference.&quot; (Arthur Jensen, 1969, p. 82)</td>
</tr>
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</table>

| Criminality | | "The crime of lynching is the effect of a cause, the removal of which lies in the power of the colored race . . . Until the negro learns to respect life, property, and chastity, until he learns to believe in the value of a personal morality operating in his everyday life, the criminal tendencies brought out in the foregoing tables will increase, and by so much the social and economic efficiency of the race will be decreased." (Frederick Hoffman, 1896, p. 234) | "Many causes such as the low moral tone of the family life, doubtless contributes to this excess of negro criminals, but when all factors are considered I think we cannot deny that a considerable portion of this greater percentage of criminality is due to a distinct racial difference." (Herbert Webber, 1914, pp. 163–164) | "It is time to consider the black-white IQ difference seriously when confronting the problem of crime in American society." (Robert Gordon, 1987, p. 92) |

"Vices the most notorious seem to be the portion of this unhappy race: idleness, treachery, revenge, cruelty, impudence, stealing, lying, profanity, debauchery, nastiness and intemperance, are said to have extinguished the principles of natural law, and to have silenced the reproofs of conscience. They are strangers to every sentiment of compassion, and are an awful example of the corruption of man when left to himself." (Encyclopedia Britannica first American edition, 1798, in Eze, 1997, p. 94)
Many have been so situated, that they might have availed themselves of the conversation of their masters; many have been brought up to the handicraft arts, and from that circumstance have been liberally educated. But never yet could I find that a black had uttered a thought above the level of plain narration; never saw even an elementary trait of painting or sculpture.” (Thomas Jefferson, 1787, pp. 146–147)

“From all these various traits we have enumerated, it can be seen that intractability is the distinguishing feature of the Negro character. The condition in which they live is incapable of any development or culture, and their present existence is the same as it has always been.” (G. W. F. Hegel, 1837, p. 190)

“I have looked in vain, during twenty years, for a solitary exception to these characteristic deficiencies among the Negro race... but, with every opportunity for culture, our Southern Negroes remain as incapable, in drawing, as the lowest quadruman.” (Josiah Nott, 1871, p. 456)

“. . . human affairs with reference to the colored races would be far more judiciously conducted, if, in our intercourse with them, we were guided by a full consciousness of the real difference existing between us and them, and a desire to foster those dispositions that are eminently marked in them, rather than by treating them on terms of equality.” (Louis Agassiz, 1850, p. 145)

“The average negro child can not advance through an educational curriculum adapted to the Anglo-Saxon child in step with that child.” (Carl Brigham, 1923, p. 194)

“The argument that poor social and economic conditions are responsible for the lower intelligence of the Negroes places the cart before the horse.” (J. Philippe Rushton, 2000, p. 197)

“The more one knows about the evidence, the harder it is to be optimistic about prospects in the near future for raising the scores of the people who are most disadvantaged by their low scores.” (Richard Herrnstein & Charles Murray, 1994, p. 390)
Table 1. Themes of Racial Difference Research Across Successive Generations of Researchers (continued)

| Skull Size and Shape | “When in addition to the skull of a negro, I had procured one of a Calmuck, and had placed that of an ape contiguous to them both, I observed that a line, drawn along the forehead and the upper lip, indicated this difference in national physiognomy; and also pointed out the degree of similarity between a negro and the ape.” (P. Camper, 1794, p. 9) | “The Negro and other unintellectual types have been shown, in another chapter, to possess heads much smaller, by actual measurement in cubic inches, than the white races; . . . it can not be denied that these dark races are, in this particular, greatly inferior to those of fairer complexion.” (Josiah Nott, 1871, p. 403) | “There is for the best ascertainable characters a continuous relationship from the European skull, through prehistoric European, prehistoric Egyptian, Congo-Gaboon negroes to Zulus and Kaffirs.” (Karl Pearson, 1909, p. 8) |
| Influence of Climate | “In the hot countries the human being matures in all aspects earlier, but does not, however, reach the perfection of those in the temperate zones.” (Immanuel Kant, 1775, p. 63) | “Each [race] has been originally fitted in structure and constitution, precisely to the station in which it is naturally found.” (Charles Pickering, 1863, p. 311) | “In the tropics, conditions favoring human degeneration are constantly present. The intense heat discourages physical or mental activity, while the slight stress of physical surroundings favors the weak, the vacillating, the inert. No premium is placed on effort, and there is developed a type of man to whom effort is impossible.” (David Starr Jordan, 1911, p. 127) |

“ . . . the farther north the ancestral human populations migrated out of Africa, about 100,000 years ago, the more they encountered the cognitively demanding problems of gathering and storing food, gaining shelter, making clothes, and raising children successfully during prolonged winters . . . . Ecological pressures selected for larger brains, slower rates of maturation, lower levels of sex hormone, and all the other life-history characteristics.” (J. Philippe Rushton & Arthur Jensen, 2005, p. 277)
ethnologist Josiah Nott, who used the best available data of the time to argue that, in his words, “the intellect of a mulatto, child of a white male and a Negress, is certainly superior to that of the Negro; and I have pointed out, when speaking of the mule and bardeau, that the form of the head is given by the sire” (Nott & Gliddon, 1871, p. 402).

It is something of a scientific curiosity that the adherence to these core themes seems to persist despite lack of empirical validation, or indeed the outright disconfirmation, of those hypotheses in previous generations of research. The hypothesis of dysgenesis, that differential rates of breeding among the fitter and less fit classes would result in the degeneration of the gene pool, was central to the program of eugenics from Galton onward but never supported by evidence. Cattell (1950) conducted a large-scale test of dysgenesis in 1950; the article, published in Eugenics Review, found the mean IQ in England to be slightly increasing, disproving dysgenic predictions that he himself had made 14 years earlier. Yet in responding to criticisms of his Harvard Educational Review article, Jensen opined in 1972,

More important than the issue of racial differences per se is the probability of dysgenic trends in our urban slums. . . . The social and educational implications of this trend, if it exists and persists, are enormous. The problem obviously deserves thorough investigation by social scientists and geneticists and should not be ignored or superficially dismissed because of well-meaning wishful thinking. (p. 331)

In 1994, Herrnstein and Murray once again resurrected dysgenesis, devoting an entire chapter of The Bell Curve in an attempt to marshal evidence for the hypothesis.

Almost by definition, the scientific technologies of previous generations will seem quaint and outmoded, and the data generated by those methods inherently suspect. Thus, the inadequacy of early methodologies of racial difference research (e.g., skull measurement) and the subsequent rejection of data drawn from those approaches is not uncommon in science. What is idiosyncratic and problematic about research on racial differences is the resilience of its core hypotheses in the face of disconfirmation in previous generations. In some of his most recent work, Arthur Jensen returned to the correlation of cranial capacity with intelligence as a possible distinguishing characteristic of various races, reporting that “racial differences in average brain size are well established, as is the fact that head size, cranial capacity, and total brain size correlate with g” (Miele, 2002, p. 135). Jensen’s cranial capacity data
are far more sophisticated than filling a skull with lead shot. Yet the guiding hypothesis—that Black skull size is indicative of inferior mental capacity—is remarkably similar to Samuel Morton’s.

Such tenacity in applying new technologies to old theories is highly unusual in any field of scientific endeavor. One can well imagine the reaction of the *Journal of the American Medical Association* if a group of medical researchers submitted findings using magnetic resonance imaging (MRI) to search for evidence of the four humours, and it is unlikely that any astronomer, regardless of his or her stature in the scientific community, could reserve time on the Hubble telescope to search for the ether. These were the commonly accepted hypotheses in medicine and astronomy when racial difference researchers first formulated their hypotheses concerning racial hierarchy; since that time, new technologies and rigorous research programs have combined to yield radically different understandings in medicine and astronomy. Indeed, it is a basic tenet of the modern model of scientific growth that scientific programs that are less successful in making predictions consistent with observed data will be replaced by new paradigms capable of accounting for all the evidence (see, e.g., Kuhn, 1962; Lakatos, 1980). It is something of a puzzle then, how racial difference research has persisted in recycling its original assertions regarding the intellectual inferiority of non-White populations, regardless of its failure to provide any clear support for those assertions in more than 200 years of study. The answer may lie not in the scientific basis of racial research, but in its connections to policy in successive generations.

**RACIAL DIFFERENCE RESEARCH AND POLICY**

Strong links to social and educational policy have been a keystone of the racial difference research program throughout its history. Jefferson’s disquisition on Black inferiority in *Notes on the State of Virginia* emerged from the political question of what should be done with the slaves if they were emancipated. The avowed aim of racial difference research at its zenith during the eugenic era was “legislation based on sound public sentiment” (Davenport, 1914, p. 14). In his afterword to the second edition of *The Bell Curve*, Murray admitted the politically conservative leanings of himself and his late coauthor, concluding, “So we had political opinions. It goes with the territory” (Murray, 1996, p. 555).

This admixture of science and politics does appear to be something that “goes with the territory” throughout the history of racial difference research. As pressures for abolition increased in the early 19th century, results of racial difference research from that period (e.g., Morton, 1839)
were available to assure those invested in the status quo that the victims of slavery were not biologically equivalent, and hence not deserving of universal human rights. When a post-WWI America sought to retreat into global isolationism and close its borders, the application of mental testing data to research on racial difference (Brigham, 1923) supported legislation that stemmed the tide of immigration immediately and for a long time thereafter (Black, 2003). Tucker (1994) argued that in more recent times, the conclusions of Jensen’s (1969) work provided intellectual support for the Nixon administration’s rollback of civil rights legislation and compensatory education. In the same way, the recommendations of The Bell Curve were strikingly similar to those proposed by conservative Republicans in their 1994 Contract With America that led to the overhaul of the welfare system in the mid-1990s (Vidal, 1996).

An intriguing example of the confluence of policy and research may be found in Jensen’s (1969) article in the Harvard Educational Review. In his introduction to the 10 pages explicitly devoted to racial differences in measured intelligence, Jensen framed his issue as one of civil rights based on the disproportionate representation of certain groups. He suggested that inequality in outcomes may be based on either (1) unfair selection processes, or (2) real average differences among groups, and he argued that a “no-holds barred” approach to scientific inquiry would be the best way to resolve the issue. Because the core of his argument rested on issues of access and opportunity, the clear implication was that efforts spent rectifying disproportionality as a civil right would not be warranted if differential outcomes were due to “differences in the population distributions of those characteristics which are indisputably relevant to educational and occupational performance” (p. 79). Both Jensen, and Herrnstein and Murray expressed deep skepticism concerning the ability of remedial programs to impact intelligence and achievement gaps because their reading of the data suggested that such gaps are fixed and irremediable. By drawing out the implications of their analyses for civil rights and social policy, these authors departed from a strictly scientific question (Are there measurable differences among people that are reliably associated with something called race?) to address an intensely political question (Is it worthwhile to redirect society’s resources in order to equalize opportunity in the hope of closing or eliminating differential outcomes?).

At first glance, it seems intensely odd that a number of America’s most highly celebrated scientists have engaged in an enterprise that steadfastly clings to the same a priori assumptions over long periods despite consistent failures to provide credible support for such hypotheses. Such behavior becomes more comprehensible, however, when one recognizes that racial difference research is intended for, and draws its reward structure
from, two distinct audiences: scientists and policy makers. Irrespective of their scientific merit, data relevant to racial differences have always been welcomed by a subset of policy makers eager to find support for policies restricting rights or social programs for certain groups. This simultaneous focus on scholarly and political ends may have to some extent compromised the status of racial difference research as science, but it has also guaranteed sufficient notoriety and public attention to ensure the continuity of that work across generations, regardless of its scientific merit. Although the program of racial difference research has been dubbed *scientific racism* (Barkan, 1996; Ceaser, 2000), a more precise description might well be *science in the service of racism*.

**SUMMARY AND CONCLUSIONS**

Claims of inherent racial differences in intelligence and social behavior create intense controversy that seems difficult to resolve, perhaps because we lack sufficient perspective to assess competing assertions regarding the scientific merit of that research. In the light of historical analysis, however, it becomes apparent that the programs of the racial difference researchers who have received intense public attention in the last 40 years are firmly embedded within a two-century-old intellectual tradition little changed in its basic presumptions and hypotheses since first given impetus by Thomas Jefferson. In each successive generation since Jefferson, at least one highly respected individual of science has emerged who has reclothed the field’s core hypotheses—that some discrete set of racial categories can be physically discriminated, and that those physical characteristics are associated with concomitant differences in socially valued traits and characteristics—in the most current available scientific technology.

As evidence challenging the notion of fixed and immutable racial hierarchies has continued to accumulate, historians, biologists, and social scientists have begun to weave multiple strands of evidence into a new perspective that focuses on race as a *social construction* rather than a biological reality. In biology and genetics, researchers such as Lewontin (1972) and Cavalli-Sforza (Cavalli-Sforza, Menozzi, & Piazza, 1994) have challenged the view that race can be divided into a discrete set of categories based on physical or genetic characteristics, replacing it with a model of migration and change within a single human population. In the philosophy of science, a lively debate is currently in progress concerning the extent to which the construct of race may be said to have any biological or even ontological reality beyond its status as a social construction (Andreasen, 2004; Zack, 2002). Social psychology and sociology have
begun to explore the nature of subtle and perhaps unconscious variations of racialized thinking at the individual and institutional levels through such constructs as *aversive racism* (Gaertner & Dovidio, 1986), *color-blind racism* (Bonilla-Silva, 2003), and *silent racism* (Trepagnier, 2006). In education, racial and ethnic disparities in special education (Donovan & Cross, 2002), school discipline (Skiba et al., 2011), and gifted education (Milner & Ford, 2007) are receiving renewed attention, with an intensified focus on exploring how environmental inequities such as substandard facilities (Kozol, 2005), teacher expectations (Weinstein, Gregory, & Strambler, 2004), and teacher quality (Darling-Hammond, 2006) may contribute to racial and ethnic disparities in outcome. In law, the area of critical race studies has provided a critique of law and policy in terms of race, gender, class, and social justice (Delgado, 1995). The American Anthropological Association’s (1998) official statement on race assessed available data from a variety of fields and concluded that race is a social and cultural, not biological, construct. Driven by both biological (e.g., Lewontin, 1972; Marks, 1995) and historical (e.g., Smedley, 1999) data, this more recent wave of research tends to approach race not as a biologically fixed reality, but as a socially constructed product of historical, economic, and social factors that has benefited some groups while disenfranchising others.

Kuhn (1962/1996) noted that as old understandings are challenged by new findings and reorganized into a new paradigm, practitioners of the new science will likely not even ask the same questions of the data as those operating out of the old paradigm; indeed, the lack of commonality between the emerging and previous research paradigm on race is striking. Table 2 contrasts the types of questions asked during the first 200 years of racial difference research with the research questions explored by researchers in the emerging paradigm. The central characteristic of that transformation might be characterized as a shift in the subject of study—away from investigations seeking to demonstrate the biological or physical reality of race, and toward an exploration of the forces that have contributed, or continue to contribute, to the construction and maintenance of the concept of race and racial hierarchy. Rather than using their methodology to discover biological dissimilarities and determine to what extent those differences align with socially significant traits, researchers within the emerging social construction paradigm are more likely to ask why Western civilization developed the concept of race, how it has been maintained, how it continues to be expressed in social interaction and institutional structures, and how the institutional and individual vestiges of racism might be dismantled.
Table 2. Research Questions: Differences Between Historical and Emerging Research Paradigms on Race, Culture, and Ethnicity

<table>
<thead>
<tr>
<th>Historical</th>
<th>Emerging</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is race biological/genetic/natural? What are the key markers of differentiation?</td>
<td>• How and why were the constructs of race and ethnicity developed? Which groups were advantaged or disadvantaged by this development?</td>
</tr>
<tr>
<td>• Are some races superior or more evolved intellectually or socially?</td>
<td>• How have the belief systems associated with the racial worldview created inequity?</td>
</tr>
<tr>
<td>• In what intellectual, social, or physical characteristics are racial differences most apparent? To what extent are these characteristics correlated?</td>
<td>• How do individual beliefs and actions, and institutional structures associated with racialized thinking interact in creating and maintaining inequitable social structures?</td>
</tr>
<tr>
<td>• What are the possible future consequences to society of ignoring innate racial differences in socially important characteristics?</td>
<td>• What are the historical or current consequences of adherence to attitudes, behaviors, or institutional structures based on a racial hierarchy?</td>
</tr>
<tr>
<td>• Can the innate inferiority of some races be overcome through training or social programs?</td>
<td>• How can the institutional structures that create or maintain inequity for certain groups be modified or dismantled, and what impact will that have in reducing measured disparities?</td>
</tr>
</tbody>
</table>

The magnitude of such a transformation should not be underestimated. Kuhn (1962/1996) noted that when a research program is replaced by a new paradigm, the methods, the conceptualization, and even the questions asked may be unrecognizable to previous generations of researchers. As was tragically illustrated in what may well have been the final act of James Watson’s career, such a paradigm shift can have profound consequences for individual scientists. Given the undeniably controversial nature of the topic of race in American society, those who continue to pursue a research agenda in what was once the dominant racial paradigm will experience a sense of unfairness or even persecution as that program becomes increasingly marginalized. Yet for those who have for generations been the victims of oppressive or discriminatory policies supported by the assumptions and findings of racial difference research, the completion of that shift probably cannot come soon enough.
Notes

1. The term racial difference research was chosen in this article to describe attempts to use scientific methods to explore or prove differences between physically delineated races on socially important traits. Others have chosen other terms. Some have chosen the term scientific racism (Barkan, 1992; Ceaser, 2000), but the blanket application of that term assumes that all such attempts are by definition racist, a proposition that would be difficult to prove (and that they have all been scientific, which would be even more difficult to prove). In his groundbreaking and comprehensive study, Tucker (1994) used the term racial research. As noted in the discussion, however, there is a vital and growing body of research on the history and use of the construct of race that is not focused on delineating differences based on physical markers of race; it is important not to confuse that research with research that has focused primarily on attempting to document important differences based on the presumption of the reality of race. One reviewer suggested the term biological determinism; although the term aptly describes one commonality among much of the historical and current research on racial differences, there are in fact a number of other central characteristics of racial difference research.

2. Hall was, of course, incorrect in his speculations concerning the most prevalent reasons for lynching. The most complete records of the reasons for the 4,730 lynchings that occurred in the United States between 1882 and 1951 were kept by the Tuskegee Institute. Because lynchings were vigilante justice, it is, of course, impossible to be sure of the real reason for any specific lynching, but among the accusations made by those conducting lynchings, the most common was felonious assault (41%). Fully 34.2% of lynchings were for miscellaneous offenses (e.g., disputing a White man, attempting to register to vote) or for no offense at all. Only 19.1% of lynchings involved even an accusation of rape (Gibson, 1979).

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