

William H. Tucker

**The Science and Politics
of Racial Research**

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TO THE MEMORY OF MY FATHER,
J. Sheldon Tucker

Preface

my office into an obstacle course. Her unwavering support and patience has played no small part in its completion.

Just as I began thinking about this project, my father, a truly remarkable person, died. When my progress on the manuscript seemed impossibly slow, I was sustained by the thought that he would have wanted me to persevere. It is to his memory that I have dedicated this book.

Introduction: To Make Nature an Accomplice

IN 1947 Henry E. Garrett, full professor and chair of the Psychology Department at Columbia University, president at various times of the American Psychological Association, the Eastern Psychological Association, and the Psychometric Society, fellow of the American Association for the Advancement of Science, member of the National Research Council, and for ten years editor of the American Psychology Series, authored an article in the scholarly publication *Scientific Monthly* entitled “Negro-White Differences in Mental Ability in the United States.” In support of his sharp disagreement with those who desired to explain away race differences as “somehow reprehensible and socially undesirable,” Garrett cited a study of the comparative abilities of sixty-eight white and sixty black babies from two to eleven months old. Each baby had been given a series of mental tests constructed for use during the first two years of life from which a “developmental quotient”—essentially an infant IQ score—had been calculated. The average DQ for the white babies was 105, for the blacks, 92; the average DQ for the whites was higher than for the blacks at every age level, with the degree of superiority ranging from two to twenty-five points and averaging thirteen. From these results Garrett concluded that the blacks’ consistently lower performance could not possibly be explained by a difference in environmental opportunities. In addition, he noted, the comparison of American whites with blacks, who frequently had some degree of mixed ancestry, did not represent “true racial differences.” Garrett consequently expected an even greater disparity between the performance of African blacks and European whites.

Perhaps mindful of the importance of finding these “true racial differences,” some years later Hans J. Eysenck, world-renowned social scientist, founder and head of the Psychological Department and Laboratory at the Institute of Psychiatry of the University of London, and author of more than fifty books and hundreds of articles in professional journals, compared the performance of black African babies with white norms on

measures of development. The African children showed a consistent precocity until age three, after which they fell behind white children. Like Garrett, Eysenck found it "implausible" that such an "astonishing difference" at the early ages could have been produced by "socio-economic differences or other extrinsic variables." The fact that these differences were opposite from those considered by Garrett did not prevent Eysenck from arriving at the same conclusion concerning blacks' innate inferiority. Eysenck found the superior performance of the black infants consistent with a little-known "general law in biology according to which the more prolonged the infancy, the greater in general are the cognitive or intellectual abilities of the species."²

In the United States we have come to take for granted the widespread manipulation that characterizes public media-centered culture. Every time we turn on television or look through a magazine, someone is trying to persuade us to buy a product, vote for a candidate, or adopt a point of view. But we also cherish the notion that there are safe, protected areas, oases of reason, effectively insulated from attempts to sell consumer goods or political ideologies. Here, where the atmosphere is less hysterical, calmer, more serious and reflective, scientific inquiries, disinterested in political agendas and influenced only by objective evidence, can transcend ideology in the pursuit of truth. Indeed, it is exactly on the basis of such disinterest that scientists stake their claim to public trust and respect.

There are, however, critics within the scientific community who maintain that much social research is somewhat less than a model of objective inquiry. George Albee, a professor of psychology at the University of Vermont, offered the following opinion in his address to an American Psychological Association conference as a recipient of the Award for Distinguished Contribution to Community Psychology:

I have come to believe that I have had the whole "scientific" process reversed. Instead of facts being useful as the objective building blocks of theories, rather it is more accurate to say that people, and especially social scientists, select theories that are consistent with their personal values, attitudes, and prejudices and then go out into the world or into the laboratory, to seek the facts that validate their beliefs about the world and about human nature, neglecting or denying observations that contradict their personal prejudices.³

These are strong words, but it is difficult to account in any other way for the identical conclusions of black inferiority Garrett and Eysenck derived from antithetical evidence.

Such consensus in the face of contradictory data is not an isolated occurrence in research on racial differences. When one scientist found at

the turn of the century that blacks generally performed better than whites on tests of memory, he explained that their superior mnemonic ability was "naturally expected" since "in both races . . . the memory is in decadence from primitive conditions, but . . . the blacks are much nearer those conditions."⁴ A decade later a famous English researcher found that on tests of memory the sons of the rich displayed "complete superiority" over the sons of the working class, a result that led him to the obvious conclusion that a disciplined memory was characteristic of greater intelligence.⁵ Yet when a well-known contemporary psychologist found that poor and black children with low IQ scores had excellent memories, he concluded that memory should not properly be considered a component of "intelligence."⁶

Early demonstrations that blacks had a quicker reaction time than whites were also offered as proof that "the negro is, in the truest sense, a race inferior to that of the white" since faster reflexes were claimed to be a characteristic of lower intelligence. "Men, in proportion to their intellectuality," wrote a scientist who had found whites to react slower than both Indians and blacks, "should tend less and less to quickness of response in the automatic sphere."⁷ But when research many years later showed faster reaction times for whites, this too became evidence for white intellectual superiority. Speed of reaction was now offered as an indication of "brain activity," and a leading social scientist even claimed (incorrectly) that Muhammad Ali had "a very average" reaction time.⁸

Though blacks have almost always performed lower than whites on paper-and-pencil tests, even the rare occasion on which they have scored higher has somehow also confirmed their inferiority. When two researchers found that blacks did better than whites on simple arithmetic problems, they explained that "the more complicated a brain, the more numerous its 'association fibers,' the less satisfactorily it performs the simple numerical problems which a calculating machine does so quickly and accurately."⁹

Differing evolutionary theories have also been able to produce identical conclusions about black inferiority. Many scientists in the 1920s claimed that blacks were the evolutionary predecessors of whites and that "Negroid stock," having evolved long before whites, was thus not only older but closer to its anthropoid ancestors, both physically and mentally; blacks were intellectually inferior to whites because they had evolved earlier.¹⁰ A few decades later a distinguished anthropologist proposed that blacks had crossed the evolutionary threshold into homo sapiens long after other races and thus had had less time to develop; blacks were intellectually inferior because they had evolved later.¹¹

Some studies of group differences have not violated the rules of logic as much as they have strained the bounds of credibility. In 1913 the famous psychologist Henry H. Goddard administered mental tests to a

sample of newly arrived immigrants at Ellis Island, which had been carefully selected to omit both the “obviously feeble-minded and the very few of ‘obviously high grade intelligence.’” In the **group** thus remaining—what Goddard called “the great **mass** of ‘average **immigrants**,’”—he reported that **83** percent of Jews, **80** percent of Hungarians, **79** percent of Italians, and **87** percent of Russians were “feeble-minded.” Probably anticipating the appropriate term for these results, Goddard informed his readers that “many a scientific discovery has seemed at first glance absurd.” Nevertheless, he insisted, “it is never wise to discard a scientific result because of apparent absurdity,” especially when it had come from a “fair and conscientious” analysis of the data.¹²

It appears Albee has not exaggerated. Although some of these examples might be dismissed as “cheap shots,” egregious exceptions noteworthy by their contrast with more sober, restrained investigations that are the norm, many of them are not *so* much counterexamples to the mainstream as they are organic extensions of it. For over a century there have been scientists obsessed with proving that minorities, **poor** people, foreigners, and women **are** innately inferior to upper-class white males of northern European extraction.

Though some of these researchers have been overt racists, civil libertarians and social liberals have also been responsible for many foolish claims, Edward M. East, for example, a Harvard geneticist in the 1920s, “could see no reasonable excuse for oppression and discrimination on a colour-line basis, . . . [and had] no sympathy with a regimen of repression on the part of the whites.” He was positively outraged over someone “who is denied a seat in a Pullman car, a restaurant, a theatre, or a room in a college dormitory” due to the “gaucheries of a provincial people, on a par with the guffaws of a troop of yokels.” Nevertheless, as a scientist, he concluded that blacks were physically **as** well as mentally inferior and had little of value **to contribute** to the **higher white** race. “Gene packets of African origin are not valuable supplements to the gene packets of European origin,” wrote East; “it is the white germ plasm that **counts**.”¹³

The scientific conflict over genetic differences between groups is now well into its second century. Unlike other, more traditional scientific controversies, in which the argument diminishes as new discoveries are made or **as** scientists with opposing views retire or die **away**,¹⁴ the bitter dispute over race has arisen anew in each generation, to be debated all over again in almost exactly the same terms but with a fervor that **seems** more theological than scientific. Nor has the argument confined itself to academic journals and scientific conferences; the subject of racial differences has been debated in barrooms and cocktail parties and, for a scientific issue, has received unprecedented coverage in the popular press. Despite the length and intensity of the debate, however, there has

been no significant advance in scientific knowledge. Although the techniques of data analysis have become increasingly sophisticated, the arguments on both sides have changed very little. Contemporary scientists often sound indistinguishable from their predecessors of thirty, sixty, or ninety years ago. More than a century of research has produced a lot of heat but virtually no light.

“No Political, No Religious, and No Social Prejudices”

The truth is that though waged with scientific weapons, the goal in this controversy has always been political; indeed, the debate has no strictly scientific purpose or value. The question of genetic differences between races has arisen not out of purely scientific curiosity or the desire to find some important scientific truth or to solve some significant scientific problem but only because of the belief, explicit or unstated, that the answer has political consequences. The claim that one group is genetically less desirable or capable than another has invariably been part of what Marquis de Condorcet called an attempt “to make nature herself an accomplice of political inequality.”¹⁵ Rather than an injustice that needs to be rectified, social and political oppression thus becomes the rational—indeed, the unavoidable—reflection of natural differences.

The first suggestion that inequality should be based on nature occurred over two thousand years ago when Aristotle observed that “there are species in which a distinction is already marked, immediately at birth, between those of its members who are intended for being ruled and those who are intended to rule.”¹⁶ Applying an idiosyncratic technique for the measurement of individual differences—though one not all that different from the method used twenty-two hundred years later by the famous English scientist Sir Francis Galton—Aristotle distinguished those to be ruled as differing from others in power of reason “as the body differs from the soul, or an animal from a man,” and he concluded that “it is thus clear that, just as some are by nature free, so others are by nature slaves, and for these latter the condition of slavery is both just and beneficial.”¹⁷

Although Aristotle’s reference to innate, empirically observable distinctions suggested a quasi-scientific justification for slavery—in Thomas Hobbes’s words, “as if master and servant were not introduced by consent of men but by difference of wit”¹⁸—it was not until the nineteenth century that the linkage between science and politics was made explicit. At that time U.S. doctors and anthropologists began to assess intelligence through various anatomical and physiognomic characteristics in scientific attempts at a linear evaluation of racial and ethnic groups, and in England Galton began to study the dichotomization of nature and nur-

ture that eventually led to the psychometric tradition. **As** these two lines of investigation merged at the turn of the century, a movement arose that attempted to derive moral and behavioral guidelines from what were claimed to be scientific-physicalist laws. Questions of human rights and freedoms—who should vote, who should be educated, who should have children, who should be allowed into the country—were transferred from their appropriate place in the domain of political discourse to the domain of science. In particular, an understanding of racial differences was claimed to be the key to social progress; public education, social harmony, national welfare, indeed the future of the species were all said to depend on it. What began as the study of hereditary characteristics thus quickly hnrgeoned into a presumptuous field marked by immodest pronouncements on the limits of democracy, the necessity of racial segregation, the futility of education, the biological inevitability of vast socioeconomic disparities, and the necessity for controlling the birthrate of certain groups.

The belief that the operation of science was synonymous with the termination of politics made appeals to scientific authority a powerful strategy for influencing public policy. Critics of the obsession with racial differences could easily be dismissed as emotional and unscientific, preferring sentimentality, idealism, and wishful thinking to the perhaps unpleasant but nonetheless undeniable truths that emerged from impartial data; the researchers had scientific objectivity and rigor on their side. **As** Karl Pearson, one of the greatest contributors to contemporary statistics, wrote in the introduction to a 1925 article on Jewish immigration to Great Britain, “We have no axes to grind, we have no governing body to propitiate by well advertised discoveries; we are paid by nobody to reach results of a given bias. We have no electors, no subscribers to encounter in the market place. We firmly believe that we have no political, no religious and no social prejudices. . . . **We rejoice in numbers and figures for their own sake.**”¹⁹ Thus unencumbered by bias of any kind or by political or economic pressure, Pearson was led, by the numbers and figures, to conclude that Jewish immigrants were mentally and physically inferior to the native English population, that the newcomers would develop into a “parasitic race,” and that there was “no evidence that a lessening of the aliens’ poverty, an improvement in their food, or an advance in their cleanliness will substantially alter their average grade of intelligence, and with it their outlook on life.” Naturally, Pearson concluded, “there should be no place” in society for such a demonstrably inferior group, an opinion that was soon to be shared by the leaders of another European country.²⁰

As a consequence of this viewpoint, for more than a century nature has been played as a trump card in political arguments on the side of repression. Sometimes scientists have only hinted at significant, and

ominous, implications. The psychologist Lewis Terman, an early developer of the IQ test, insisted, for example, that a “less naive definition of . . . democracy. . . will have to square with the demonstrable facts of biological and psychological science.” More often, specific proposals **have been** offered, most of which are intolerable in a free society. When a medical journal reported the latest scientific finding in 1907—that the brain of blacks was “more animal in type and incapable of producing those thoughts which have built up civilization”—the editors found it “dreadful that we did not know these anatomical facts when we placed a vote in the possession of this brain which cannot comprehend its **use**” and hoped that it was not too late to deprive blacks of the franchise.²² A popular 1933 scientific textbook opposed efforts to eradicate discrimination against blacks because these efforts ignored “biological and social facts.”²³ A group of scientists in the late **1950s** and **1960s** attempted to overturn the unanimous Supreme Court verdict that struck down school segregation on the grounds that blacks were intellectually inferior to whites. **The** logic underlying all these proposals viewed political inequality **as** the natural consequence of biological inferiority; science should demonstrate the latter so society might have appropriate justification to implement the former. **As** one writer who opposed equality for blacks early in the century frankly admitted, unless blacks were “racially inferior,” the “denial of . . . equality appears as a colossal injustice, an immeasurable **wrong.**”²⁴ The role of science was to confirm that no such injustice was taking take place.

Since the mid-1960s in a social atmosphere much less tolerant of blatant deprivations of civil rights, the science of racial differences has encouraged more subtle political implications. For example, poverty among blacks was explained by some scientists as the economic consequence of natural inequality. Blacks’ claims of continuing racial prejudice could thus be dismissed as “social paranoia” since the real problem lay in their genes. **As** one well-known psychologist noted, “Failure to succeed is less apt to be perceived as personal failure if one identifies with a group which is claimed, justifiably or not, to be discriminated against. **Having** the status of an unprivileged caste, real or imagined, makes personal failure more tolerable.”²⁵

Some scientists also insisted that government programs of assistance to the poor, which had originated with Lyndon Johnson’s War on Poverty, could be justified only if there were no genetic differences in ability between races. Thus, they argued, their “proof” that such differences did exist made these programs scientifically unsound.

Finally, even when the results of research have not been intended as justification for policies of repression and discrimination, they turn out to be made to order for the proponents of such policies. Whenever scientists

have concluded some group to be genetically inferior, some of the investigators have wound **up** in either organizational **or** informal alliance with right-wing political **groups**, often fascists or racists who have been more than pleased to use scientific authority **as** a source of prestige for their own doctrines. The use of science for this purpose has generally been **accomplished** with the cooperation of, or at the very least without protest from, the scientists. That is, although it has usually been the ideologues in these coalitions who have fired the shots, the scientists have furnished the ammunition with no reservations **over** its use.

Though it might be argued that the political exploitation of scientific results is a *misuse* of science, the following chapters demonstrate that the effort to prove the innate intellectual inferiority of some **groups** has **led only** to oppressive and antisocial **proposals**; it has had no **other** use. Indeed, there **is** no "legitimate" application for such a finding. Even if there were convincing proof of genetic differences between races, as opposed to the flawed evidence that has been offered in the past, it would serve **no** purpose other than to satisfy curiosity about the matter. While the desire for knowledge, whether or not it has practical value, is not to **be** denigrated, a judicious use of our scientific resources would seem inconsistent with the pursuit of a goal that is probably scientifically chimerical and certainly lends itself to socially pernicious ends.

1

“Helping Along the Process”: Social Science and Race in the Nineteenth Century

SCIENCE first turned its attention to the concept of race in 1735, **when** the great biological taxonomist Carolus Linnaeus grouped human beings into four varieties—red, yellow, white, and black. Though skin color was the primary basis for **this** categorization, Linnaeus also distinguished the races **by** personal characteristics specific to each; the whites, for example, were described as keen minded and innovative, the blacks as lazy and careless.’ The assumption that mental and moral traits were associated with race was to inform many scientific investigations during the next two hundred years.

The Linnaean system was revised and extended in 1781 by the physiologist Johann Friedrich Blumenbach, generally considered the founder of modern anthropology, who added esthetic judgments to personal traits **as** possible elements of racial classification. Blumenbach was the first to use the term *Caucasian* because **he** considered **the most** beautiful **race** to have originated on the southern **slopes** of Mount Caucasus in the Georgian area:

the stock displays, **as** we have seen, the most beautiful form **of** the skull, from which, as from a mean and primeval type, the others diverge by most easy gradations on both sides to the two ultimate extremes (that is, on the one side the Mongolian, on the other the Ethiopian). Besides, it is white in color, which we may fairly assume to have been the primitive color of mankind, since as we have shown above, it is very easy for that to degenerate into brown, but very much more difficult for dark to become white.²

At the same time that natural scientists were taking these first taxonomic steps, another approach to imposing order, not just on human

beings hut on all of nature, was reaching the peak of its popularity. The concept of the great chain of being, rooted in the Aristotelian notion that inequality was the foundation of natural order, flourished throughout the eighteenth century and well into the nineteenth. Its basic premise was the existence of a hierarchy that allocated every form of life to its appropriate rank in the great chain, from the lowest position to the highest; biological variety was thus synonymous with natural inequality.³ This was a pervasive belief throughout the natural philosophy of the time, and it even found frequent literary expression. Alexander Pope's *Essay on Man*, one of the best-selling works of the late eighteenth century, did much to popularize the notion that "Order is heaven's first law, and this confest, / Some are, and must be, greater than the rest."⁴

Although the great chain placed humans at the pinnacle of earthly creatures (the chain, of course, continued beyond humans through various heavenly beings to God, the Creator), it was hut a small step to apply the same concept of hierarchical ordering within the ranks of humankind, a step that seemed only natural to Europeans as they came into increasing contact with people of color from newly discovered lands. The hints of relative racial merit contained in the scientific tradition, with its attachment of personal traits and esthetic judgments to skin color, soon merged with the assumptions of the great chain, and the creation of a vertical ordering of the races became an accepted task of science. There was, however, no single index or criterion on which such a scale could be based. The doctors and scientists who carried out these early studies consequently turned to predominantly physiognomic and anatomical gradations, searching for those characteristics that would distinguish higher animals from lower ones and noble races from savages.

Frequently these methods placed blacks somewhere between humans and other animals. In 1799, for example, the eminent English physician and surgeon Charles White concluded on the basis of anatomical and physiological evidence that blacks were a completely separate species, intermediate between whites and apes. The feet of blacks, their fingers and toes, their "gibbous" legs, their hair, their cheekbones and chin, the length of their arms, the size of their skull and sex organs, and even their body odor placed them much closer than Europeans to "brute creation," according to White. Data that did not fit this model were appropriately finessed. Body hair, for example, present in much greater abundance among lower animals and whites than among blacks, should have suggested by White's own logic that the blacks were the "higher" life form, but it was the "noblest" of animals, he observed, "the majestic lion, the king of the forest . . . and . . . that most beautiful . . . animal, the horse," that shared with whites the trait of long flowing hair.⁵ Exceptional capabilities exhibited by blacks only constituted further proof of their proximity to infrahuman

species. For example, the superior memory some blacks displayed, White maintained, was an ability shared by a number of domestic animals, like the horse and the dog.⁶

As he "ascend[ed] the line of gradation," White came "at last to the white European," that superb first link in the chain, the one "most removed from the brute creation, . . . the most beautiful of the human race," and unquestionably the most "superior. . . in intellectual powers." In a famous paean to the magnificent natural assets of that group to which he belonged, White inquired, rhetorically, where else could he found

that nobly arched head, containing such a quantity of hrdin . . . ? Where the perpendicular face, the prominent nose, and round projecting chin? Where that variety of features, and fulness of expression; those long, flowing graceful ringlets; that majestic heard, those rosy cheeks and coral lips? Where that erect posture of the body and noble gait? In what other quarter of the globe shall we find the blush that overspreads the soft features of the beautiful women of Europe, that emblem of modesty, of delicate feelings, and of sense? Where that nice expression of the amiable and softer passions in the countenance; and that general elegance of features and complexion? Where, except on the bosom of the European woman, two such plump and snowy white hemispheres, tipt with vermilion?"

Setting an example followed by scores of researchers during the next two centuries, White declared his lack of malice toward blacks; his only purpose was "to investigate the truth, and to discover what are the established laws of nature." He fervently proclaimed no desire to see blacks oppressed just because they were a separate species, of greater biological proximity to anthropoids than to Europeans, and hoped that nothing he said would "give the smallest countenance to the pernicious practice of enslaving mankind."⁸

White got his wish. His catalog of similarities between blacks and apes was not substantially exploited by the defenders of slavery—hut probably not because they found his views unreasonable. Indeed, there had been previous attempts by proslavery writers to classify blacks with "oran-outangs"—the earlier term for what is presently called a chimpanzee—in the great chain, though they had lacked the wealth of scientific detail that characterized White's argument.⁹ For that matter, even some opponents of slavery gave indications of similar thinking: though Thomas Jefferson would eventually observe, concerning blacks, that "whatever he their degree of talents, it is no measure of their rights,"¹⁰ he also wrote of matings between black women and the "Oranootan."¹¹ An elaborate

empirical proof of its victims' inferiority had not yet become a tactical necessity for the defense of slavery, however; at the time the "pernicious practice" was an unquestioned fact of economic life. Of course, it was implicitly assumed, even if not customarily articulated, that blacks were by nature subordinate to whites in the chain of being. As one slaveholder rather eloquently remarked at the turn of the century, "Nature, governed by unerring laws, which command the oak to be stronger than the willow, and the cyprus to be taller than the shrub, has at the same time imposed on mankind certain reflections, which can never be overcome. She has made some to be poor and others to be rich; some to be happy and others to be miserable; some to be slaves and others to be free."¹² No data were yet required to verify this self-evident proposition. Slavery was viewed as an expression of the harmony between natural law and social organization.

Science vs. Freedom

Some twenty-five or thirty years later, however, chattel slavery in the United States had become the target of an abolitionist assault determined to expose the contradiction between the subordination of blacks and the universal equality recognized in both the Declaration of Independence and the society's traditional religious teachings. In response to this attack, the defenders of slavery moved to make their underlying premise more explicit, believing that a clear demonstration of black inferiority as an unalterable fact of nature would completely justify their position. As one of them frankly admitted about the empirical claim, "If this be not true, American slavery is a monstrous wickedness."¹³ This approach marked the first appearance of a new ideological position, one insisting that science was an appropriate source of moral authority. Logically flawed but politically appealing nonetheless, it became the basis for an ongoing campaign to establish a scientific rationale for first slavery and then various forms of postbellum racial oppression.

"Diseases and Physical Peculiarities"

A number of proslavery doctors, in particular, authored reports scrutinizing the anatomy and physiology of blacks. The results were predictable. John H. van Evrie, for example, produced the lengthy analysis *Negroes and Negro "Slavery,"* elegantly subtitled *The First an Inferior Race; The Latter Its Normal Condition*, in which a detailed examination of every body part led to the subtitle's conclusions. To begin with, he found that dark skin was physically incapable of expressing many of the emotions

displayed by whites—"the blush of . . . modesty," the "bloodless white" of grief—an indication to van Evrie that such emotions did not exist for blacks. In fact, he concluded, since poor health produced an "ash-color" in blacks and a "clouded" skin color in whites, equality between the races became possible only when "disease and unnatural conditions prevail."¹⁴ Van Evrie also found that blacks lacked both "the brain . . . [and] the vocal organism" essential to music: "the negro . . . neither perceives nor can he give expression to music," and "therefore such a thing as a negro singer is unknown." The hands of blacks he judged coarse and blunt, preventing any possible achievement in such fields as art or surgery. This poorly developed sense of touch was only confined to the fingers, however; throughout the rest of the body he noted an oversensitive tactile sense, which caused a fifty-year-old black to howl like a schoolboy from a few simple lashes with an ordinary switch. He remarked on the contrast between this oversensitivity of the skin and "the obtuse sensibility of the brain and nervous system," which enabled blacks "to bear hanging very well."¹⁵ Finally, the overall structure of the black figure—the relation of limbs and spine to the "narrow and longitudinal bead"—led van Evrie to conclude that the race was incapable of "direct perpendicular" posture. If those foolish reformers desiring to educate blacks were actually to get their way, he explained, the broader forehead produced by such an effort would destroy the delicate harmony between head and body, rendering blacks "utterly incapable of locomotion or of an upright position at all"—education would make it literally impossible for blacks to stand on their feet. In contrast to all these anatomical indications of black inferiority, van Evrie found that the broad forehead and straight lines of the white "stamp him the undisputed master of all living beings." This supremacy, he insisted, was obvious even to animals: a desperate lion or tiger never seized a white, according to the doctor, but frequently preyed on blacks, whom the animals instinctively recognized as inferior beings.¹⁶

Though van Evrie's polemic was intended to influence lay opinion, particularly in the North, many southern doctors wrote for their peers, both professional and regional. Samuel Cartwright, chairman of a committee appointed by the Medical Association of Louisiana to report on the "diseases and physical peculiarities of the Negro race," presented the committee's findings in a southern medical journal. Though his conclusions were similar to van Evrie's, Cartwright's discussion of black physiology exhibited the greater technical sophistication expected in a professional publication. He described in some detail how not only the black man's skin but also "his bile, . . . his blood, . . . the brain and nerves, the chyle and all the humors" were all "tinctured with a shade of the pervading darkness." Furthermore, according to Cartwright, blacks had a brain smaller than that of whites from which nevertheless descended larger

nerves, causing what little intellectual power they had to be diffused into "nervous" energy appealing only to the senses. In contrast to van Evrie, Cartwright found blacks capable of producing music but not the kind that involved "nondantending"; it was music with "melody, but no harmony . . . mere sounds, without sense or meaning." Finally, he explained, a deficiency of red blood caused by "defective atmospherization" allowed all the dark humors and bile in blacks to "predominate." This insufficient supply of red blood, when conjoined with the smaller brain and excess nervous matter, constituted the "true cause," in Cartwright's analysis, "of that debasement of mind" in blacks. There was some hope for improvement of this detrimental condition, however: "Under the compulsive power of the white man, [blacks] are made to labor or exercise, which makes the lungs perform the duty of vitalizing the blood more perfectly than is done when they are left free to indulge in idleness. It is the red, vital blood, sent to the brain, that liberates their mind when under the white man's control: and it is the want of a sufficiency of red, vital blood, that chains their mind to ignorance and barbarism, when in freedom." Freedom was the cause of physiological illness in blacks, and slavery was the cure. Slavery, wrote Cartwright, improved blacks "in body, mind and morals."¹⁸

In keeping with this analysis, Cartwright paid particular attention to "drapetomania," that disease of the mind that caused slaves to run away to freedom. "With the advantages of proper medical advice, strictly followed," this malady could be almost entirely prevented, said the doctor. The prescription for both cure and prevention, he explained, was to treat blacks like children—to show "care, kindness, . . . and humanity" as long as they were appropriately submissive, but should they dare "raise their heads to a level with their master," to "whip . . . the devil out of them" until they returned to "that submissive state which it was intended for them to occupy."¹⁹

Although Cartwright's report was obviously somewhat less than objective, the federal census of 1840 suggested that he might not have been altogether wrong about the salutary effects of slavery. In the *Boston Medical and Surgical Journal* (later to become the *New England Journal of Medicine*, one of the most prestigious medical publications in the country) Edward Jarvis, a specialist in mental disorders and eventually president of the American Statistical Association, analyzed the census data on the incidence of insanity. Jarvis found no geographic difference for whites, obtaining approximately the same rate of insanity in the North as in the South. For blacks, however, the proportion of "lunatics" in the free states was ten times that of the slave states, so that in the South blacks suffered considerably less from insanity than whites did, while in the North their rate of insanity was six times that for whites. New Jersey,

the southernmost northern state, had the lowest rate of black lunacy above the Mason-Dixon line but still more than double that of its neighbor Delaware, the northernmost southern state, which had the highest incidence below the line; for blacks Mason and Dixon had apparently drawn a line between freedom and sanity. Despite his personal opposition to slavery, Jarvis could not avoid the obvious interpretation: "Slavery has a wonderful influence upon the development of moral faculties and the intellectual powers; and refusing man many of the hopes and responsibilities which the free, self-thinking and self-acting enjoy and sustain, of course it saves him from some of the liabilities and dangers of active self-direction." By keeping the mental powers of blacks "comparatively dormant," Jarvis wrote, their minds had been saved from "misdirection or over-action," yet further proof, he concluded, that "in the highest state of . . . mental activity there is the greatest danger of mental derangement; where there is the greatest mental torpor, we find the least insanity."²⁰

Only sixty days later a sheepish Jarvis reappeared in the same journal to disclaim completely the statistics on insanity among free blacks. On reflection he had become suspicious about the "extraordinary and unaccountable proportion" of insane northern blacks, especially in the New England states: the farther north the state, the higher was the incidence of black insanity until in Maine one out of every fourteen blacks was a victim of this condition. Upon checking the original reports, Jarvis found that in many northern New England municipalities the number of blacks reported insane was larger than the total number of black residents. For example, in seven Maine towns that listed absolutely no black inhabitants, a total of twenty-six blacks had been reported as insane; similar inaccuracies were discovered throughout the northern states. Jarvis expressed the hope that all of the original documents would be reviewed in Washington and the errors remedied. In the meantime he admitted being "disappointed and mortified over his prior conclusions, "but having unconsciously sent forth error, we take this our earliest opportunity to correct it."²¹

These hopes for immediate rectification were somewhat naive. Not only did the errors remain uncorrected, but the inaccurate data provided a field day for slavery's ideologues, who offered self-serving interpretations of this lunacy-latitude correlation, which horrified genteel southerners by conjuring up the specter of hordes of savage black maniacs, converted from faithful slaves by the inevitable consequences of abolition. One southern magazine, apparently not content even with the differences in the erroneous data, presented a table, allegedly derived from the census, in which the black population of each northern state had been reduced by about one half. Since the number of lunatics was not changed, the omission of half the free black population had the effect of approximately doubling the rate of black insanity in each northern state; now,

1.0 out of every 6.7 blacks in Maine was a lunatic, whereas in Louisiana the ratio was 1 in 4,031.²² Furthermore, the article noted, if only slaves had been included in the data from the southern states, the ratio would have been even higher; presumably, the large number of insane free blacks in the slave states had lowered this index of mental health from the height that could have been achieved by enslavement of the entire race. The *Southern Literary Messenger* also contributed an interpretation of the data, which, though unsigned, was introduced by the editor as the product of a "vigorous and comprehensive mind." Undeniably sensitive as well, the author expressed great sympathy for the "unparalleled suffering of blacks in New England, who had succumbed in such large numbers to the evils of freedom; it was, he said, truly "dreadful." In addition to this proven harm to the mental stability of blacks, however, the anonymous writer also worried that freedom made them more vicious and thus more dangerous to whites. If the South were ever foolish enough to consent to abolition, "where," he inquired, "should we find penitentiaries for the thousands of felons? Where lunatic asylums for the tens of thousands of maniacs?" If blacks were "suddenly turned loose," what kind of life would be possible, he wondered, "in a country where maniacs and felons met the traveller at every crossroad?"²³

Jarvis fought back strenuously against this political exploitation of data he knew to be seriously flawed. Turning to sarcasm, he termed the numerous instances of black insanity that had been reported in towns without any black residents "disorders [which] exist there in a state of abstraction, . . . fortunately for humanity, where they are said to be present, there are no people to suffer from them." The census data, he continued to insist, were "a hearer of falsehood to confuse and mislead," and again he called for a review and correction of the errors—for "the honour of our country, . . . medical science, and . . . truth."²⁴ Jarvis also led the American Statistical Association to petition Congress for revision of this section of the census.

These efforts were in vain. Indeed, some federal officials who had been informed of the errors continued to cite the data in support of slavery. Secretary of State John C. Calhoun, under whose jurisdiction the census had been conducted, resisted all efforts to acknowledge the errors. At the same time he wrote to a foreign opponent of slavery that abolition would be "neither humane nor wise," because the census had shown that free blacks "invariably sunk into vice and pauperism, accompanied by the bodily and mental inflictions incident thereto—deafness, blindness, insanity and idiocy—to a degree without example," whereas the more fortunate blacks in the slave states flourished "in number, comfort, intelligence and morals."²⁵ As the clearest evidence for this wretched condition of free blacks, Calhoun cited the statistics on idiocy and insanity in Maine

and Massachusetts, the two states where Jarvis had just documented in detail the most outrageous errors.

Seventeen Cubic Inches of Bmin

Though the medical case for black inferiority could perhaps be dismissed as proslavery propaganda, during the 1840s and 1850s a group of "genuine" scientists emerged to proclaim blacks a separate and inferior species rather than just members of a less developed culture. Less vulnerable to a charge of bias or political interest, these authorities provided irresistible evidence for those who maintained that racial equality had to be proven a biological fact before it could be entertained as a political policy.

The most prestigious member of this group was the great Swiss naturalist Louis Agassiz, who immigrated to the United States and assumed a professorship at Harvard. After his death Agassiz's private correspondence was published by his widow, Elizabeth Cary Agassiz, herself well known as founder and first president of Radcliffe. In 1978 the Harvard paleontologist Stephen J. Gould compared the original letters with the edited versions that had appeared in print and for the first time made public some of the omissions. Just prior to his own conversion to the theory that blacks constituted a separate species, Agassiz had described his first personal contact with "men of color," domestics at a Philadelphia hotel:

I experienced pity at the sight of this degraded and degenerate race . . . it is impossible for me to repress the feeling that they are not of the same blood as us. In seeing their black faces with their thick lips and grimacing teeth, the wool on their head, their bent knees, their elongated hands, their large curved nails, and especially the livid color of the palms of their hands, I could not take my eyes off their faces in order to tell them to stay far away. And when they advanced that hideous hand towards my plate in order to serve me, I wished I were able to depart in order to eat a piece of bread elsewhere, rather than to dine with such service. What unhappiness for the white race—to have tied their existence so closely with that of negroes in certain countries! God preserve us from such a contact!²⁶

Having delivered himself of such a peroration in private, Agassiz went on to offer his public statements as the disinterested pronouncements of the man of science. His first major article on race differences began by emphatically denying any possible connection with political matters in general or slavery in particular. "Let the politicians, let those who feel themselves called upon to regulate human society, see what they can do

with the results." he wrote; scientists had the "right to consider the questions growing out of men's physical relations as merely scientific questions." Some thirty pages later, however, this wall of separation between science and politics was showing signs of decay, as Agassiz suddenly offered a more practical motivation: scientists had "the obligation to settle the relative rank among, . . . races," because it would be "mock-philanthropy and mock-philosophy to assume that all races have the same abilities. . . and that in consequence. . . they are entitled to the same position in human society."²⁷ By the penultimate paragraph the facade had completely crumbled: the fact that the "submissive, obsequious, imitative negro" displayed a "peculiar indifference to the advantages afforded by civilized society" compelled Agassiz to conclude that "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."²⁸

While support from the internationally recognized Agassiz conferred his prestige on the "American school of ethnology," it was the Philadelphia physician Samuel George Morton who contributed the definitive empirical evidence, the data that supposedly clinched the case for black inferiority. From his collection of over eight hundred skulls from throughout the world Morton had calculated the cranial capacities of different races: the various Caucasian subgroups ranked highest on this measure, American Indians much lower, and "Ethiopians," a common designation for blacks at the time, last. Morton's method for determining internal skull capacity was impressive for its cautiousness and painstaking attention to detail. In brief, the skull cavity was filled with white pepper seeds that were then transferred to a tin cylinder from which the volume of the cranium could be read off in cubic inches.²⁹ Later when Morton found inconsistencies in the data obtained in this fashion, he changed to lead shot one-eighth-inch in diameter to yield more reliable results.³⁰ His research received almost universal acclaim for its devotion to objective data and its freedom from doctrine and dogma.

Nevertheless, it was undeniable that Morton had begun with his own preconceptions. In *Crania Americana*, his first major publication, he prefaced the data with a lengthy description of racial characteristics: the Caucasians had given the earth "its fairest inhabitants" and were distinguished for the "highest intellectual endowments," whereas American Indians were "averse to cultivation," and blacks were "the lowest grade of humanity." More specific subgroups were given more specific characterizations: the "Esquimaux" were "crafty, sensual, ungrateful, obstinate and unfeeling, and much of their affection for their children may be

traced to purely selfish motives"; one Indian tribe was "altogether repulsive, . . . slow and stupid," with a "vacant" expression of face. As usual the choicest epithets were reserved for various black groups, as Morton dwelled obsessively on the minute details of their appearance: one was the "nearest approximation to the lower animals," another was "filthy, . . . gluttonous, . . . licentious," and yet another was "repulsive in the extreme."³¹ On looks alone it was clear to Morton that these people were incapable of civilization.

Despite these indications of ethnocentrism, the data could still be considered on their merits; certainly a mathematical measurement could not be accused of a personal or political bias. Of course, underlying the procedure was the assumption of a simple and direct relationship between the size of the brain and intellectual ability. As one historian has pointed out, almost all of the skulls in the three highest Caucasian subgroups had belonged to white men hanged as felons, and it would have been just as logical to conclude that a large head indicated criminal propensity.³² Nonetheless, the erroneous belief that skull size reflected intelligence had widespread currency in nineteenth-century literature and science. In the "Adventure of the Blue Carbuncle" Sherlock Holmes examined a hat and drew the "obvious" conclusion that its owner must be "highly intellectual." When Watson inquired about the basis for this deduction, "for answer Holmes clapped the hat upon his head. It came right over the forehead and settled upon the bridge of his nose. 'It is a question of cubic capacity,' said he; 'a man with so large a brain must have something in it.'"³³

The nineteenth-century discussions of this belief seem quite comical today. In Holmesian fashion hat sizes were indeed compiled and offered as evidence of intelligence by those unmindful of Thersites's reminder that Agamemnon was "an honest fellow enough, . . . but he has not so much brain as ear wax."³⁴ Personal vanities also played an amusing role. Charles Caldwell, a medical professor, announced unblushingly to a large audience that "there are only three great heads in the United States: one is that of Daniel Webster; another that of Henry Clay; and the last, . . . modesty prevents me from mentioning."³⁵ In a published exchange that went on for some months, another adherent to the bigger-is-better doctrine silenced an opponent with the observation that in his experience "those who deny the . . . importance of the brain's volume have small heads."³⁶

Even if cranial capacity were a valid indication of ability, Morton's data contained serious error that was not discovered until Stephen J. Gould recently reanalyzed the original measurements.³⁷ First of all, he found that Morton had failed to consider or correct for the effect of stature on cranial size. For example, at one point Morton used a female

sample of "Hottentots" and a male sample of Englishmen to support the superiority of the latter. Larger people have larger skulls, but certainly body size is no indicator of intelligence, and Gould pointed out that recognition of this factor alone could have accounted for all important differences in brain size among races. In addition, there were various miscalculations and omissions in the original analysis, every one of which worked in favor of the final conclusion of white superiority. Morton omitted small-brained subsamples (like the Hindus) from the Caucasian mean, while including such subsamples (Inca Peruvians) in the American Indian mean. Some individual large skulls of disfavored races were conveniently omitted from the final calculations, and some means were incorrectly rounded off to the nearest cubic inch, the direction of the error being upward for white subsamples and downward for black ones.

Finally, Gould noted that the difference between whites and blacks decreased dramatically after Morton changed from white pepper or mustard seed to lead shot as the "filler" for determining the brain's volume. Though Morton had made the change to increase the consistency of his measurements, the new values obtained with the more reliable lead filler produced a substantial increase in the average black skull volume but relatively little alteration in the white one. This result suggested to Gould that much of the originally reported difference had been due to the "pack" factor. With seed, if a specimen was known to be from a "smart" race, the skull cavity might be filled more tightly than a skull from a "stupid" race; the unyielding lead shot was less susceptible to this subtle source of bias. Though Gould did not find any indication of intent to deceive on Morton's part, he summarized Morton's research as "a patchwork of fudging and finagling in the clear interest of a priori convictions."³⁸

While Morton himself made no public statement of support for slavery, he was hardly chagrined when others found his conclusions admirably suited for that purpose, and in some ways he seemed to encourage it. When told, shortly after publication of his latest book, that John Calhoun would "appreciate the powerful support" it offered for the South, Morton suggested that one of the few copies available at the time he sent to him. In subsequent correspondence between the scientist and the secretary of state, Morton supplied further anthropological evidence to bolster the antiabolitionist case.³⁹ When he died unexpectedly at only fifty-two, the *New York Tribune* noted that "probably no scientific man in America enjoyed a higher reputation among scholars throughout the world," but the *Charleston Medical Journal* paid a more blunt tribute: "we of the South should consider him as our benefactor, for aiding most materially in giving to the negro his true position as an inferior race."⁴⁰

Agassiz and Morton agreed that the "lower" races were distinct spe-

cies incapable of abstract reasoning, but for the most part they left it to others to spell out the specific political consequences of these scientific facts, a task that one of their colleagues pursued with a vengeance. Josiah Clark Nott, a southern gentleman, physician, and internationally recognized ethnologist, liked to refer to himself as an expert in "Niggerology," and his articles and addresses in support of slavery frequently appeared in journals representing the opinions and aspirations of the Old South. Despite being a slaveowner, Nott consistently proclaimed himself "at heart an emancipationist" if only it could be proven that blacks would benefit from freedom; however, all the scientific evidence demonstrated to him that blacks were an inferior species who had already attained their "greatest perfection" under slavery.⁴¹ Appearances alone were sufficient for Nott to reach this conclusion. In his leading anthropological text, *Types of Mankind*, one set of illustrations compared the upright skull of a white with the more gradually sloped skulls of a black and a chimpanzee. "A man must be blind," noted the accompanying discussion, "not to be struck by similitudes between some of the lower races of mankind, viewed as connecting links to the animal kingdom; nor can it be rationally affirmed, that the Orang-Outan and Chimpanzee are more widely separated from certain African and Oceanic Negroes than are the latter from the Teutonic... types."⁴² Nott, however, apparently took precautions just in case there was some problem with the reader's vision: Gould has noted that the black's skull was falsely extended to accentuate the desired impression.⁴³

In addition to this visually compelling testimony, Morton's data provided Nott with the ultimate confirmation of black inferiority—those "seventeen cubic inches" of brain that separated the "lowest" race from the "highest"—the "Teutonic."⁴⁴ In the face of such evidence, concluded Nott, "unless some process [could] be discovered by which a Negro's head may be changed in form, and enlarged in size," there was no possibility for blacks to function in a free society. Only the "strictly-white races," he explained, the Anglo-Saxons, who were "destined, . . . to conquer and hold every foot of the globe," could exist under stable republics; the "dark-skinned races"—not only the blacks, according to Nott, but also most French, Italian, Spanish, and Portuguese—were "only fit for military governments."⁴⁵ Since the cause of their plight was anatomical, education could not improve the servile position mandated for blacks by science. In fact, Nott observed, "the negroes who cannot read and write are more moral, more pious, more honest, and more useful members of society" than those who had been made "vicious" through education.⁴⁶

It was therefore not a matter of what Nott called "abstract notions of liberty and slavery"; indisputable scientific facts compelled him—or so he claimed—to support a system of social relations that he would other-

wise find objectionable. He once reminded a Mobile, Alabama, audience, however, that emancipation would also destroy "the prosperity, happiness, and political power of the Southern States."⁴⁷ It seemed that the dictates of science converged nicely with other motivations that were less sublime.

A Scorch from Top to Bottom

The American school's insistence that blacks were not just inferior but a completely separate species presented both cultural and scientific problems. Since this claim contradicted the biblical version of creation, it was unacceptable to many southern fundamentalists. Then, too, the customary scientific criterion for distinguishing two species was either their inability to crossbreed or the infertility of their offspring. Because the former test could not withstand abundant hostile evidence from numerous clandestine experiments in southern laboratories, the American ethnologists settled on a new variation of the latter, insisting that mulattoes were "had breeders," whose reproduction would gradually decline until they completely died off.⁴⁸ This contention would not remain tenable for very long either, but the eventual resolution of the taxonomic question in favor of a single species in no way diminished the practical usefulness of Morton's data.

Indeed, the difference in cranial capacity became just one of a number of anthropometric measures, unencumbered by theoretical baggage, that were extensively investigated both before and after emancipation, not so much to prove black inferiority but to identify its bodily manifestations. The presumptive inferiority of blacks became the basis of a search for associated morphological or anatomical signs; any characteristic on which blacks differed from the white standard of perfection was a likely candidate. Extensive overlap on many of these measurements was largely ignored in favor of an obsessive quest for differences, often relatively inconsequential ones, which could then be cited as profoundly significant. If one measure proved unsuitable, it was discarded and replaced with another that would yield the desired results.

The exterior of heads was subjected to as much scrutiny as their interior. In 1852 Peter Browne announced the results of his microscopic observations of human hair. He had found certain "canals" in the hair of whites that did not exist in the hair of blacks, and since, according to Browne, "a greater variety of apparatus" indicated greater perfection, he drew the unavoidable conclusion: "The hair of the white man is more perfect than that of the negro . . . we will not, perhaps, be wandering astray in ranking the hair of the head of the white man as a perfect hair."⁴⁹

Though first investigated some sixty years earlier,⁵⁰ another character-

istic of considerable interest during the mid-nineteenth century was the facial angle, defined as the angle that the frontal plane of the face—a line approximately tangent to the upper lip and forehead—made with the horizontal; that is, the farther back the forehead relative to the chin, the smaller the facial angle. To measure this index, a special instrument bearing some resemblance to a protractor was devised, and it produced results that again indicated the greater proximity of blacks to lower animals. Putatively superior beings, those claimed to possess greater beauty as well as intelligence, were marked by larger facial angles. The idealized statues of Greek deities yielded values as high as a hundred degrees, while blacks were typically measured at between sixty and seventy degrees, apes lower, and dogs lower still. Small facial angles were characterized by a nose whose line diverged considerably from the vertical, often referred to as a "snout," and by a projecting jaw termed "prognathous," as opposed to the more upright or "orthognathous" jaw of "higher" specimens. Noting that "those animals with the longest snouts are always considered the most stupid and gluttonous," one of Morton's followers observed that the "animal aspect" of the prognathous blacks could not "fail to strike an unprejudiced observer."⁵¹ In 1865 the great English biologist Thomas H. Huxley, though an outspoken opponent of slavery, contributed his famous observation about "our dusky cousins." "It is simply incredible," wrote Huxley, in anticipation of the imminent abolition of slavery, "that, when all his disabilities are removed, and our prognathous relative has a fair field and no favor, as well as no oppressor, he will be able to compete successfully with his bigger brained and smaller-jawed rival, in a contest which is to be carried on by thoughts and not by bites."⁵²

Also a subject of extensive investigation was the cephalic index, a measurement of the general shape of the skull, defined as the ratio of its breadth to its length multiplied by one hundred to eliminate the decimal point. Ratios below seventy-five indicated skulls that were long and narrow, termed "dolichocephalic"; those between seventy-five and eighty, slightly broader or "mesocephalic"; and even rounder heads with ratios above eighty were called "brachycephalic." Just as beauty and intellect were conveniently linked in the facial angle, so dolichocephalics were claimed to be both the most physically attractive and the most intelligent. Objections arose to this classification, however. The French scientist Paul Broca, inventor of the cephalic index, had no argument with other anthropological claims of the time. He agreed that intellectual inferiority was associated with "a prognathous face, . . . black . . . skin, woolly hair," while "white skin, straight hair and orthognathous face" were the "equipment of the highest groups." But Broca, whose own head was round-shaped, found equating dolichocephaly with intelligence less

and the "atrophic condition of the external genital organs in which the labia are much flattened and thinned, approaching in type that offered by the female anthropoid ape, . . . lemur and other pithécoid animals."⁵⁹ This exaggerated anatomy naturally produced an appetite to match, and scientists remarked on the similarity between the "*furor sexualis* in the negro . . . [and] similar sexual attacks in the bull and elephant." Invoking the South's worst nightmare of sooty desecrators unashed by abolition, they attributed these outbursts to the "changes in the social . . . status of the negro race" that had occurred "in states cursed by carpet-bag statesmanship."⁶⁰ One physician insisted that the attempt to educate blacks was "gross folly" because it would not "reduce the large size of the negro's penis" or "prevent the African's birthright to sexual madness."⁶¹ Meticulous anatomical measurement had again found blacks unable to profit from schooling; they were too small at one end and too big at the other.

Many of these anthropometric studies appeared during the period of intense dissatisfaction with Reconstruction, thus providing a welcome source of scientific justification for the politics of disfranchisement and segregation. The scientific finding that blacks were condemned by their nature to be hewers of wood and drawers of water could certainly not be changed by a mere act of Congress, a point emphasized by some politicians in great detail during the congressional discussions of postwar legislation. In his opposition to Reconstruction, for example, Congressman James Brooks explained to his colleagues in the House that the difference between blacks and whites was "essential, organic, throughout, from the crown of the head to the very sole of the feet. The negro is a different creature, with a different brain and different structural organization." As support for this contention, Brooks presented all the contemporary data on hair, skull size, facial angle, length of the leg, size of the foot, and even shape of the nostrils. Appended to his lengthy address was a chart taken directly from Nott's text, *Types of Mankind*, listing twenty-three varieties of interracial matings, which Brooks had retitled "The Miscigenation in Preparation for Us." The only "sound" policy, he concluded, could occur "where ethnology is discussed scientifically."⁶²

From Comparison to Competition

While anthropometrists were scouring the anatomical landscape willfully in search of the signs of black inferiority, Charles Darwin first proposed the theory that was to revolutionize biology. In place of a supernatural power responsible for the creation of all life, Darwin offered a simple mechanical explanation for its "evolution," thus denying the

convincing. In a sudden show of insight he noted that the scientists who posited this link were themselves from countries in which the dolichocephalic type predominated and concluded that there was "a natural tendency of men, even among those most free of prejudice, to attach an idea of superiority to the dominant characteristics of their race."⁵³ Even more serious, the skulls of some "lower races" turned out to be unexpectedly dolichocephalic, placing them in the same anthropometric category as that of the highest ranking subgroups of white Europeans. (One infrequent solution to this problem was to acknowledge the data and to change the rules of classification; if blacks were dolichocephalic, then some writers had no qualms about labeling long heads the "lowest varieties" of mankind and round heads the "highest."⁵⁴ The more common response was to salvage the purported link between narrow heads and large intellects through the ingenious distinction between frontal elongation, the mark of white superiority, and occipital dolichocephaly, a lengthening of the rear of the cranium that produced a deceptively similar outward appearance of the skull, yet with no increase—in fact, with a diminution—in that portion of the brain responsible for intelligence.⁵⁵ Indeed, these bulging back portions found in the brains of the inferior races often produced behavior the untrained eye might find similar to that of whites; however, the discerning scientist could tell the difference between, for example, the "blind passions, ferocious instincts, and animal courage" that could be traced to the savages' occipital brain area and the "true courage, frontal courage, which we may call Caucasian courage."⁵⁶

Heads were not the only object of anthropometric examination. In the continuing search for anatomical characteristics that would suggest the similarity between blacks and apes, arm length also came in for scrutiny. The ratio of lower arm to upper arm was investigated but produced little interest when it turned out that on this measurement whites were closer than either blacks or American Indians to apes. The difference from the fingertip to the kneecap proved more satisfactory: due to their longer arm and shorter body, blacks measured about 60 percent of the average distance for whites, placing them appropriately closer to the "anthropoids."⁵⁷ Moving down the body, attention was focused on the sex organs. The French anatomist Etienne Serres found that the distance between navel and penis remained small throughout life for black males while it increased for whites, and he offered this disparity as evidence of black inferiority—what Gould has called "the rising belly button as a mark of progress."⁵⁸ Many doctors seemed almost obsessed with the sexual anatomy of blacks; just the titles of their journal articles suggested this preoccupation. In papers like "Genital Peculiarities of the Negro" and "Hymen of the Negro Women" physicians noted the "massive proportions" of the black penis

existence of any essential difference between the origin of human life and that of animals. He argued that evolution took place through "natural selection," a long gradual process in which organisms change through chance variations that turn out to produce differential reproductive success. This theoretical breakthrough had little impact on the conclusions of the anthropometrists. From their point of view the anatomical evidence was just as valid whether blacks had been created inferior or had evolved that way over tens of thousands of generations according to a process "decided among the prehistoric Protozoa."⁶³ The latter outcome seemed no less permanent than the former.

The Preservation of Weaklings

Of greater importance than Darwin's work itself to the scientists of race was "Social Darwinism," a mixture of oversimplified biology and opportunistic politics that arose as the dominant sociological thought of the late nineteenth century. In his pioneering work *The Origin of Species* Darwin had posited that those biological variations conferring some survival advantage on an organism in the "struggle for existence" were more likely to be preserved and transmitted to offspring. Darwin was careful to explain that this concept of "struggle" was intended "in a large and metaphorical sense including dependence of one being on another." Thus, for example, "a plant on the edge of a desert is said to struggle for life against the drought, though more properly it should be said to be dependent on the moisture."⁶⁴ In place of these cautious qualifications, however, Herbert Spencer, the major exponent of Social Darwinism, preferred to stress the "survival of the fittest," an inappropriate use of the superlative that converted the subtle dynamic suggested by Darwin's metaphorical "struggle" into Spencer's more sensationalized, literal version: the "struggle for existence," a *bellum omnium contra omnes*, in which purposeful cruelty was transformed into nature's method for biological progress.

Spencer's approach to evolution was intended to provide a normative framework for moral decisions. The replacement of creationism with evolution seemed to Spencer to undermine the authority of the Bible, indirectly raising doubts about the whole basis of ethics and the traditional notion of life's purpose, a lacuna that he sought to fill with a new goal, one derived from science: the continued evolution to "higher" forms of life. In place of traditional moral injunctions, now deprived in Spencer's opinion of their sacred origin, he offered a new foundation for a new morality, a religiosity without religion. "My ultimate purpose," Spencer acknowledged, "has been that of finding for the principles of right and wrong, in conduct at large, a scientific basis."⁶⁵

This scientifically derived system of ethics recognized that "pervading all Nature we may see at work a stern discipline which is a little cruel that it may be very kind." That is, a certain "salutary suffering" was viewed as the inevitable price of evolutionary progress, and attempts to avoid it would only thwart nature's method for preventing "vitiation of the race." The moral corollaries of this view ranged from benign neglect of the weak and helpless to their extermination. Traditional notions of humanitarian assistance to the poor and needy, the losers in the Social Darwinist struggle, would only do biological harm to posterity. Such aid was a "spurious" philanthropy, preventing fatalities from hunger and sickness, which might seem harsh when considered individually but which when "regarded... in connexion [sic] with the interests of universal humanity," Spencer found "full of beneficence—the same beneficence which brings to early graves the children of diseased parents, and singles out the intemperate and the debilitated as the victims of an epidemic."⁶⁶

As a consequence, the Social Darwinists opposed all governmental programs for charity, free meals, or other benefits for the undeserving inferior. Similar reasoning also justified opposition to the regulation of minimum wage and working hours, free public education, and all those other "socialistic" institutions, which, by improving the lot of the poor, would shield them from the just consequences of their own inferiority and pave the way for society's degeneration. Even modern advances in public health were seen as unnatural interference with biological progress since they contributed to the artificial preservation of weaklings.

During the late nineteenth century Social Darwinist theory exerted tremendous influence on both academic and popular thought. It was an important contributing factor to the decision to found sociology departments in a number of American universities and motivated many of the people who chose to study that discipline. Spencer's books alone sold over 300,000 volumes in the United States, a phenomenal total for works in technical fields like philosophy and sociology.⁶⁷ His ideas were so prevalent that Oliver Wendell Holmes, in a dissenting opinion, felt constrained to remind his colleagues on the Supreme Court that Spencer was not part of the United States Constitution.⁶⁸

Though popular on both sides of the Atlantic, Spencer became a veritable hero to the American business classes—and for good reason. His message that misguided philanthropy was a crime against nature and society provided balm for their conscience as well as relief for their taxes. More important, in an era of robber barons and the beginning of imperialist interests, here was a law of science that positively sanctified rapaciousness. Spencer had provided a model of inevitable competition in which, as Bertrand Russell reportedly once noted, victory was promised to those

who most resembled capitalists. If acts of compassion or loyalty were merely vain attempts to reverse the biologically ordained fulfillment of evolutionary destiny, then exploitation was not a mark of selfishness and unscrupulous ambition; it was the means to a biologically improved human being and a more harmonious universe. One could attain the highest principles of science by abandoning them everywhere else. Scientific and social progress, not to mention prosperity, could be ensured by the suppression and elimination of the weak by the strong, by the triumph of machine gun over bow and arrow, by unrestrained trade and competition, and by generally "sticking it to the other guy" with impunity. The business tycoons themselves were some of the loudest voices in the chorus of praise for ruthlessness. To justify the absorption of the smaller lines by the larger ones, the railroad magnate James J. Hill proclaimed that "the fortunes of railroad companies are determined by the law of survival of the fittest." Andrew Carnegie's biography described how his discovery of Spencer brought him round from theology and the supernatural to the "truth of evolution." John D. Rockefeller, a man intimately familiar with the practical details of competition, summarized the economic implications of Social Darwinism in a famous metaphor: "The growth of a large business is merely a survival of the fittest. . . . The American beauty rose can be produced in the splendor and fragrance which bring cheer to its beholder only by sacrificing the early buds which grow around it. This is not an evil tendency in business. It is merely the marking-out of a law of nature and a law of God."⁶⁹

"A Great Flood of Light"

Social Darwinism also extended the ubiquitous struggle for survival to units other than individual members of the society. The same kind of competition for resources supposedly took place at an intraindividual level, as different bodily systems vied for the same store of nutrients. For example, an acquisition by the nervous system, the foundation of intelligence, implied a loss for the reproductive system and vice versa. This was claimed to be especially problematic for women since reproduction was supposedly their major function. In the 1875 best-selling book *Sex in Education* E. H. Clarke, a professor at the Harvard Medical School, detailed the case histories of young women whose intellectual efforts resulted in a physique "where the milliner had supplied the organs Nature should have grown." If a woman put as much effort into education as a man did, he explained, then either her brain or her "special apparatus" would suffer. Excess intellectual effort by women would only produce scholarly invalids, "pale, weak, neuralgic, dyspeptic, hysterical, menorrhagic [sic], dysmenorrhoeic [sic] girls and women" with arrested breast develop-

ment, and as an illustration Clarke described the tragic case of a woman who, believing that she was a man's intellectual equal, "strove with noble but ignorant bravery. . . and died in the effort."⁷⁰ In Social Darwinist analysis there was inevitably an inverse relationship between intellectual activity and fecundity, which threatened to decrease the proportion of intelligent families in the population and produce biological deterioration of the society. For some unexplainable reason, however, physical work did not similarly attenuate fertility, and all those poor but hard-working women with numerous progeny constituted much of the threat by their tendency to outbreed the more cultured yet supposedly less prolific elements. To hold the biological line, the only hope was for many of the poor to succumb to the struggle at an early age, preventing the proliferation of their kind.

Even more significant, the Social Darwinists extended the concept of the struggle for survival to such larger aggregates as nations and races. Just as competition between individuals was necessary for evolutionary progress because it resulted in the early and unmourned demise of biologically inferior organisms, so the conflict between larger entities was claimed to be a valuable mechanism for ridding the world of inferior races. There was, wrote the British scientist and ardent Social Darwinist Karl Pearson, "one way, and one way only, in which a high state of civilization has been produced, namely the struggle of race with race and the survival of the physically and mentally fitter race." This contest was to be carried out, he explained, "chiefly by way of war with inferior races, and with equal races by the struggle for trade-routes, . . . sources of raw material and of food supply." Though Pearson acknowledged that the struggle between races meant "suffering, intense suffering," he maintained that only by prevailing over the "inferior races" has "mankind . . . arisen to the higher intellectual and deeper emotional life." Indeed, he warned, "when the sword shall be turned into the ploughshare, . . . when the white man and the dark shall share the soil between them, and each till it as he lists. . . when that day comes mankind will no longer progress; there will be nothing to check the fertility of inferior stock."⁷¹

To the anthropometrists' empirical investigations of black inferiority Social Darwinism now added significant theoretical consequences. For social scientists of the time the study of innate racial differences became the central problem, the key to understanding human societies. Such studies had always been informed by overtones of competition, at least since Agassiz had discovered science's "obligation to settle the relative rank among . . . races." Now that only the fittest races would survive, racial comparisons became a zero-sum game in earnest, one in which an admission of black accomplishment might lose important evolutionary points for whites. Of course, achievements by blacks had often been

denigrated. Uninfluenced by Spencerian thought, in 1866 Josiah Nott had dismissed Frederick Douglass, though "unquestionably the most brilliant" of his race, as "nothing more than . . . 'a pestilent fellow' . . . [who] has just brains enough to talk fluently about matters he does not comprehend."⁷² By the time of Douglass's death in 1895, Social Darwinism was at its peak, and his obituary in the *New York Times* was more concerned with "confiscating" his abilities for whites than denigrating them. Acknowledging Douglass's distinction, the *Times* suggested that

it might not be unreasonable, perhaps, to intimate that his white blood may have had something to do with the remarkable energy he displayed and the superior intelligence he manifested. Indeed, it might not be altogether unreasonable to ask whether, with more white blood, he would not have been an even better and greater man than he was, and whether the fact that he had any black blood at all may not have cost the world a genius, and be, in consequence, a cause for lamentation instead of a source of lyrical enthusiasm over African possibilities. It is always more or less foolish to credit or discredit a race with the doings, good or had, of a particular member of that race, but if it must be done, plain justice should see to it that the right race gets the *glory* or the humiliation.⁷³

Social Darwinism also produced a dramatically revised interpretation of slavery. Previously, the assertion of black inferiority had been the most common justification for their enslavement. As additional evidence that this role was not only appropriate for but also beneficial to its victims, the medical-scientific literature had proven that blacks thrived under subjugation. There were reports of slaves who "frequently" lived from 150 to 175 years. "several instances recorded" of their having surpassed 200 years, and more systematic data that showed consistently lower rates of disease and much greater longevity among slaves than among both free blacks and whites.⁷⁴ Now, however, it appeared that slavery had been too beneficial for blacks, artificially shielding them from nature's struggle and allowing them to flourish in what one Social Darwinist called a "hothouse existence."⁷⁵ The data on blacks' health and longevity now became evidence of the unfair advantage that slavery had granted them, an advantage that emancipation had finally forced them to relinquish. Social Darwinist thinking thus became the basis for a new kind of argument against slavery, one that welcomed its abolition not on traditional moral grounds but so that blacks would be forced out from behind its protective veil and into "open competition" with whites.

From this point of view, of course, the purpose of attaining freedom for blacks was to allow for their elimination. When two races attempted to coexist, there were **were** only two possible outcomes, according to Social

Darwinist science: "amalgamation" or extermination of the weaker. For **both** sociocultural and allegedly scientific reasons there was little support for the former path. Happily for the Social Darwinists, the "conceded" inferiority of blacks left little doubt about who would prevail in the latter case. The racial struggle was generally agreed to be an unequal contest, "a game of chess," the popular author Edward Eggleston called it, "with a fully developed giant intellect . . . sitting on the one side, and a child on the other, that scarcely knows a pawn from a king." Eggleston concluded that "a great flood of light is let in upon our American Negro question the ultimate solution of which should now be manifest to all."⁷⁶ This "ultimate solution" may not have been planned with the same efficient brutality as that "final solution" to be implemented a few decades later, but the two were close relatives in the Social Darwinist family, sharing a common goal of genocide and justified by a similar scientific rationale.

The prospect of black extermination was viewed as a remedy more than a tragedy. There was little to regret in the survival of the fittest; it was an inevitable law of science and the natural process of improvement. "If [blacks] were the highest form of human life," William Benjamin Smith, a Tulane University professor, assured the public, "we might be concerned. . . [but] to the clear, cold eye of science, the plight of these backward peoples appears practically hopeless. They have neither part nor parcel in the future history of man."⁷⁷ The scientific literature did, however, contain some different opinions on the appropriate posture of whites toward the imminent disappearance of their racial competitors. G. Frank Lydston, a professor of medicine, believed that "there might be much of benefit to ourselves in retarding the march" of black extinction, though, of course, it would not be desirable to prevent it altogether. Lydston seemed particularly concerned that as blacks became more "degraded" on their way to the inevitable, their criminal behavior would also increase, and he suggested "penile mutilation" as one route to their improvement.⁷⁸ Charles S. Bacon, another physician, did not doubt the "eventual elimination" (emphasis added) of blacks in the United States, but since the latest census data indicated that the "race is not doomed . . . in the immediate future," he suggested "helping along the process of extinction," though he did worry that three million cheap black workers might be "too valuable an economic factor to be eliminated."⁷⁹

On one point all the Social Darwinists concurred: there were to be no shortcuts for blacks on the evolutionary path. Just as humanitarian assistance to the poor was claimed to produce biological deterioration, all attempts to provide assistance to blacks through political or social reform were opposed as leading to the same catastrophic results on a racial level. The natural process of evolution was the only method for true racial improvement, and it could be neither replaced nor supplemented by

"philanthropy." John Roach Straton, a professor at Mercer University, explained in detail the futility of any attempts to provide instant enlightenment for "savages from . . . [a] low plane of evolution":

The Anglo-Saxon has reached his present high civilization after a long and **laborious** struggle upward. Through a series of well-defined steps, he has risen from barbarism to his present plane. The system in which he now dwells is the logical outcome of all that has gone before, and consequently, the white man of today is thoroughly suited to his environment. Now, it is reasonable to think that since Anglo-Saxon civilization is the culmination of a series of steps, **all** the steps **most** he taken before it can safely be reached. To suddenly introduce another race, therefore, to any step in the series, and then to attempt to hurry it over the steps in the hope of having it reach and occupy the culminating one, must be a hopeless undertaking.⁸⁰

As Tulane's Smith concisely put it, it was impossible "to rise from the floor to the roof without ever traversing the intervening space."⁸¹

In particular, for the Social Darwinists this meant that attempts to educate blacks were useless. Racial improvement was claimed to be "organic," whereas education was "extraorganic." That is, education did not produce an improvement of "the stock," a change that could be passed on to the next generation, whose children would be as ignorant as ever. Instead, it only allowed blacks to imitate their superiors without achieving that real, biological progress whites had taken centuries to realize. In fact, insisted Eggleston, the campaign to educate blacks would only hasten their numerical decline by enticing them away from manual labor, the one role for which they were fit. "Viewed in this light," he wrote, "the otherwise nonsensical, . . . policy may really be regarded as a blessing in disguise."⁸²

Any assistance whites provided blacks was, like slavery, an artificial intrusion into the evolutionary process, depriving blacks of the salutary suffering of the racial struggle. Though perhaps intended with the most honorable of motives, such aid was doomed to failure. There was only one way to avoid the "destructive influences" caused by what one social scientist called the "easy conditions of life": blacks had to refuse and be refused "every offer of direct interference in [their] own evolution."⁸³ According to this view, such benefits of U.S. citizenship as education and exercise of the franchise were to be withheld from blacks for their own **good**, and even those patronizing gestures once known as the white man's burden were now claimed to lead to the demise of blacks. Whereas policies of racial oppression had previously been rationalized as an implication of science, now they *were* science, part of the organic process of

evolutionary improvement. In a classic catch-22, many of the adherents of this position frankly maintained that long before enough generations had passed to make blacks "a capable and reliable race" deserving the same rights as everyone else, they "will have been practically eliminated from the American continent."⁸⁴

The Social Darwinists kept an obsessive eye on health and population trends to monitor their expectations. The first large-scale postwar analyses suggested, *horrible dictu*, that the black population was actually increasing *faster* than the white—apparently, exposure to the struggle was not having the anticipated effect—and E. W. Gilliam, a sociology professor, pronounced it "morally certain" that at their present rate of growth blacks would "overwhelmingly preponderate" in the South by 1980. As a "remedy" for this problem, he encouraged colonization, in other words, the forced deportation of blacks to some territory outside the continental United States.⁸⁵ His ominous predictions gave way to more encouraging news in 1896, when the economist Frederick L. Hoffman published *Race Traits and Tendencies of the American Negro*, an exhaustive study based on more than fifty years of demographic, anthropometric, and medical data, including the census reports of 1890. Gilliam's error, Hoffman pointed out, had been his complete reliance on the higher birthrate among blacks and his failure to realize that their deathrate was also becoming ever greater than that for whites. Thus, in spite of their fecundity, noted Hoffman, "in the struggle for race supremacy the black race is not holding its own," and eventual extinction was inevitable.⁸⁶ Most scientists agreed that a major factor in this decline was urban conditions. Blacks were steadily abandoning the simple health of country life for the "unsanitated throngs" of the city, where tuberculosis, typhoid fever, and other diseases stood ready as a "two-handed engine of death." Yet the same authorities insisted that neither socioeconomic nor sanitary conditions played a significant role in these statistics. "Even under the same conditions," wrote Hoffman, blacks were "still subject to a higher death rate"; it was a matter of "racial inferiority."⁸⁷ Tulane's Professor Smith pointed out the "obvious" reason for this excessive vulnerability: blacks were "histologically . . . inferior" to whites, their tissues offering "ready lodgement to the invading bacillus [and] . . . far less stubborn and protracted resistance to such inroads when once in progress."⁸⁸ In the face of such favorable indications, the cruelties of forced deportation no longer seemed necessary. Whites did not have to do anything other than segregate blacks and wait for nature to take its course; it was not expected to take very long.

These scientific proclamations were welcome news to many southern politicians, and some of the chief southern demagogues contributed articles to northern magazines, outlining their racial concerns in the

language of evolution and Social Darwinism. In one such publication John Sharp Williams, a senator from Mississippi and once the House minority leader, explained that the South's major problem was "the physical presence of the negro." Even though he noted that blacks were declining in numbers as a result of "God's law of evolution, the survival of the fittest and the extinction of the unfit," Williams desired to find some "way in which the existing processes of natural evolution can be accelerated." He dismissed any signs of improvement among blacks as "only a veneering" imposed by a superior race, not the result of true evolutionary change: "it was habit and not nature."⁸⁹ "Pitchfork" Ben Tillman, a senator from South Carolina and perhaps the most extreme racist in Congress, offered a similar analysis in his call for repeal of the Fourteenth and Fifteenth amendments.⁹⁰ Such men would not have otherwise risked offending their fundamentalist constituencies by paying heed to "Darwinist" analyses, but the opportunity to exploit contemporary scientific authority for the South's cause was, no doubt, irresistible, especially if it could bolster their case to a northern audience: in such a context certainly the folks at home would understand.

A New Alien Threat

Social Darwinist thought also contributed to the beginning of an alliance between the anti-immigrant parochialism of New England and the racial ideology of the South. As the great waves of so-called less desirable immigrants began to pour over the Northeast in the late nineteenth century, some scientists viewed the newcomers through the Social Darwinist prism and found them not far removed from blacks on the evolutionary ladder.

The Irish were a particular target of complaint at the time. In 1881 Edward A. Freeman, an Oxford professor, toured the United States, praising Teutonic solidarity and proclaiming that "the best remedy for whatever is amiss in America would be if every Irishman would kill a negro and be hanged for it." When this remark proved to be rather unpopular in some quarters, Freeman demurred that he had been only joking, but once secure again in England, he noted that many had approved his recommendation and that most of those who disagreed did so because "if there were no Irish and no negroes, they would not be able to get any domestic servants."⁹¹ Freeman's words might have been in jest, but others remarked more seriously on the inferiority of the two groups. The biologist Joseph LeConte, one of the South's most distinguished scientists, found the "lower races already doomed [to extermination] by the laws of nature," but he offered one possibility that might save them "from the inevitable"—a "judicious crossing" of the "marginal varieties

of different races,"⁹² that is, those relatively close to each other on the evolutionary spectrum. This clearly implied the mixture of blacks with the Irish, considered the lowest Caucasian variety at the time. As the historian Allan Chase has noted, such a guided evolution would presumably yield a race a little smarter than the blacks and a little stronger than the Irish.⁹³

Other leading scientists of the time found many of the new immigrants to be almost as much of an evolutionary menace as blacks were. The biologist Edward Drinker Cope, for example, maintained that neither group was fit for the ballot. In addition, he called for the "return of the African to Africa"⁹⁴ and restrictive immigration to exclude "the half-civilised [sic] hordes of Europe."⁹⁵ Cope seemed aware that these measures were in conflict with "so-called human rights," but he insisted that such "abstract" concepts had to yield to rights derived from scientific law. "The pure idealist will sustain the former," he wrote, "but the wise man knows that he must bow to the latter."⁹⁶ The chief example of the latter for Cope was "*the right to pursue a course of progressive evolution without obstruction by unnecessary obstacles.*" The inferior people who constituted such obstacles had to be removed from the path of progress. Of course, Cope recognized that these people would object, but, he frankly maintained, their "preferences . . . must be . . . disregarded."⁹⁷

Another prominent scientist who regarded blacks and immigrants as a similar problem was Nathaniel Southgate Shaler, dean of the Lawrence Scientific School at Harvard. Blacks he termed an "alien folk," unfit for civilization, who had "no . . . place in the body politic," while the new class of immigrants was no more capable: they were "by birthright . . . inferior, . . . in essentially the same state as the Southern negro."⁹⁸ He did feel that by bringing blacks to America against their will, whites had incurred a moral debt. Even if blacks were destined for extinction by natural law—"perhaps . . . a beneficent end"—"they cannot be allowed to perish," Shaler wrote, "without the fullest effort in their behalf."⁹⁹ No such generosity was owed to the newcomers, who, after all, had come to the New World voluntarily. Indeed, the lesson to be learned from the blacks' presence was not to perpetuate the same kind of problems by allowing the unrestricted immigration of a whole new group of inferior aliens. Shaler was careful to distinguish between the new arrivals, predominantly from "Latin" countries like Italy, Spain, and Portugal, and that worthier peasantry from Germany and the Scandinavian nations, where one found "the Aryan variety of mankind." It was in the Catholic countries that the masses contributed little more to the commonwealth "than the cattle of the fields," according to Shaler; there the stock had been of a lower caste for centuries, and the little talent that did exist had been systematically

eliminated by the celibacy the church had imposed on the few capable men and women.¹⁰⁰

Although it soon became obvious that blacks were not going to disappear from the United States, the immigrants would eventually replace them as the chief obsession of the Social Darwinists, at least for the first quarter of the twentieth century. While blacks might not have been declining in number, they were certainly not displaying the newcomers' exponential increase. Besides, the combination of Jim Crow laws and geographic isolation in the rural South kept the overwhelming majority of blacks separate and unequal, in contrast to the immigrants, whose social and political presence in the major cities would appear more threatening to the older American stock.

The beginning of the century, however, would bring with it not just a new menace but a new and more sophisticated version of Social Darwinism imported from abroad. While American social theorists were primarily concerned with the struggle against the "lower" races, an English scientist was attempting to foster interest in the other end of the human spectrum.

2

For a Twentieth the Cost: Francis Galton and the Origin of Eugenics

IF PHILOSOPHY was the mother of the sciences, then long after the other children had left home, the Social Darwinists were still keeping her company. On the other hand, the almost totally atheoretical anthropometrists were scientific waifs, who had left home at a such an early age that they had no recollection of parentage. This man who reunited this family was the English gentleman-scientist Francis Galton.

One of his biographers calls Galton a "Victorian genius." For the first half of his life Galton was a kind of scientific dilettante—an inventor, African explorer, geographer, and meteorologist, who made significant contributions in each of these fields; an innovator of statistical methods; and the author of a definitive work on fingerprints. But Sir Francis—he was knighted by Edward VII in 1909—did not find his true passion in life until middle age, when he began to focus his considerable abilities on the study of heredity.

Galton had such an obsessive desire to collect data—to classify, organize, measure, and tabulate—that he once acknowledged it as "almost a danger" to himself.² In a letter to his sister when he was eighteen, he prefaced his description of a traumatic experience in which he almost drowned by noting that it had occurred "at 17 minutes and 45 seconds to five."³ Sixty-five years later neither age nor poor health had altered this concern with precise data, as can be seen in Galton's description of a "sudden severe shivering" in a letter to his niece: "The amplitude of the shiver was remarkable and interesting; my hands shook through a range of fully 7 if not 8 inches."⁴ His published papers in the prestigious British scientific journal *Nature* included such analyses as an operational definition of audience boredom at a public lecture based on the frequency, amplitude, and duration of fidgeting⁵—a boring speaker produced an