2

The Establishment of Racial Typology, 1800–1859

The first half of the nineteenth century was a watershed in scientific thinking about race. The concept of race was not a new invention of those decades; racial differences had certainly been noticed before 1800. Indeed, their cause had been a matter of speculation at least from the start of the Atlantic slave trade in the mid-fifteenth century, when Europeans began to think that Africans' skin color was a sign of their inferiority.

But if the concept of race itself was not new in 1800, what was? There were several basic shifts in scientific ideas about race as the eighteenth century became the nineteenth. One hallmark of the Enlightenment was its optimism—its belief that civilization, meaning European civilization, was an absolute value that all peoples were capable of achieving. But in the nineteenth century this hopefulness gradually gave way to a more pessimistic assessment—that one's position on the Great Chain of Being, the hierarchical ladder of life, was permanent and could not be altered. The Enlightenment assumption held that all peoples had sprung from a single origin, usually believed to be the biblical pair Adam and Eve, and that therefore all human beings belonged to a single species: a view referred to as monogenism. Given its biblical sanction, monogenism held strong sway. But in the nineteenth century this view was seriously challenged by the scientifically supported theory of polygenism: that the different races actually comprised different species, or different types, to use the polygenist term. Polygenists believed that these racial types had originated or been created separately, and that they were therefore essentially distinct. Though religiously heterodox, by the 1850s polygenism was firmly established as an alternative way of understanding differences among peoples.

The monogenists and the Enlightenment optimists had their own ways of explaining racial differences; as we saw in chapter one, they were hardly racial egalitarians. Degeneration by environmental influences could account for differing physical appearance and customs. Such a view allowed the environment a powerful shaping role, which observation seemed to support: white men who

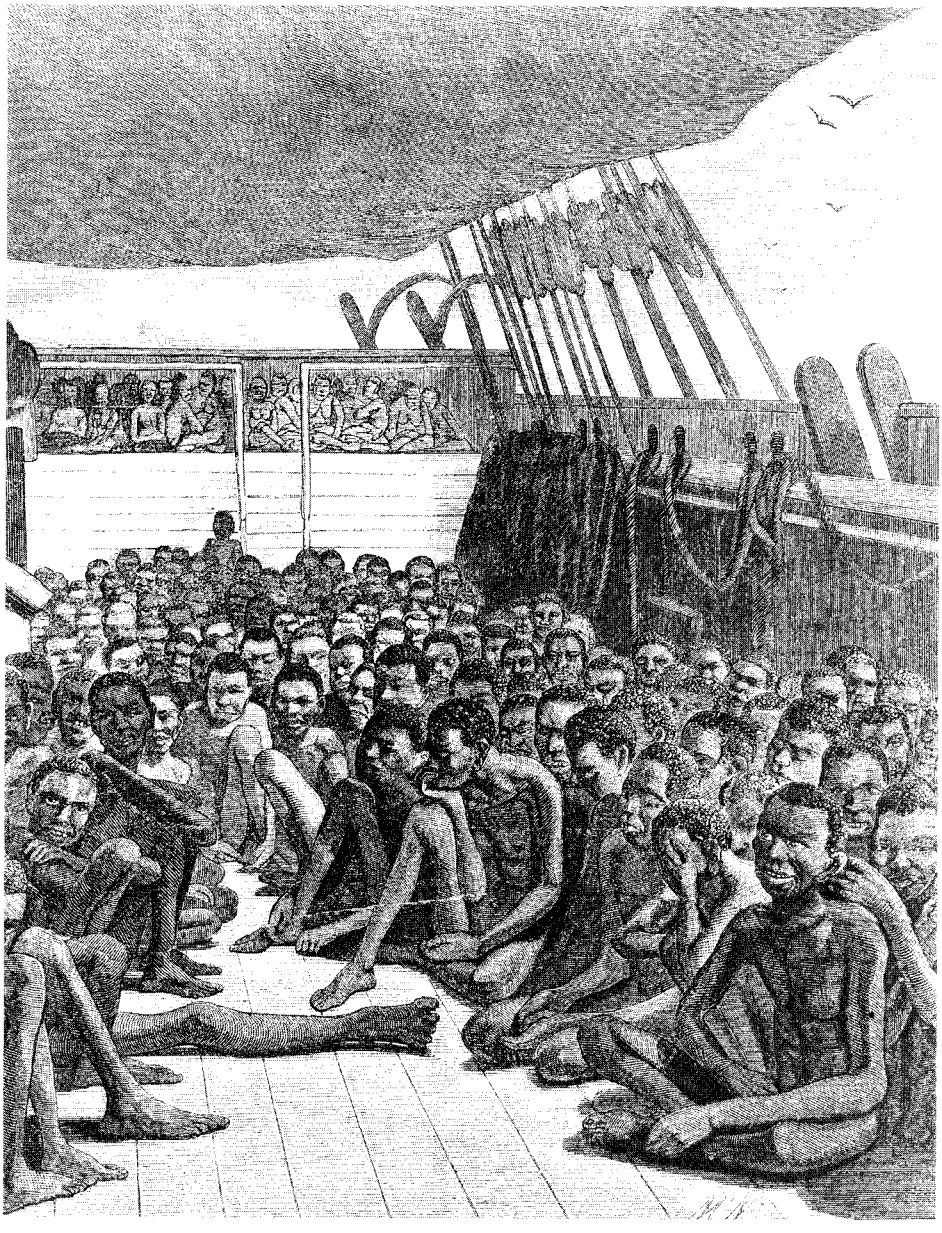
lived in the tropics turned brown, black men in England appeared to become lighter. But doubts about the efficacy of the environment grew with the growth of polygenism; environmentalism was gradually replaced by innatism, the view that differences between peoples were permanent and inborn. No matter how many generations white people lived in the tropics, the polygenists believed, the environment alone would not turn them black. This was because blackness for polygenists was more than simply a matter of skin color. Racial differences, lodged in one's inherent nature, literally in one's very bones, were fundamentally unchangeable—they were more than just skin deep. Finally, the monogenists held a diffusionist view: that the human species had migrated all over the earth from its one origin point. But the polygenists believed that each human race had originated in its own center of creation and that each therefore belonged in its own separate, natural homeland.

The shift in views can be characterized as a change from understanding man as a cultural, social, spiritual being, apart from the rest of nature, a product of the level of civilization, to man as a biological being. Biology, specifically race, was seen as the cause of cultural or behavioral differences. Culture or civilization was no longer something superimposed on an equipotential biological background; race and culture were yoked together because the one created the other.

The shift from monogenism to polygenism did not take place overnight. It was gradual, its progress was uneven, and it was never wholesale. It took decades to achieve, and even then certainly not everyone was converted. It was, nonetheless, a marked and important shift, one that constructed a view of race that began to get systematically dismantled only after the Second World War. Though greatly attenuated, the nineteenth-century understanding of race continues to exert its influence right up to the present day, and can help explain why the concept of race still wields such political and social power. The implications of nineteenth-century ideas about race are therefore profound. This chapter will explain what those ideas were, what kind of scientific backing they received, who advocated them, and why they began to take hold when they did. The cast of characters includes some of the most highly respected scientific and medical men of their day, from England, France, and the United States.

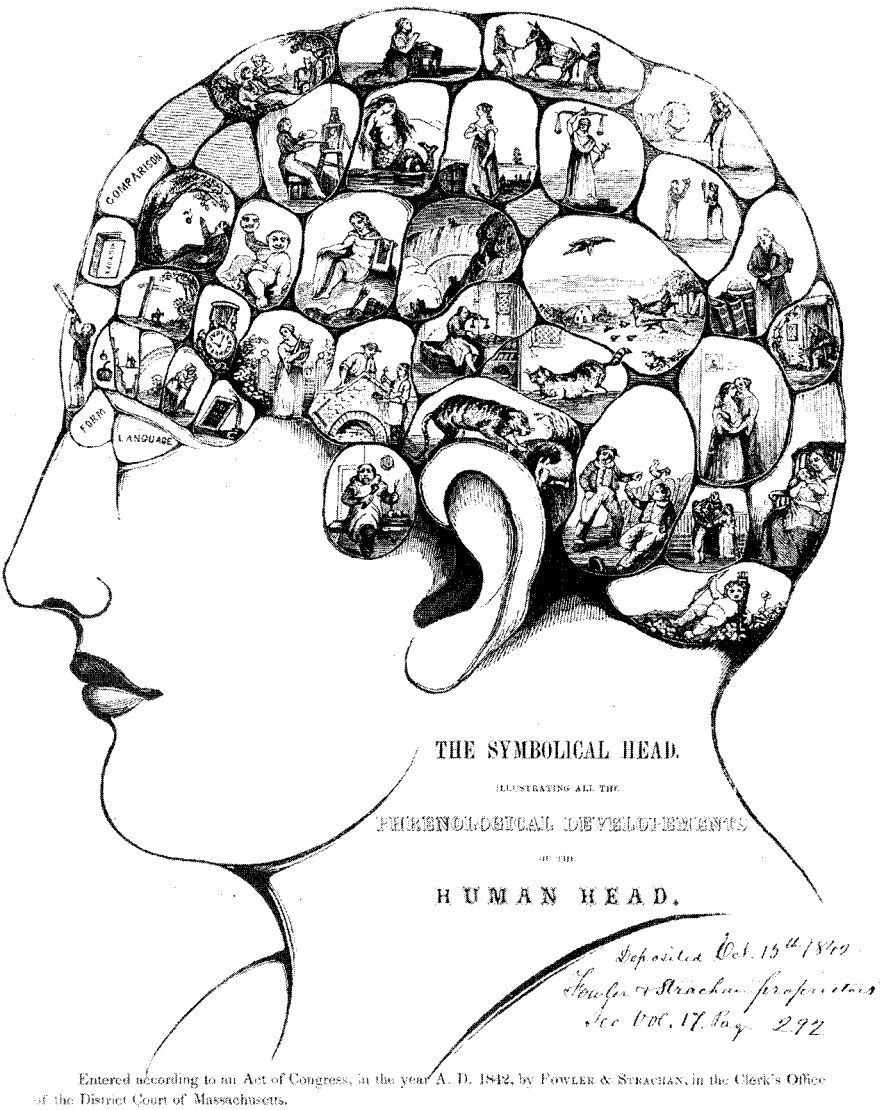
Two broad contexts, social and scientific, are relevant to our analysis. The first half of the nineteenth century was marked by the establishment of European colonial empires overseas, by the growth of slavery, and by abolitionist movements. This period was also one of enormous increase in scientific activity, especially in the life and human sciences.

Slavery and its abolition were critical parts of the context in which the science of race developed. The Atlantic slave trade grew to support European colonies and their sugar, cotton, tobacco, and rice plantations in the New World.



The slave deck of the Wildfire, *which arrived at Key West, Florida, on April 30, 1860 (Library of Congress)*

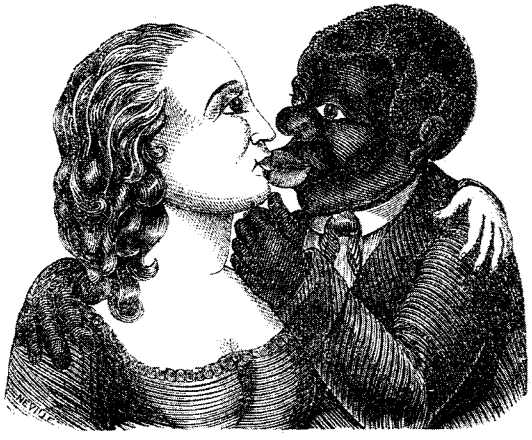
From 1451–1575, an estimated 175,000 Africans were brought as slaves into Europe itself and to plantations on the Atlantic islands off the west coast of Africa. Beginning in the mid-sixteenth century, slaves were taken to European possessions in the Americas. These included British North America, and later the United States; the Portuguese colony of Brazil; Spanish colonies in the



The symbolical head, illustrating the phrenological developments of the human head (Library of Congress)

Americas; and British, French, Dutch, and Danish colonies in the Caribbean. This part of the slave trade, the infamous Middle Passage, reached its peak in the 1780s and brought more than nine million Africans to the Americas between 1662 and 1867.

Though the late eighteenth century represented the height of the slave trade, it was also the period during which abolitionist movements began to gain



WHAT MISCEGENATION IS!

—AND—

WHAT WE ARE TO EXPECT

Now that Mr. Lincoln is Re-elected.

By L. SEAMAN, LL. D.

WALLER & WILLETTS, PUBLISHERS,
NEW YORK.

Caricature of a white woman and African American man kissing adorns the title page of a book titled, What Miscegenation Is, *1864. (Corbis)*

momentum. Throughout the nineteenth century abolitionists made steady, if not always regular, progress. In 1787, the Society for Effecting Abolition of the Slave Trade was established in England, followed by a similar society in France. In 1792, after the French Revolution, slavery was abolished in France itself, and two years later in the French colonies, but in 1802 Napoleon restored slavery in

the French possessions. In 1807 both Britain and the United States outlawed the trade in slaves, and by the mid-1820s, the British Navy began working to suppress the international slave trade. During this period slavery was abolished in the northeastern United States. In 1815 Napoleon outlawed the French trade, though it continued secretly. In 1833 slaves throughout the British Empire were emancipated, in 1848 in the French colonies, and in 1865 in the southern United States. From 1815 until well into the 1880s, slavery was also gradually abolished in South America.

Ironically, the nineteenth-century age of abolition was also the era of racial typology. Scientific obsession with racial differences took hold just as abolitionists were scoring their greatest successes. The racial theories to be described in this chapter were, therefore, produced not in the context of a slaveholding society, but rather by a society attempting to deal with the free intermixing of diverse peoples.

Developments in the life and human sciences, sciences that grew at an unprecedented rate in the early nineteenth century, were also key factors in encouraging the scientific study and classification of the races. A growing belief in materialism, that all life could be explained by matter in motion without resorting to vital spirits or a notion of soul, emboldened scientists to reject the Bible as the authoritative source for knowledge about nature.

Phrenology, the "reading" of head-shape, and its correlation with various abilities and propensities, supported the idea that mental activity could be interpreted in terms of the size and function of parts of the brain, an idea that long outlasted the popular fad of phrenology itself. Comparative anatomy, physiology, histology, and paleontology all experienced tremendous growth during the first half of the nineteenth century. Classification of life forms along lines established by Linnaeus continued to regard the ever-growing number of newly discovered species as immutable and divinely created. Statistics, as practiced by the Belgian astronomer Lambert A. J. Quételet (1796–1874), taught the measurement of human physiognomy, as well as of birth, marriage, and death rates. Quételet's concept of the "average man," an abstraction calculated from the measurements of a population, influenced the representation of racial groups in terms of ideal types. The Dutch anatomist Pieter Camper's (1722–1789) concept of the "facial angle" was superseded by the "cephalic index" developed by the Swedish anthropologist Anders Retzius (1796–1860). The index measured the ratio of the length to width of head, and as we will see, was supplemented by quantitative techniques designed to measure the volume of human crania. As the sciences of biology and anthropology grew in range and sophistication, the classification and characterization of human racial differences as innate, primordial, and permanent grew along with them.

The Reign of Monogenism: Prichard and Lawrence

James Cowles Prichard (1786–1848), devout Christian, physician, and abolitionist, was the leading British monogenist and the most influential writer on race in the first half of the nineteenth century. "On the whole," he wrote in his 1813 *Researches into the Physical History of Mankind*, "it appears that we may with a high degree of probability draw the inference, that all the different races into which the human species is divided, originated from one family" (155). Prichard rejected the notion that all of nature was arrayed along a linear hierarchy—the Great Chain of Being—and especially the idea that Negroes represented a connecting link between apes and white Europeans. He did not doubt that European customs, culture, and physical appearance were superior to those of other nationalities, which was a common assumption at the time. But he did believe that all varieties of man were united and set apart from animals by their possession of culture, society, and the ability to learn. For Prichard it was especially crucial that all peoples be considered capable of conversion to Christianity. And for this, there could not be any essential differences among them.

But religion was not Prichard's sole motivation for propounding monogenism. Scientific studies supported the view as well. His books were detailed ethnographic surveys based largely on travelers' accounts of all the known races in the world. Prichard made comparisons among the customs and languages of the different races and compared the bodily structures of the different races of men with animals, combining ethnography, philology, and comparative anatomy. He argued that as there were clearly different varieties within a single species of animal, so there could be different varieties, or races, within a single species of man. However, he emphasized that the varieties or races of man were themselves variable. All Negroes, according to Prichard, did not have the same skull shape, which was precisely the idea to be later denied by polygenists. The human species was, for Prichard, a unity, created on a biblical time scale within the preceding 6,000 years, and diffused throughout the world from the origin point. Prichard theorized that that origin point was in Asia and that the original men were Negro, leaving the pressing question of how the major races, the different varieties of man, had been produced.

The production of racial diversity was a knotty problem for eighteenth- and nineteenth-century naturalists. In the 1740s and 1750s, the Comte de Buffon and Johann Blumenbach had concurred that differences in hair type, skin color, bodily stature, and constitution were the result of exposure to different climates, foods, habits of life, and diseases. As the original race of men diffused over the earth, contact with different conditions shaped each group differently. The group

of men that migrated to the tropics gained dark skin and other bodily changes, characteristics that were inherited by their offspring. Thus were differences among the races established and maintained.

By the early nineteenth century, this environmentalist position was gradually weakening. In 1813, when Prichard published the first edition of his *Researches*, he rejected it as an explanation for diversity and supported instead a twofold theory based in generation and heredity. First, Prichard argued that certain characteristics could suddenly appear as sports of nature and then, because they proved well adapted to the environment, and because they were heritable, would appear again in succeeding generations. Second, Prichard argued, members of different human groups might select for different characteristics in a mate that they consider beautiful; as a result, the different groups would diverge and diversify into different races.

In the second and third editions of the *Researches*, however, Prichard gave up these claims and adopted Buffon's and Blumenbach's argument that environmental influence and Lamarckian inheritance of acquired characters were the causes of racial diversity. Prichard's shift back to the older environmentalist reasoning was a response to the rise of polygenism. He remained the major British proponent of monogenism and environmentalism up to his death in 1848. Even in 1855, with polygenism in its ascendancy, the last edition of *The Natural History of Man* declared that "the same inward and mental nature is to [be] recognized in all the races of men. . . . [W]e are entitled to draw confidently the conclusion that all human races are of one species and one family" (page 714).

The problem that dogged Prichard and his contemporaries, and that would not be solved until Darwin's *Origin of Species* was published in 1859, was the meaning of "species." Prichard adopted Blumenbach's criterion, that the members of a species could produce fertile offspring. All human beings, then, were by this criterion clearly members of one and the same species. But this definition was increasingly called into question and dismissed by polygenists in the nineteenth century. Without any definite biological mooring, "species" became a free-floating and remarkably flexible concept, as narrow or as broad as one wished. In polygenist hands, the number of human species multiplied from two to more than a dozen. As each race became its own species, the term "species" became increasingly interchangeable with "type," and as such was used to indicate essential, biological, ineradicable difference.

Another leading British proponent of monogenism was the London surgeon Sir William Lawrence (1783–1867). In a series of lectures delivered before the Royal College of Surgeons in 1819, Lawrence outlined the questions that both he and Prichard were trying to answer: "Is there one species of men only, or are there many distinct ones? . . . How is man affected by the external influences of

climate, food, way of life? Are these, or any others, operating on beings originally alike, sufficient to account for all the diversities hitherto observed; or must we suppose that several kinds of men were created originally, each for its own situation?" Indicating his own preference for monogenism, Lawrence continued: "If we adopt the supposition of a single species, what country did it first inhabit? And what was the appearance of the original man? Did he go erect, or on all fours? Was he a Patagonian, or an Eskimau, a Negro, or a Georgian" (Lawrence 1822, 103–104).

Like Prichard, Lawrence believed that all the various races of man comprised a single species, and like Prichard he believed that the human species was set apart from, over and above, the animals. Both postulated a definitive break between man and ape, and both dismissed the notion of a smooth, unbroken chain of being. But Lawrence also differed from Prichard in notable ways. For example, he always put more emphasis on racial difference than Prichard did. Thus while Lawrence rejected the traditional chain of being idea, he did adopt from the French comparative anatomist and monogenist Georges Cuvier a newly biologized concept of hierarchy. Lawrence correlated intellectual development with brain development, integrating anatomy, physiology, and mentality. He believed it possible to rank the species of animals and races of man along such a hierarchy, and in such a racial ranking, the Southern African race of Hottentots was at the bottom, closest to the ape, and the Europeans were at the top. The black races, according to Lawrence, were closer to the apes in both intellect and appearance. But though there were great differences between a Negro and a European, these were not enough to make them separate species. Like Prichard, Lawrence pointed to the continuous variation both between the races and within any single given race to argue against the idea that races were separate species. But Lawrence emphasized biological traits more than Prichard did. Instead of examining the customs and languages of different peoples, as Prichard had, Lawrence focused on anatomy and zoology, drawing comparisons between man and animals and among the different human races. He always managed to find an animal analogy for the various physical peculiarities of the races; even the protuberant buttocks of the so-called Hottentot "Venus" could be likened to a similar formation in sheep.

Finally, unlike Prichard, Lawrence rejected a literal reading of the Bible as a guide to natural history, calling the biblical account of the creation zoologically impossible and pointing out its many inconsistencies. As new developments in paleontology, geology, and archaeology in the first half of the nineteenth century opened up and expanded the biblical time frame, Lawrence took advantage of the newly discovered stretches of time to explain how racial diversity might have arisen out of primeval unity. There was still not any question of species arising

out of prior forms; the original species, Lawrence believed, had been specially created as a unity, but then the different varieties or races could develop within those species limits. Even Prichard, in the third edition of his *Researches*, disjoined the biblical time scale from his ethnographic one and used the longer time to explain the development of diversity.

But Lawrence never considered the environment powerful enough to create racial diversity, even with a few extra thousands of years to work. Climate or customs could explain neither physical nor mental differences among the races, as Lawrence rejected the possibility of the inheritance of acquired characters. As proof he cited Prichard's example of Jewish male infants born with foreskins despite generations of circumcision. Moreover, "white people have distinguished themselves in all climates; every where preserving their superiority. Two centuries have not assimilated the Anglo-Americans to the Australian aborigines . . ." (Lawrence 1822, 420). So climate could not possibly have any powerful shaping role, especially not on morality or intellect, and even if it did, that influence impressed itself only on the individual and could not be passed on to the next generation.

Lawrence concluded, concurring with Prichard in the first edition of his *Researches*, that only variation and heredity could explain racial differences. Variations arose as a result of spontaneous sporting and were then maintained through isolation and inbreeding. Using the same analogy to the breeding of domesticated animals that Prichard did, and that Darwin also would in 1859, Lawrence argued that sports, or spontaneously occurring hereditary characteristics, appeared more frequently in domestic breeds than in wild ones. Since man, especially white European man, was a kind of domestic animal, it was to be expected that a range of hereditary variations would spring up and be maintained. Such a process could have produced racial diversification from the original stock or group. Lawrence thought it impossible to trace the human genealogy back to a single ancestral pair. Such a process could also explain why there was more mental, moral, and physical variation in the more domesticated breeds of man than in the savage races.

The monogenist position of Prichard and Lawrence was reflected in France by Joseph Marie de Gerando (1772–1842) and the members of the Société des Observateurs de l'Homme, and in the United States by the moral philosopher Samuel Stanhope Smith (1750–1819). Smith, a professor at Princeton and later its president, held a constellation of views typical of the reigning consensus of the early nineteenth century. Man was essentially an adaptable creature, susceptible to environmental and climatic influences; groups of men had all dispersed from a common center of creation; men's bodies were basically similar; the races represented a continuous range of variation and lines could not be drawn between

them. Man was a cultural and social being, clearly set apart from animals. Though Stanhope Smith placed a higher value on white skin—he was not an egalitarian—he was, like Prichard, a devout Christian and an abolitionist. He was also a fierce critic of the views of Thomas Jefferson discussed in chapter one.

By the turn of the nineteenth century, however, cracks in this reigning consensus had appeared that would widen over the next four decades. The result was that by the 1850s, polygenism was an established though minority point of view in European science.

Steps toward Polygenesis

One of the earliest steps toward polygenesis was taken by the Scottish judge Lord Henry H. Kames (1696–1782). In his *Sketches of the History of Man* (1774), Kames averred that environment, climate, or state of society could not account for racial differences, so that the races must have come from distinct, originally separate stocks. In 1799, the Manchester physician and early polygenist Charles White (1728–1813) continued Kames's line of reasoning. Influenced by Thomas Jefferson, White made anatomical measurements of Negroes' bodies, concluding that Negroes comprised the lowest human link in the chain of being, closest to the apes, while Europeans were the highest, and other races were in between. For White each race was a separate species, divinely created for its own geographical region. Polygenism, clearly, was not a nineteenth-century invention, but before the nineteenth century its incursions could usually be kept at bay. By the 1820s, however, even certain monogenists were questioning environmentalism. Such open disagreements among monogenists and weaknesses in their position helped set the stage for the heterodox alternative, waiting in the wings for at least half a century, to make a grand appearance.

Polygenism had major proponents in France, the United States, and England. In France it was defended first by William F. Edwards and Victor Courtet de l'Isle, and later by Paul Broca, the brain anatomist. In the United States, first Charles Caldwell, then the quartet of Samuel Morton, Josiah Nott, George Gliddon, and Ephraim Squier, supported by the Swiss émigré naturalist Louis Agassiz, were outspoken and widely attended. In Britain, the anti-Prichardian banner was taken up by Robert Knox and James Hunt. By the 1840s polygenism was thriving in all these countries and its proponents were all in communication with one another.

Several important themes are apparent in the rise of polygenism. First, while the timeline of its ascendancy is similar in each country, there are some general cultural differences to bear in mind. Polygenism caught on more

quickly in France and the United States than it did in Britain, where powerful Christian traditions were reflected in the teachings of natural theology. Britain also had a strong abolitionist movement beginning in the late eighteenth century, though as we will see, one did not need to be a monogenist to be an abolitionist: polygenists could easily be abolitionists too. This points to a second important theme: there was no inevitable linking of scientific and political views, and they occurred in all sorts of combinations and permutations. Slaveholders appeared among the ranks of the monogenists as well as of the polygenists; abolitionists could also be found on both sides of the scientific fence. Finally, despite the divergences often emphasized between them, monogenists and polygenists shared many assumptions. They agreed that the history of the earth and of life had proceeded in a biblical or somewhat expanded biblical time frame. They held in common the idea that human, animal, and plant species had been created, ultimately, by God, some 6,000 years before the present. And they took for granted that the nonwhite races of man were inferior to the white. Where monogenists and polygenists most often disagreed was on whether the nonwhite races had the potential, given the proper environments, to "catch up" to the whites.

Aside from its expression by Lord Kames and Charles White, polygenism found its earliest exponents, and most secure institutionalization, in France. It was arguably in France in the 1820s that the permanence of racial types became established as a distinct viewpoint, spreading from there both to the United States and to Britain. Its early success in France was probably due in no small measure to the discrediting of Lamarck by his archrival, the comparative anatomist Georges Cuvier (1769–1832). For Cuvier, the animal kingdom was divided into four main types, or embranchments—vertebrates, mollusks, articulates, and zoophytes—each type an original and unalterable creation of God. Cuvier dismissed the Lamarckian notion that animals could evolve from simpler forbears by the inheritance of acquired characters. In contrast to Lamarck's theory, each of the genera and species within Cuvier's four main types were permanent biological variations not produced by environment and circumstance, and each was clearly set apart and distinguished from every other. There was no shading or graded transition between them. Each animal was a perfectly balanced and beautifully integrated example of its type, so the idea that any such organic form could undergo change, except of the most limited kind, was impossible.

Cuvier also believed that extinction was a result of natural catastrophes, like floods, a series of which had occurred to punctuate the history of the earth. Cuvier thought that some species were able to escape the catastrophe to repopulate the earth. Thus after the last catastrophe, about 5,000 years before the present, the three major races that had all originally descended from Adam escaped

to different corners of the world, where they developed in isolation: Caucasian, Mongolian, and Ethiopian. Thus Cuvier, though a monogenist, developed a theory of distinct unchanging divinely created types that later gave strong support to polygenism.

Although he argued against the simplistic notion of a linear chain of being, which he associated with Lamarck, Cuvier arranged the genera and species hierarchically within each of his four embranchments. He ordered the animal and human races along a graded scale of intelligence based on their facial angle, an idea he borrowed from Camper and made more sophisticated with his own new comparative anatomical measurements and methods. By correlating facial and cranial measurements with perceived mental and moral qualities, Cuvier believed he had proved that the Ethiopian race was at the bottom of the scale, closest to the apes, and that its condition was foreordained and unchangeable.

French racial theorists largely followed Cuvier's lead in dismissing Lamarckism and arguing for permanence and hierarchy of types. Cuvier's work held all the key features of polygenism, developed in succeeding decades by those less tied to orthodoxy. These features included the strict limits on environmental influence, the notion of unchanging underlying type, the emphasis on anatomical and cranial measurement, and the correlation of physical differences and mental differences in defining racial worth. All that remained was for the human races to become distinct species, and for the singular origin of man to become plural.

This final step was taken in 1824 by the military physician and abolitionist Julien-Joseph Virey (1775–1846). An early polygenist, Virey argued for six races, among which there were strong, permanent distinctions. The two black races were closer to the apes in both physical and mental characteristics and formed a separate species. The physician-anthropologist Louis-Antoine Desmoulins (1796–1828), influenced by the phrenologists' correlation between anatomical structure and mental ability, ideas, and feelings, divided the human genus into sixteen species. These were in turn divided into races, which, despite interbreeding and population mixture, retained their typical characteristics.

The most influential of the early-nineteenth-century French racial theorists was William F. Edwards (1776–1842), who was born in the English sugar colony of Jamaica and spent his youth and early career in Belgium. He studied medicine in Paris and developed interests in biology, both in laboratory and in field, as well as in linguistics and racial physiology. In 1828, influenced by the historians Augustin and Amedee Thierry's division of Europeans into Gauls and Franks, Edwards drew a racial map of Europe. Although Blumenbach and Cuvier had grouped all whites as Caucasians and had focused on differences between the white and dark races, Edwards, like Desmoulins, looked for differences among European whites. Edwards has thus been called the founder of European eth-

nology, expressing his view in an 1829 essay in the form of a letter to Amedee Thierry. Relying on an assessment of facial features and head shape rather than the more technical craniological measurement of the 1850s, Edwards classified the races of Europe, linking nationality and perceived moral character with physical appearance. Each race had its own particular character; each had, like an individual, its own life history and followed its own line of progress; and each represented its own permanent type. As animal races retained their characteristics and behavior despite their environment, so too did the human races, Edwards argued, fixating particularly on the Jews as an example of racial permanence. He believed that the Jewish national countenance remained the same over time, pointing to Leonardo da Vinci's *The Last Supper* and to images of Jews on the tomb of an Egyptian king to demonstrate that Jews had evidently not changed in thousands of years, either physically, or consequently, mentally and morally. Edwards conceded that crossbreeding could modify a species but held that the types were ancient and could always be distinguished. His work therefore lent support and credibility to polygenism, convincing even the French monogenists to accept permanence of racial differences throughout history.

In 1839, Edwards founded the *Société Ethnologique de Paris*, which boasted a membership of some of the most distinguished naturalists, historians, geographers, and archaeologists in France, including some who were influential in French politics and colonial policy. A number of these were followers of the philosopher C. H. de Saint-Simon, who in his 1813 *Science de l'Homme* had argued that each race or racial type had its own particular powers and needed to be characterized so as to be properly situated in what he called the scale of civilization. The white race, for instance, might be characterized as rational and masculine, the black race emotive and feminine. According to Victor Courtet de l'Isle, for example, a Saint-Simonian politician and member of the *Société*, the native capacities of individuals and of peoples had to be properly understood and classified or political revolution would result. The Saint-Simonian notion of a place for everyone and everyone in his place lent support to the Edwardsian project of racial typology. The *Société*, involved as its members were in political activities, was disrupted by the revolutions of 1848, a year of uprisings all across Europe against hereditary wealth and power. But the *Société* maintained a nominal existence until the 1860s.

There are a number of noteworthy aspects of the *Société Ethnologique*. First, though the *Société's* founder helped make polygenism respectable, not everyone in the *Société* was a polygenist. There was in fact a good deal of heterogeneity to the members' views on race. Yet, as we have already seen in considering monogenists and polygenists, there were important areas of underlying agreement between them. The conservative end of the spectrum was occupied

by Courtet, a hard-line polygenist who believed races belonged to different species, that blacks were intermediate between whites and orangutans, and that blacks were predestined for slavery. An intermediate position was held by Henri Milne-Edwards (half brother of William), a renowned biologist who argued for a hierarchical monogenism. On the liberal side, Eusebe de Salle, physician and Christian monogenist, believed polygenism led to exploitation. And on the radical fringe was Victor Schoelcher, an abolitionist who was partly responsible for the end of slavery in French colonies in 1848. The republican and egalitarian Schoelcher (1804–1893) went so far as to argue that the ancient Egyptians had been all or partly Negro. Courtet responded that they were white, and that the Caffirs and Ethiopians, the "advanced" Negroes, had benefited from Arab or Islamic contact and were therefore not truly black. True Negroes, for Courtet, were by definition irretrievably backward.

Yet in 1847, when the *Société* engaged in a discussion of slavery, most of the members, whether left, right, or center, looked forward to its abolition, and considered how the races should now behave toward and interact with each other. Gustave d'Eichthal, secretary of the *Société*, had proposed years earlier in a letter to his colleague Ismail Urbain, a man of color, that interbreeding with whites was necessary to improve the black race, which he called feminine. Stopping short of this solution in his report on the 1847 discussion, d'Eichthal nonetheless concluded that all, even Schoelcher, were in agreement that Europeans must educate blacks to bring them up to their standard. The report also included the consensus view that, since the subject of ethnology was the hierarchical classification of the races, absolute equality between them was out of the question.

A second notable feature of the *Société* was the fact that its members helped to shape and were in turn influenced by French colonial policy in Africa. Jean-Baptiste Bory de Saint Vincent (1778–1846), *Société* member and chief of the French scientific commission to Algeria, brought home a powerful argument against acclimatization when he saw French colonists die in great numbers, unable to accustom themselves to the foreign environment. Thus Edwards's notion of racial permanence was strengthened.

The *Société* also had connections both to American polygenism and to the Anthropological Society founded in 1859 by Paul Broca. Both the *Société* members and the American polygenist Samuel Morton agreed that interracial fertility, traditionally the criterion of species, did not prove that all humans comprised a single species. The Americans Josiah Nott and George Gliddon cited Virey's and Courtet's assertion that Egyptian mummies had been Caucasian, not Negro, and their 1854 *Types of Mankind* used plates from Courtet. Nott adopted Edwards's idea that racial diversity was permanent, that Negroes had not changed in 5,000

years, and that blacks required European contact to improve themselves, which they could do only to a limited extent.

Connections also existed between the *Société Ethnologique* and Broca's Anthropological Society of Paris, which was associated with the prestigious Paris Faculty of Medicine. Though the societies shared few members in common and though Broca intended his society to be strictly scientific and apolitical, Edwards's principle of the fixity of the races remained influential on him. Even after Darwin's *Origin of Species* was published in 1859, Broca continued to believe that human types did not share a common ancestry, that they formed a racial hierarchy, and that non-European races with inferior crania could never achieve full civilization.

American Polygenism: Morton, Nott, and Gliddon

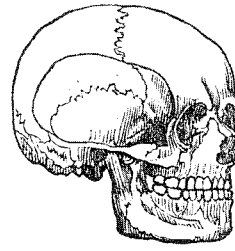
The American School of Polygenesis had its first representative in Charles Caldwell (1772–1853), a physician trained at the University of Pennsylvania who taught natural history there and practiced medicine in Philadelphia and Kentucky. The first important American phrenologist, Caldwell attacked the already embattled position that environment was the cause of racial differences and argued instead that the four races, Caucasian, Mongolian, American Indian, and African, were four different species, created separately by God. The Indian and African were inferior, Caldwell believed, and were doomed to die out. Only interbreeding with whites could bring about improvement in these races.

In the 1830s, American polygenism was given sterling scientific credentials by Samuel George Morton (1799–1851), a Philadelphia physician and anatomy professor at Pennsylvania Medical College. Morton was interested in paleontology, geology, and especially in craniology, and built the largest collection of crania in the world at the Academy of Natural Sciences in Philadelphia. His hundreds of human and animal skulls were sent to him by other naturalists and army surgeons stationed in the Americas, India, Europe, and Egypt. For Morton, as for most nineteenth-century anatomists and natural historians with polygenist leanings, the human skull and its measurement revealed the essential quality, the mental worth, of its owner. Cranial size and shape directly reflected intellectual level and were considered particularly immutable, not at all susceptible to change by external influence. Morton believed that the skulls proved that the different human races showed different, essentially immutable head shapes. A wise Creator had from the beginning adapted each race perfectly to its own particular locale.

Like Blumenbach, Morton believed in five distinctly different races, Caucasian, Mongolian, Malay, American, and Negro, which he subsequently divided

Fig. 339. — Apollo Belvidere.[553]

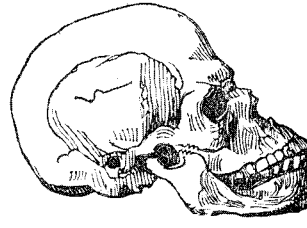
Fig. 340.[556]



Greek.

Fig. 341. — Negro.[554]

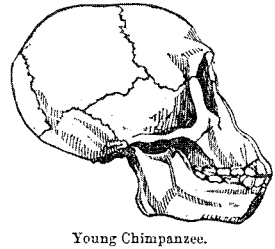
Fig. 342.[557]



Creole Negro.

Fig. 343. — Young Chimpanzee.[555]

Fig. 344.[558]



Young Chimpanzee.

Three faces with the skulls that underlie them. From Nott and Gliddon, Types of Mankind, *1854 (The British Library Institution/Heritage Image Partnership)*

into 22 families or groups of nations. Morton did not claim explicitly that the different races were different species, but he implied that their differences, given at the time of creation or shortly thereafter, were primordial. Morton's craniometric research consisted of plugging the openings of each of the skulls with cotton, filling the skull with white pepper seed through the large opening at its base, packing it until it was completely full, and then emptying its contents into a graduated cylinder. The cylinder readings gave the capacity of the crania in cubic inches. He made thirteen other measurements of each skull as well.

Morton published his results in his 1839 volume *Crania Americana*, a study of the large collection of American Indian skulls that he had gathered. His study gave their physical measurements and discussed the customs of the tribes from which they had come. Morton concluded that the American Indian race was different from all the others, including the Mongolian, and that the Eskimo tribes constituted a distinct family within that American race. He theorized that the so-called Mound Builders, responsible for the large rounded earthworks used for burial in the Mississippi valley, were also of that race.

Morton made comparisons among the skulls of the different races and concluded that the Causacian had the largest cranial capacity, followed by the Mongolian, the Malay, and the American, while the Ethiopian had the smallest. The physical measurements were supplemented by Morton's description of the moral characteristics of each race. The Caucasian possessed "the highest intellectual endowments"; the Mongolian was "ingenious, imitative, and highly susceptible of cultivation"; the Malay "active and ingenious" as well as "predaceous"; the American "averse to cultivation, and slow in acquiring knowledge; restless, revengeful and fond of war"; the Ethiopian "joyous, flexible, and indolent." "The Indian was 'incapable of servitude, and thus his spirit sank at once in captivity, and with it his physical energy,' while 'the more pliant Negro, yielding to his fate, and accommodating himself to his condition, bore his heavy burden with comparative ease'" (Morton 1839, quoted in Stanton 1960, 33–34). Morton's qualitative and aesthetic judgments about the worth of each race were supported by his seemingly objective quantitative measurements. An essay appended to *Crania Americana* by the phrenologist George Combe (1788–1858), a popular writer and lecturer, made connections between the national character of each race and its skull measurements as revealed by Morton. Morton himself, however, was never an advocate of phrenology.

Morton was slow to advocate polygenism. In 1839 he was not yet ready to endorse separate creations or pronounce on whether the races were separate species. He was aware that unions between Caucasians and American Indians could produce fertile offspring, thus members of these races were presumably descended from a common origin. Morton did, however, believe that racial dif-

ferences were permanent, that they had been given by the Creator soon after the initial creation, that they were not created by environment, that neither intellect nor skin color was determined by climate. But by the late 1840s, perhaps under the influence of his less cautious followers, Morton had begun to advocate separate human creations in different areas.

Morton's followers included George Robins Gliddon and Josiah Nott. Gliddon (1809–1857), British-born vice-consul for the United States in Cairo, and a popular lecturer on Egyptology, corresponded with Morton and sent him nearly 100 Egyptian crania. From his studies of ancient Egyptian monuments and hieroglyphics, Gliddon concluded that the Egyptians had been white, and that even in that ancient world, the races had been distinctly different. Whites and Negroes had, even in that remote epoch, their characteristic present-day features.

Dating ancient Egyptian civilization to about 2000 B.C.E., two-thirds of the way back to the assumed initial Creation in 4004 B.C.E., Gliddon argued that neither environment nor climate could have produced the racial differences in a mere two thousand years. The races must therefore be primordial and permanent, their differences impressed upon them by the Creator himself. Moreover, even in ancient Egypt, Negroes, as portrayed on the monuments, had been slaves. Neither their appearance nor their social position had changed in thousands of years. Gliddon also made the distinctly unorthodox suggestion that the time frame of Creation must be expanded, since ancient Egyptian civilization was probably much older than traditional biblical chronology would allow. Racial differences were, then, of much longer standing than previously suspected.

Gliddon's findings impressed Morton, and in 1844 Morton published *Crania Aegyptiaca*, which reported the measurements of the Egyptian skulls Gliddon had collected for him. Here Morton argued, following Gliddon, that the races were of very great age. By the end of the decade he had made the shift from his original belief that racial differences came about through divine interposition at some point after the initial Creation, to a more radical belief that each race had been separately created, each in its own homeland. In *Crania Aegyptiaca* Morton also endorsed Gliddon's view that Negroes even in ancient Egypt had been slaves. He dedicated the 1844 volume to Gliddon.

While on the lecture circuit Gliddon introduced the arguments and evidence of Morton's book to the American South. *Crania Aegyptiaca* made a particular impression on one Southerner, Josiah Clark Nott (1804–1873), a physician in Mobile, Alabama, a leading surgeon, and a slaveholder. In 1842, Nott had published an article called "The Mulatto a Hybrid: Probable Extermination of the Two Races if Whites and Blacks are Allowed to Marry," arguing that Caucasians and Negroes were two separate species, and that hybrids were weaker, less fertile, and doomed to extinction.

There were, according to Nott, both mental and physical differences between whites and blacks, evidence for which he drew from the Negro's remarkable immunity to yellow fever during the epidemics of the late 1830s. Evading arguments that racial differences were environmentally caused or that they were divinely interposed after the initial Creation, Nott took the final, complete polygenist step of arguing that the races had been created separately. He was probably the first American scientist to go public with this view.

By 1844, Nott was arguing that Scripture could not provide an accurate account of the Creation, as it was too full of contradictions. He relied both on Gliddon's evidence that Negroes had been physically distinct in ancient Egypt and on what were thought at the time to be natural laws. As each genus of plants or animals was comprised of different species, so too was the human genus, and each species had been created for, and thus was particularly suited to, its own particular climate. The Negro was suited for hot climates and degenerated if removed from them. Blumenbach's traditional test of species, the ability to produce fertile offspring, had no place in Nott's science. By 1847, firmly convinced that the races had been created separately, each in its own environment, that Negro and Caucasian had been distinct at an early period, and that they were unable to change or adapt, Nott began openly to defend slavery as the only way to keep both races from deteriorating through interbreeding.

By 1851, the American school of polygenesis, led by Morton, Nott, and Gliddon, had gained several crucial allies. The archaeologist Ephraim George Squier (1821–1888) helped cement Morton's polygenism by excavating an ancient cranium from the midwestern mounds and sending a drawing of it to Morton. Morton found its similarities striking to Central and South American crania, confirming his belief that the American Indian nations had a common and indigenous origin. The nations were "so linked by similarity of conformation, mental endowments, moral traits and archaeological remains, as to constitute a vast homogeneous group of mankind . . . *aborigine*, distinct and separate from all the others" (Morton 1839, quoted in Stanton 1960, 83). Thus was Morton's polygenism, to which he came by gradual steps, explicitly stated. The Mound Builders were an American Indian race of great antiquity, they did not migrate from Asia, and their physical form had remained essentially unchanged in their descendants. Both Squier and Gliddon demonstrated for Morton the permanence of racial characteristics, and the suitability of each race to the region for which it had been created.

If Squier provided the American school of polygenesis with scientific evidence of racial inferiority, the second of its allies lent it a prestigious name. Louis Agassiz (1807–1873) had been professor of natural history in Neuchatel, Switzerland, a disciple of Cuvier, and an expert in fossil fishes. In 1847 he immi-

Louis Agassiz (1807–1873)

Agassiz was the leading representative of natural history to the American public from the mid-1840s until his death. Revered as a popular lecturer and author, he taught at the Lawrence Scientific School at Harvard University from 1847 to 1873. There, in 1859, he established the Museum of Comparative Zoology, a center for natural history instruction and research, as well as numerous other scientific institutions elsewhere. He made major contributions to marine biology and embryology, paleontology, and geology, and was the best known and most outspoken opponent of Darwinism in America.

Agassiz was born in Motier-en-Vuly, Switzerland. As a young man he attended college in Zurich, Heidelberg, and Munich, earning a doctorate in zoology in 1829 at the universities of Munich and Erlangen. His dissertation on the fishes of Brazil brought him to Cuvier's notice, and, after receiving an MD degree in Munich, Agassiz went to Paris to study with Cuvier. In 1832 Agassiz was appointed professor at the College of Neuchatel, in Switzerland; the same year he married Cecile Braun, with whom he had several children. Their son Alexander also became a scientist.

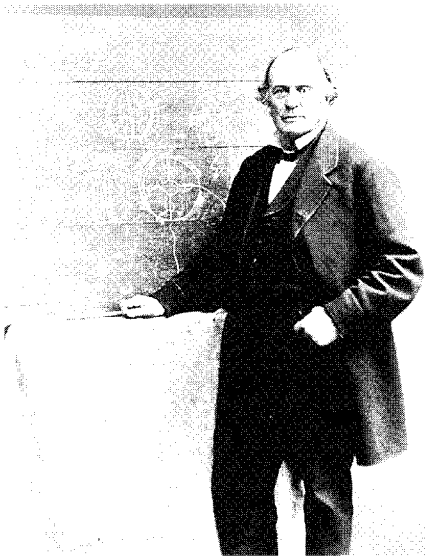
Over the course of the next two years Agassiz published his five volume *Fossil Fishes*, in which he described in painstaking detail over 1,700 species of ancient fishes and made illustrations of their reconstructions on Cuvierian comparative anatomical principles. As an antievolutionist, Agassiz saw modern species not as the genealogical descendants of ancient ones but both rather as fulfillment of ideal forms residing in the mind of God. In 1846 he accepted an invitation to lecture at the Lowell Institute in Boston, and in 1847, after the death of his wife, became a professor at Harvard. His second wife, Elizabeth Cabot Cary, was a member of one of Boston's

grated to the United States to take up a professorship at Harvard University. A compelling lecturer, Agassiz spoke in Boston, New Haven, and Charleston, and visited Morton in Philadelphia. Morton's collection of crania impressed Agassiz, but he was even more impressed, and viscerally disgusted, by the black waiters who attended him at his Philadelphia hotel. He wrote to his mother in December 1846 that

> I experienced pity at the sight of this degraded and degenerate race, and their lot inspired compassion in me in thinking that they are really men. Nonetheless, 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 palm of their hands, I could not take my eyes off their face 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 dine with such service. What unhappiness for the white race—to have tied their existence so closely with that of negroes

most socially prominent families.

Agassiz traveled widely, making journeys of exploration through central Europe, the Swiss Alps, the eastern and midwestern United States, and South America. In his studies of geology he formulated the concept of the Ice Age, which he believed was a catastrophe planned by God to exterminate the existing species, after which new species were divinely created. Agassiz believed that in the history of the earth there had been as many as twenty separate creations, each characterized by its own divinely produced set of life-forms. The species from one creation bore no genealogical relationship to that from any other—an idea that was easily adapted to Agassiz's theory of the separate origins of the human races. Despite his advocacy of polygenism, Agassiz was never a supporter of slavery, claiming that his views were those of a dispassionate scientist and had nothing to do with politics. His years at Harvard were marked by his controversy with his colleague Asa Gray, the Harvard botanist and friend of Darwin's. In 1873, the year of his death, Agassiz remained the only major scientific opponent of evolution.



(Library of Congress)

> in certain countries! God preserve us from such a contact! (Agassiz quoted in Gould 1981, 45.)

Earlier Agassiz had been a rather half-hearted defender of the doctrine of the created unity of the human species, but now he became convinced that the Negro and the white could not have shared a common origin. In 1850–1851 Agassiz wrote a series of articles for the Unitarian *Christian Examiner*, the second of which, "Diversity of Origin of the Human Races," showed his firm alliance with the American polygenists. Agassiz argued that although all human beings belonged to the same species, they did not share a common origin. The different races had been created separately, each in its own center of creation, specifically adapted to its own environment. Climate could not have produced the differences among them, and there had been no migration or diffusion from a common center. It was impossible to trace each race back to an original ancestral pair, as the races had been created as nations.

In an interesting variation on the anticlericalism of Morton, Nott, and Gliddon, Agassiz wrote that the Bible only reported on the origins of the white,

specifically the Jewish, race; it made no mention of the origins of any other. Thus polygenism was not inconsistent with the biblical origin story. Still, the Bible should not be read literally because it was not a textbook of natural history and should not be expected to provide scientifically verifiable facts. The existence of the different races, Agassiz concluded, "presses upon us the obligation to settle the relative rank among these races, the relative value of the characters peculiar to each, in a scientific point of view." Asserting that absolute equality was out of the question, he continued:

> Such views would satisfy nobody, because they go directly against our every day's experience. And it seems to us to be mock-philanthropy and mock-philosophy to assume that all races have the same abilities, enjoy the same powers, and show the same natural dispositions, and that in consequence of this equality they are entitled to the same position in human society. . . . This compact continent of Africa exhibits a population which has been in constant intercourse with the white race . . . and nevertheless there has never been a regulated society of black men developed on that continent, so particularly congenial to that race. Do we not find, on the contrary, that the African tribes are today what there were in the time of the Pharaohs, what they were at a later period, what they are probably to continue to be for a much longer time? And does this not indicate in this race a peculiar apathy, a peculiar indifference to the advantages afforded by civilized society? (Agassiz 1850, 142–143)

In 1854, Nott and Gliddon collaborated on *Types of Mankind*, which they dedicated to the memory of Morton. Nott discussed types, including Caucasian, African, and Indian, with a section on Jews as a race unchanged over 4,000 years, in terms of their comparative anatomy and geographical distribution. Each type was distinct from the beginning, created separately, possessed of distinct capabilities and characteristics. Gliddon wrote on biblical chronology and Egpytology, and Agassiz contributed a chapter on the geographical distribution of animals and men. The book comprised a compendium of the existing evidence for polygenesis.

Polygenism in the Land of Prichard

In Britain, polygenism also had its independent and influential sources. The Christian monogenist position, strong into the 1840s and supported by Prichard and others, began to give way in the 1850s under the guidance of Robert Knox and his outspoken follower James Hunt. Knox (1791–1862), a friend of William

Edwards, was an Edinburgh anatomist whose reputation was damaged in an 1829 scandal involving the selling of murdered corpses for medical dissection. Knox subsequently moved to London where he wrote and lectured on physiology and anatomy. His 1850 *Races of Men* was based on his lectures and viewed history in terms of the racial struggle between Saxons, Celts, Gypsies, Jews, and the darker races, an outlook similar to that proposed by Count Arthur de Gobineau's *Inequality of Races* (1853–1854). Knox's theory gained an immediate impact in the wake of the uprisings of 1848, which he interpreted in racial terms and claimed to have predicted. His biographer Henry Lonsdale credited Knox with making race into a household word.

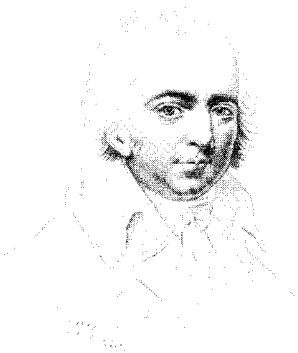
Knox explicitly rejected Prichard's monogenism and his historical approach that traced the races back to their original roots. It sufficed instead for Knox to focus on the biological and therefore also the mental and moral differences among the presently existing races. Racial natures, he argued, were unchanging over thousands of years, and were so different that they should be called different species. History was the result of each race attempting to dominate in its own geographical region and establish a government consistent with its own nature.

The Saxon race, for example, was by nature fair-haired and blue-eyed, tall, powerful and athletic, "the strongest, as a race, on the face of the earth" (Knox 1850, 43). Possessed of great self-confidence and an abstract sense of justice, the Saxon was for Knox "thoughtful, plodding, industrious beyond all the other races . . . large handed, mechanical, a lover of order, of punctuality in business, of neatness and cleanliness" (Knox 1850, 44–45, 47). This racial nature was unchanged either by environmental influence or by interbreeding with other races. Given the inalterability of race by any means, the Saxons were basically unsuited for life on continents other than the one on which they originated. There could be no healthy Saxon race in Africa, Australia, or the Americas; a constant influx of Saxons from the homeland and a reliance on native labor would be the only ways to maintain a colony. Such a view, a theory of "racial zones" similar to Agassiz's, led the politically radical, fiercely abolitionist Knox to an anticolonialist position. He thus provides a perfect illustration of the wide variety of political views held by those whom we would consider scientific racists.

Knox was influenced by the transcendental anatomy of Geoffroy Saint-Hilaire, a member of Edwards' *Société Ethnologique*, in his belief that the embryo acts as a kind of species reservoir, passing through developmental stages representing all the extinct, extant, and future species of its genus. Thus when a new species appeared, it was not the result of a totally new creation, nor the result of the transformation of a mature adult form of one species into another. Rather, the new species arose when one species form is replaced by another from out of the range of possibilities residing within the generic embryo. The

Robert Knox (1793–1862)

Knox was a wildly popular and successful teacher of anatomy whose career was compromised by scandal. His radical political views that became so much a part of his science were formed early in life. Knox's father was a schoolmaster in Edinburgh, Scotland, who had been sympathetic to and connected with liberal prorevolutionary groups during the French Revolution. The younger Knox was schooled at home and at Edinburgh high school, and attended medical school at the University of Edinburgh. He received his medical degree in 1814, specializing in anatomy, with a dissertation on the effects of alcohol and other stimulants on the human body.



(Mary Evans Picture Library)

Knox spent the next several years as an army physician and surgeon. He traveled to London to complete his medical studies and soon after was sent to Europe as a hospital assistant with the British army. In Brussels Knox tended to the wounded from the Battle of Waterloo. Upon his return to London in 1817 he voyaged as ship's surgeon to the Cape of Good Hope with the 72nd regiment. In South Africa he took part in a war against the Bantu, toward whom he was actually sympathetic, and the experience deepened his tendencies toward political radicalism and atheism. He also made scientific studies of the plants, animals, and people of South Africa.

Returning to Edinburgh in the early 1820s Knox published the results of his anatomical, zoological, and meteorological research from his journey and began a study of the anatomy of the eye. In 1825 he became the director of an independent school of anatomy in Edinburgh, where his dramatically performed lectures drew huge crowds of students and had to be supplemented by special Saturday lectures to the public. Knox's problems arose from his need for cadavers for his students to dissect. In 1827 he paid William Burke and William Hare for the dead body of a tenant found in their Edinburgh boarding house. By 1828, Burke and Hare sold Knox more than a dozen more corpses, but it was soon revealed that they had resorted to the murder of their tenants to keep up the supply. Burke was hanged (and afterward duly dissected), while Hare managed to flee the city. Knox took the brunt of the blame for their crimes, both from the Edinburgh citizenry and from some of his professional colleagues, though his name was officially cleared. Nonetheless his school of anatomy fell into decline, and in 1831 he was forced to resign as curator of the museum of anatomy of the Royal College of Surgeons. In 1842 he left Edinburgh for London, but the stain on his reputation prevented him from gaining any official position, either in England or in Scotland. He supported himself for the next fourteen years by medical journalism and public lecturing, presenting the series of lectures that eventuated in his 1850 *Races of Men*. In 1856, the cloud over his name having lifted somewhat, he was appointed anatomist at a cancer hospital in London.

genesis of new species from out of the generic embryo allowed Knox to reject any notion that species themselves might undergo change, or might blend continuously one into another. In a racial framework, the theory led Knox to argue that all the races, though each a permanently distinct species, were all of the same genus and shared a common humanity. Each race was a result of the embryonic possibilities developing in a different direction, a process he referred to as "deformation." The cuticular fold at the inner corner of the Eskimo's eye, for example, a feature absent in European adults, was shared by all human embryos. The feature was retained when that generic human embryo developed into one of its specific forms and lost when it developed into another.

"Race is everything," Knox wrote in 1850; "literature, science, art, in a word, civilization, depend on it" (Knox 1850, 7). As his views gained currency, Knox's basic message, about the immutability of racial character and its driving force in history, was invariably disjoined from his radical politics and put to conservative political ends. The Knoxian notion of racial struggle was used by Darwin and by Social Darwinists to justify European imperialism. Knox's polygenism was also adapted to very un-Knoxian purposes by Knox's devoted disciple James Hunt (1833–1869). In 1863, Hunt founded the London Anthropological Society as an alternative to the Prichardian Ethnological Society, which Hunt disparaged as dominated by monogenists, Quakers, and abolitionists. Hunt used the Anthropological Society, modeled on Broca's society of the same name, as a vehicle for Knox's polygenism, but combined it with reactionary politics.

In 1864, as the American Civil War raged, Hunt declared before his society that the Negro was a distinct species from the European. Intellectually inferior to the European, the Negro was more similar to the ape than the European was, and "more humanized when in his natural subordination to the European than under any other circumstances" (Hunt 1854, 23). Hunt did not want his listeners to believe that he was countenancing the horrors of the slave trade. Nonetheless, he could not help but note the degraded conditions of Negro slaves in Africa and how much better off they were as slaves in the Confederacy. In fact, slavery in America was, for Hunt, a boon to black people. "The highest type of the Negro race," Hunt concluded, "is at present to be found in the so-called Slave States of America, far superior in intelligence and physique to both his brethren in Africa and to his 'free' brethren in the Federal States" (Hunt 1854, 24).

Conclusion

The legacy of polygenism was the establishment of racial typology, the idea that the different races constituted different species, which in the period 1800–1859

meant that they were considered to be essentially, immutably, biologically distinct types. Though the most extreme forms of polygenism were often implied rather than explicitly endorsed, including the claim that the races had been separately created, the notion of racial type was a powerful and pervasive one. As doubts accrued about the efficacy of the environment to alter physical or mental traits in any lasting way, the reigning monogenist consensus was weakened, and polygenists solved the problem by arguing that racial differences were primordial and permanent. Once racial typology gained a foothold, it proved difficult to dislodge, persisting after Darwin and in fact well into the twentieth century. With the growth of new and quantitative sciences from 1800 to 1859, the polygenists' desire to categorize, classify, and measure gained unprecedented authority and respectability.

Though they assumed that the differences they observed indicated distinctly different racial essences, and that the dark races were unquestionably inferior to the white, the polygenists did not generally agree on the way the races should be classified. The actual number of races varied considerably from scientist to scientist. Nor did the polygenists hold a set of political beliefs in common. Indeed, they came from across the political spectrum in their views on abolition, slavery, and colonialism. It would therefore be a mistake to try to correlate any one particular political stance with a belief in polygenism.

Still, social context was clearly relevant to the rise of racial typology, and the relationship between scientific views and political developments is worth considering. For example, despite some notable exceptions, slaveholders in the American South did not use polygenism to defend their peculiar institution. Polygenism was too radical a doctrine for them, too far out of line with received biblical authority, and monogenism was perfectly adequate to maintain slaves in their subordinate position. The Reverend John Bachman of Charleston, South Carolina, a prominent naturalist, slaveholder, and antiabolitionist, was a monogenist and staunch defender of slavery on biblical grounds. In a sense, Bachman's slaveholding society scarcely needed a theory of different racial essences. It was rather the white abolitionists, faced with the prospect of black people moving freely among them, who used polygenesis to reinforce their own separateness and superiority.

Racial views also intersected with imperial interests in several different ways. The debate between the monogenists and the polygenists predated the late-nineteenth-century scramble for Africa among the major European imperial powers. In Britain, at least at that time, popular support for colonialism was low. Indeed, the colonial experiences of the British in India and the French in Algeria lent credence to the polygenist idea that whites were not well suited to hot climates. Ironically, Europeans' conviction of their essential difference, and there-

fore of their vulnerability, increased even as their colonial involvement deepened. And as it did, polygenist reasoning tracked it and explained it. When the colonial encounter was different, and it was instead the colonized peoples who died out, racial typology could again explain the experience. The colonized were clearly at the end of their racial life history and their vital principle was sapped. European invasion then only hastened an end that was already foreordained and inevitable. The American belief in Manifest Destiny, the white expansion into and capture of American Indian lands, thus had a clearly racial, and polygenically inspired, component to it.

These last few examples help expose the different aspects of racial typology, and the reasons for its remarkable success. With its contravention of biblical authority, polygenism stood for a new nineteenth-century scientific worldview, to which Darwin was about to make a major contribution. And with its possibilities for justifying European preeminence and oppression of colonial subjects, racial typology took on heightened significance in the imperialistic last decades of the nineteenth century.

Bibliographic Essay

On the shift from Enlightenment to nineteenth-century beliefs about race, see George W. Stocking Jr., *Race, Culture, and Evolution: Essays in the History of Anthropology* (Chicago: University of Chicago Press, 1982) and Nancy Leys Stepan, *The Idea of Race in Science, Great Britain, 1800–1960* (Hamden, CT: Archon, 1982). Both Stocking and Stepan agree that race was a concept characteristic of the nineteenth century. Audrey Smedley, *Race in North America: Origin and Evolution of a Worldview* (Boulder, CO: Westview Press, 1999) includes several chapters on scientific ideas about race. Stocking's editor's introduction to *Bones, Bodies, Behavior: Essays on Biological Anthropology* (Madison: University of Wisconsin, 1988) contains a useful summary of this transition period.

For a full chronology of slavery and its abolition, see Harry Harmer, *The Longman Companion to Slavery, Emancipation, and Civil Rights* (New York: Pearson Education, 2001). For numbers of slaves transported, see Philip Curtin, *The Atlantic Slave Trade: A Census* (Madison: University of Wisconsin Press, 1969). For a discussion of the relationship between slavery, abolition, and racial theories, see Seymour Drescher, "The Ending of the Slave Trade and the Evolution of European Scientific Racism," *Social Science History* 14 (1990): 415–450. David Eltis, in "Europeans and the Rise and Fall of African Slavery in the Americas: An Interpretation," *American Historical Review* 98 (December 1993): 1399–1423, argues that economic reasons alone cannot account for the enslave-

ment of Africans. Joel Williamson, in *The Crucible of Race: Black-White Relations in the American South since Emancipation* (New York: Oxford University Press 1984) discusses the effect of the slave system in creating a hierarchical society in the South and provides a useful general framework for thinking about slavery.

James Cowles Prichard's *Researches into the Physical History of Mankind*, originally published in London by J. and A. Arch in 1813, was reissued in an edition edited by George Stocking (Chicago: University of Chicago Press, 1973). Stocking's introduction to this volume covers Prichard's biography, places his ideas in context, and considers their influence. The 1813 *Researches* grew to five volumes in subsequent editions in 1826, 1838, and 1851. It was supplemented by *The Natural History of Man: Comprising Inquiries into the Modifying Influence of Physical and Moral Agencies on the Different Tribes of the Human Family*, originally published in 1843 (London: H. Baillaire), with editions in 1845, 1848, and 1855. William Lawrence's *Lectures on Physiology, Zoology, and the Natural History of Man* were published in 1822 (London: Benbow). Stepan's *Idea of Race in Science* discusses Prichard's monogenism and compares it to Lawrence's and Samuel Stanhope Smith's. She also deals with the challenges to monogenism made by Henry Home Kames and Charles White. Kames's work is *Sketches of the History of Man* (Edinburgh: W. Creech, 1774, 2d ed. 1788). White's work is *An Account of the Regular Gradation in Man, and in Different Animals and Vegetables, and from the Former to the Latter* (London: C. Dilly, 1799).

Cuvier's contributions to polygenism are discussed in Michael Banton, *Racial Theories* (New York: Cambridge University Press, 1987). On polygenism in France, see Claude Blanckaert, "On the Origins of French Ethnology: William Edwards and the Doctrine of Race," pages 18–55 in Stocking's *Bones, Bodies and Behavior*. Martin Staum, "Paris Ethnology and the Perfectibility of the Races," *Canadian Journal of History* 35 (December 2000): 453–472, compares the *Société Ethnologique* with Broca's anthropological society and considers its connections to American polygenism.

On the American school of polygenism, see William Stanton, *The Leopard's Spots: Scientific Attitudes toward Race in America, 1815–1859* (Chicago: University of Chicago Press, 1960). Stephen Jay Gould, in *The Mismeasure of Man* (New York: Norton, 1981), argues that Morton, having unconsciously imbibed the prejudices of his time, fudged his cranial measurements so that his results would cohere with his preconceived notions about racial superiority. Gould repeated Morton's measurements and showed exactly where his apparently unconscious mistakes were. John S. Michael, in "A New Look at Morton's Craniological Research," *Current Anthropology* 29 (April 1988): 349–354, has in turn

criticized Gould and stressed instead Morton's levelheadedness and caution, showing that in some cases Morton's results were not what he expected, still Morton reported them. Morton's original works are *Crania Americana; or, a Comparative View of the Skulls of Various Aboriginal Nations of North and South America* (Philadelphia: J. Dobson, 1839) and *Crania Aegyptiaca; or, Observations on Egyptian Ethnography, Derived from Anatomy, History, and the Monuments* (Philadelphia: J. Pennington, 1844). Charles Caldwell's work referred to here is *Thoughts on the Original Unity of the Human Race* (New York: E. Bliss, 1830). Nott's article "The Mulatto a Hybrid: Probable Extermination of the Two Races if Whites and Blacks are Allowed to Marry" appeared in *The American Journal of the Medical Sciences* 6 (1843): 252–256. Nott and Gliddon's *Types of Mankind* appeared in 1854 (Philadelphia: Lippincott, Grambo). Agassiz's article "Diversity of the Origin of the Human Races" appeared in the *Christian Examiner* in July 1850, pages 110–145. Agassiz's letter to his mother in which he described his reaction to seeing black people was translated and quoted in full by Gould in *Mismeasure of Man*, pages 44–45.

On the influence of polygenist theory on political and social policy, especially regarding Native Americans, see Reginald Horsman, "Scientific Racism and the American Indian in the Mid-nineteenth Century," *American Quarterly* 27 (May 1975): 152–168. See also Robert E. Bieder, *Science Encounters the Indian, 1820–1880: The Early Years of American Ethnology* (Norman: University of Oklahoma Press, 1986), which includes discussions of Morton and Squier.

On Robert Knox and James Hunt see Evelleen Richards, "The 'Moral Anatomy' of Robert Knox: The Interplay Between Biological and Social Thought in Victorian Scientific Naturalism," *Journal of the History of Biology* 22 (Fall 1989): 373–436. Knox's *Races of Men: A Fragment* was published in 1850 in Philadelphia by Lea and Blanchard. Hunt's *The Negro's Place in Nature* was published in 1864 in New York by Van Evrie, Horton, and Co. The relationship between racial theories and British imperialism is treated in Mark Harrison, "'The Tender Frame of Man': Disease, Climate and Racial Difference in India and the West Indies, 1760–1860," *Bulletin of the History of Medicine* 70 (1996): 68–93.

On John Bachman, see Lester D. Stephens, *Science, Race and Religion in the American South: John Bachman and the Charleston Circle of Naturalists, 1815–1897* (New York: Oxford University Press, 2000). Both Stanton and Stephens make the argument that polygenism was not of crucial importance in justifying slavery.