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The Anatomy of Difference: Race and Sex in Eighteenth-Century Science

LONDA SCHIEBINGER

IN THE 1780S DUKE FREDERICK II of Hessen-Kassel settled a colony of Africans at Wilhelmshöhe (near Kassel), high above the Eder river, in order to study their customs and anatomy. Originally intended to house Chinese, the colony was built with pagodas and oriental gardens. Since Chinese were either too expensive or simply not available, the colony was settled with Africans. The medical doctor in charge of the colony, Ernst Baldinger, noted that the Africans settled there did not flourish; most died of tuberculosis or committed suicide.¹ Their bodies were turned over to Germany's leading anatomist: Samuel Thomas von Soemmerring.² From his dissections of "several Negro bodies of both sexes" (one woman, one child, and at least two men), along with his earlier observations of them at the public baths, Soemmerring prepared his 1784 *Über die körperliche Verschiedenheit des Mohren vom Europäer* (Concerning the physical difference between the Moor and the European)—a book that served as a basic text on the African physique until well into the nineteenth century.³

I would like to thank the American Council of Learned Societies for support for research for this essay.

¹ At least one of the blacks whom Soemmerring dissected had committed suicide. Wolfram Schäfer, 'Von 'Kammermohren', 'Mohren'-Tambouren und 'Ost-Indianern', 'Hessische Blätter für Volks- und Kulturforschung' 23 (1988): 35–79, esp. n. 132. See also Urs Bitterli, *Die Entdeckung des schwarzen Afrikaners* (Zurich, 1970).

I would like to thank the American Council of Learned Societies for support for research for this essay.

² Käthe Heinemann, "Aus der Blütezeit der Medizin am Collegium illustre Carolinum zu Kassel," *Zeitschrift des Vereins für hessische Geschichte und Landeskunde* 71 (1960): 85–96, esp. 90. See also Klaus Mross, "Ernst Gottfried Baldinger (1738–1804), gelehrter Arzt der Aufklärungszeit, und sein Schüler Samuel Thomas Soemmerring," in *Samuel Thomas Soemmerring und die Gelehrten der Goethezeit*, ed. Gunter Mann and Franz Dumont (Stuttgart, 1985), p. 258.

³ This book was expanded and republished one year later as *Über die körperliche Verschiedenheit des Negers vom Europäer* (Frankfurt, 1785). Soemmerring changed the

For reasons that are not entirely clear, Kassel was the eighteenth-century city with the highest number of blacks in all of Germany.⁴ They were collected as *exotica*—along with apes, camels, leopards, and elephants. The Duke paraded them as buglers and drummers in his militia. Noble families exchanged them as gifts, dressing them in gay uniforms to serve as butlers and maids, pages and coachmen. The Africans even—upon occasion—married Germans, bought property, and (after converting to Christianity) became respected members of the community.⁵

For European anatomists blacks were exotic. But, as we shall see, to men of the academy European women were in many ways just as exotic. Soemmering, for example, some years after his book comparing the Negro to the European turned his attention to female anatomy, seeking to discover how the anatomy of the (European) woman differed from that of the (European) man. He was not alone in his fascination with *difference*. Indeed, a vast and largely unexplored literature on both racial and sexual differences arose at the end of the eighteenth century.⁶

Historians have tended to treat race and sex in separate studies.⁷ Yet, it is significant that many of the anatomists at this time who were interested in racial differences were also interested in sexual differences. Certain patterns in the way they studied each of these groups were similar, and it is my contention that these similarities arose from the fact that natural history was written from the point of view of European males. European men dominated academic science, holding a tight rein on what was recognized as legitimate knowledge and who could produce that knowledge.

This essay explores the anatomy of difference in the eighteenth century, looking at how social hierarchies structured scientific debates. As anatomists

title of his book from “Mohren” to “Neger” without explanation. He continued to revise the book until about 1817 but never published a new edition (see his manuscript in the Senckenbergische Bibliothek, Frankfurt, Lfd. Nr. 2). The book was never translated.

⁴ A number of blacks were sent back from the American War of Independence by Hessen soldiers serving there. This cannot account, however, for the fact that Moors began to appear in Kassel as early as 1664. The first was a female named Wilhelmina (See Schäfer, Von ‘Kammernohren’, ‘Mohren’-Tambouren und ‘Ost-Indianern’,” pp. 36–37).

⁵ *Ibid.*, p. 35. For France in this regard, see Shelby McCloy, *The Negro in France* (Lexington, Kentucky, 1961).

⁶ Typical literature includes: Henry Home Kames, *Sketches of the History of Man* (Edinburgh, 1774); Johann Caspar Lavater, *Physiognomische Fragmente, zur Beförderung der Menschenkenntniß und Menschenliebe* (Leipzig, 1775–1778); Christoph Meiners, *Grundriß der Geschichte der Menschheit* (Lemgo, 1785) and *Geschichte des weiblichen Geschlechts*, 4 vols. (Hanover, 1788–1800); Immanuel Kant, *Anthropologie in pragmatischer Hinsicht* (1798; Frankfurt and Leipzig, 1799); Jacques-Louis Moreau de la Sarthe, *Histoire naturelle de la femme* (Paris, 1803); Wilhelm von Humboldt “Über den Geschlechtsunterschied und dessen Einfluss auf die organische Natur,” in *Werke*, ed. Andreas Flitner and Klaus Giel (Stuttgart, 1960), vol. 1, pp. 268–295 and “Plan einer vergleichenden Anthropologie,” *ibid.*, pp. 337–375; Julien-Joseph Virey, *De la femme* (Paris, 1823); and *Historie naturelle du genre humain*, 3 vols. (Paris, 1824).

and physical anthropologists sought to characterize and classify the races and the sexes, they faced a critical dilemma: where to rank the black man (the dominant sex of an inferior race) vis-à-vis the white woman (the inferior sex of the dominant race). It was these two groups—and not African women—who were contenders for power in eighteenth-century Europe.

Fixing Racial and Sexual Types

The eighteenth century was the great age of classification. The voyages of discovery and the colonies had flooded Europe with new and strange specimens of plants, animals, and humans. Natural historians attempting to lay the grid of reason over the unwieldy stuff of nature sought new and simple principles that would hold universally.

The first problem was to establish categories. How was humankind to be divided? Most anatomists agreed that human bodies were best differentiated by age, sex, and nation (the term *race* was not yet in vogue). In his textbook of anatomy, Samuel Thomas von Soemmerring suggested that skeletons be categorized according to age, sex, nationality, nourishment, susceptibility to illnesses, lifestyle, and clothing.⁸ Of these, sex and race emerged as central categories of analysis.

For some, however, it was not obvious that categories such as these were the relevant ones. Johann Blumenbach (widely regarded as the father of physical anthropology), for example, dismissed reports of sexual differences in the skull and other parts of the skeleton (except for the pelvis) as exaggerated. He ridiculed the idea that the bones of Abelard and Héloïse that had lain together

⁷ For the study of race see, e.g., Margaret Hodgen, *Early Anthropology in the Sixteenth and Seventeenth Centuries* (Philadelphia, 1964); Philip D. Curtin, *The Image of Africa: British Ideas and Actions, 1780–1850* (Madison, 1964); George Stocking, Jr., *Race, Culture, and Evolution: Essays in the History of Anthropology* (New York, 1968); also his *Bones, Bodies, Behavior: Essays on Biological Anthropology* (Madison, 1988); Winthrop D. Jordan, *White over Black: American Attitudes Toward the Negro, 1550–1812* (Chapel Hill, 1968); and Nancy Leys Stepan, *The Idea of Race in Science: Great Britain 1800–1960* (London, 1982). For the study of sexual differences see, Elizabeth Fee, “Nineteenth-Century Craniology: The Study of the Female Skull,” *Bulletin of the History of Medicine* 53 (1979): 415–433; Esther Fischer-Homberger, *Krankheit Frau und andere Arbeiten zur Medizingeschichte der Frau* (Bern, 1979); Catherine Gallagher and Thomas Laqueur, eds., *The Making of the Modern Body: Sexuality and Society in the Nineteenth Century* (Berkeley, 1987); and Ludmilla Jordanova, *Sexual Visions: Images of Gender in Science* (Madison, 1989). Interest is just beginning to emerge in ways sex and race interrelate; see, e.g., Nancy Leys Stepan, “Race and Gender: The Role of Analogy in Science,” *Isis* 77 (June 1986): 261–277; Elizabeth Spelman, *Inessential Woman: Problems of Exclusion in Feminist Thought* (Boston, 1988); Sandra Harding, “Taking Responsibility for Our Own Gender, Race, Class: Transforming Science and Social Studies,” *Rethinking Marxism* 2 (Fall, 1989): 8–19; Bell Hooks, *Talking Back: Thinking Feminist, Thinking Black* (Boston, 1989); also the volume edited by Henry Louis Gates, Jr., *Race, Writing, and Difference* (Chicago, 1986).

⁸ Samuel Thomas von Soemmerring, *Vom Baue des menschlichen Körpers*, 5 vols. (Frankfurt, 1791–1796).

for nearly five hundred years could be differentiated by sex and placed in separate graves.⁹ Though sex made up one of his categories of analysis, Blumenbach treated it only briefly in one of his books and did not attach the significance to it that others did at the time.

Blumenbach was not alone in stressing the ambiguities of sexual differences. Joseph Wenzel in his preface to a book on sexual difference wrote: “one can find male bodies with a feminine build, just as one can find female bodies with a masculine build.”¹⁰ In fact, one could find skulls, brains, and breast bones of the “feminine type” in men. Johann von Döllinger similarly claimed that certain parts of the male (such as the prostate) are feminine and parts of the female (such as the uterus) are masculine.¹¹

Eighteenth-century anatomists faced similar problems when thinking about racial differences. The basic question was: of the myriad observable differences between people—in skin, hair, or bones—which are significant, actually differentiating one race from another? Blumenbach suggested that occupation or social class might determine skin color, for example. “The face of the working man or the artisan,” he wrote, “exposed to the force of the sun and the weather, differs as much from the cheeks of a delicate [European] female, as the man himself does from the dark American, and he again from the Ethiopian.” Blumenbach also pointed to problems created by the fact that anatomists procured corpses from what he described as the “lowest sort of men.” These European men, he remarked, have skin around the nipples and on the testicles that come nearer to the “blackness of the Ethiopians than to the brilliancy of the higher class of Europeans.”¹² Though with this example Blumenbach affirmed the meanness of both dark-skinned peoples and the lower classes of his own countrymen, one of his primary goals was to problematize the notion of fixed races.

Blumenbach's project was to show that there is unity within human diversity. Although he grouped humankind into five principal varieties—Caucasian, Mongolian, Ethiopian, American, and Malay—he did not see races as sharply divergent from one another. He argued instead that the transition from one race to another was so gradual as to be almost imperceptible. He also emphasized the diversity invariably found *within* races. Of Africans he wrote: “among Negroes and Negresses (whom I have been able to observe attentively, plus the seven skulls of adult Negroes in my collection) it is with difficulty that *two* can be found who are completely like each other.”¹³

Blumenbach and Wenzel's efforts to diminish sexual and racial difference

⁹ Johann Blumenbach, *Geschichte und Beschreibung der Knochen des menschlichen Körpers* (Göttingen, 1786), pp. 81–83.

¹⁰ Jakob Ackermann, *Über die körperliche Verschiedenheit des Mannes vom Weiblicher Geschlechtstheilen*, trans. Joseph Wenzel (Koblenz, 1788), p. 5.

¹¹ Johann Döllinger, “Versuch einer Geschichte der menschlichen Zeugung,” reprinted in Arthur Meyer's *Human Generation: Conclusions of Burdach, Döllinger and von Baer* (Stanford, 1956), p. 42.

¹² Johann Blumenbach, *On the Natural Varieties of Mankind*, trans. Thomas Bendyshe (1775 and 1795; New York 1969), p. 108.

¹³ *Ibid.*, p. 306

ran counter to the larger effort to fix racial and sexual types. As we shall see, significant differences would be found not only between men and women, blacks and whites, but also between European men and all other men and women.

“That Majestic Beard”

In his lectures given at the University of Uppsala in the 1740s, Carl Linnaeus, the father of modern taxonomy, taught that “God gave men beards for ornaments and to distinguish them from women.”¹⁴ The presence or absence of a beard not only drew a sharp line between men and women, it also served to differentiate the varieties of men. Women, black men (to a certain extent), and especially men of the Americas simply lacked that masculine “badge of honor”—the philosopher’s beard.¹⁵

It was obvious to all concerned that women did not have beards. (Anatomists and ethnologists did not bother to discuss in any detail the exceptional cases of bearded women or the hair that sometimes grows after menopause). The beard had long been a symbol of virility—the sign of a leader. The ancient Egyptians portrayed even female monarchs with beards, among them Hatshepsut, the only woman aside from Cleopatra VII to rule Egypt singlehandedly. Since she proved herself capable of ruling as a king, she was given the symbol of kingship. Eighteenth-century anthropologists took the absence of the beard in the female as confirmation of her less noble character. When Immanuel Kant launched his diatribe against learned women, he chose the symbolic value of the beard as his weapon. Scientific learning in women, he taught, ran counter to the laws of nature; a learned woman—such as the classicist Madame Dacier or the physicist Emilie du Châtelet—“might just as well have a beard; for that expresses in a more recognizable form the profundity for which she strives.”¹⁶

While taken for granted in the female, the absence of a beard in native American males led to great debate. Many natural historians took this to be a sign that they belonged to a lower class of humans; some even argued that this absence of hair follicles on the chin proved that they belonged to a separate species. As Richard McCausland reported in the *Philosophical Transactions of the Royal Society of London* in 1786:

It has been advanced by several travellers and historians that the Indians of America differed from other males of the human species in the want of one very characteristic mark of the sex, to wit, that of a beard.¹⁷

¹⁴ Wilfrid Blunt, *The Compleat Naturalist: A Life of Linnaeus* (London, 1971), p. 157.

¹⁵ [Theodor von Hippel], *Über die bürgerliche Selbstständigkeit der Weiber*, in *Sämmtliche Werke* (Berlin, 1828), vol. 6, p. 35.

¹⁶ Immanuel Kant, *Beobachtungen über das Gefühl des Schönen und Erhabenen*, in *Kants Werke*, ed. Wilhelm Dilthey (Berlin, 1900–1919), vol. 2, pp. 229–230. The beard was a common symbol of virility; see Gabriel Jouard, *Nouvel Essai sur la femme considérée comparativement à l’homme* (Paris, 1804), p.8.

¹⁷ Richard McCausland, “Particulars relative to the Nature and Customs of the Indians of North-America,” *Philosophical Transactions of the Royal Society of London* 76 (1786): 229–235.

Some linked reports of Indian males' beardless chins to reports that native American females do not menstruate—and for that reason both were seen as defective.

For Blumenbach and McCausland these claims were seriously flawed. Europeans were mistaken in their belief that Indians are naturally beardless; in fact, Blumenbach argued, Indians pluck their beards “on purpose” as soon as they appear. This was only one of the many forms of artifice Indians were alleged to employ; they also color their bodies by means of pigments and paints, prick their skin with needles, and enlarge their ears so that, as Blumenbach reported, they can “cover their whole body with them.” Though Blumenbach admitted that the beard of the Americans was thin and scanty, he suggested that they ought no more to be called beardless than men with sparse hair ought to be called bald.¹⁸

McCausland took a similar tack, offering the testimony of the Mohawk Indian, Thayendanega (or Tayadaneega), and Colonel Butler, Deputy Superintendent of Indian Affairs, that Indians do indeed have beards. Colonel Butler believed that if an Indian shaved from the time of his youth, he would develop the same lush beard of the European. While Thayendanega did not think shaving would help, he rejected the common notion that the occasional appearance of beards on Indians arose from an admixture of European blood.

That the absence of hair should have been taken as a sign of imperfection in Indians (and women) is curious, given that Blumenbach had listed *hairlessness* as one of the traits distinguishing humankind from animals.¹⁹ Furthermore, other parts of the body that are hairy—the armpit and groin, for example—carried no particular prestige. That a few hairs on the chin should have become a major subject of debate among European natural philosophers in this period seems extraordinary unless one considers the circumstances. This rather trivial example illustrates how research priorities can reflect the patterns of inclusion and exclusion in academic communities. Had women and native Americans held chairs of anatomy in European universities, would the same question have arisen? Or if it did, would it have occupied university-trained anthropologists to such an extent that Blumenbach had to report he was “almost ashamed” of the trouble he had taken to prove that men of the Americas do in fact have beards?

Do Women Shape the Race?

One of the most remarkable ways in which race intersects with sex in this period is that women were commonly seen as helping to shape racial characteristics. For Georges-Louis Leclerc de Buffon, Blumenbach, John Hunter, and other “environmentalists,” racial characteristics—the shape of noses and lips, the color of skin and texture of hair, and the shape of the skull—were fluid, formed over

¹⁸ Blumenbach, *On the Natural Varieties*, pp. 271–272. For European attitudes toward native Americans, see Lee Huddleston, *Origins of the American Indians: European Concepts, 1492–1729* (Austin, 1967); and Lewis Hanke, *Aristotle and the American Indians: A Study of Race Prejudice in the Modern World* (London, 1959).

¹⁹ Blumenbach, *On the Natural Varieties*, pp. 173–174.

a number of years by external forces working on the body. These forces included climate, diet, and customs; the vagaries of epidemics or disease; the crossing of different races; and (last but not least) the manipulative hands of women. According to Buffon, mothers took the homogeneous stuff of humanity and carved from it the peculiarities of national types. Odd as it may sound today, women at this time were seen as shaping the very bodies that anatomists studied.

Noses in particular were thought to be shaped by the rhythms of mothers' lives. Blumenbach characteristically wrote that "the thick nose and swelling lips of Ethiopians are always attributed to the way in which, while in their infancy, they are generally carried on the backs of their mothers, who give them suck while they pound millet, or during their hard and heavy tasks."²⁰ The pounding of the baby's head against its mother during such activities flattened their facial features. Blumenbach conceded that racial contours of the nose could be recognized even in aborted fetuses (that is, before being shaped by maternal habits), but he took Hippocrates's view that after bodily features had been artificially shaped for a very long time a kind of "natural degeneration" takes place, so that eventually no more manual pressure is required to produce a flat nose. In the subsequent formulation of Lamarck, acquired characteristics could be inherited.

Buffon similarly attributed the characteristic flat Negro nose (and big belly) to the practice among African women of carrying their children on their backs. The jerk of the gait caused the child's nose to strike repeatedly against her back; and the child, to avoid these blows, pushed its head and its stomach forward.²¹ If the noses of these children somehow escaped these unintentional transformations, mothers were apt (in Blumenbach's view) to seek the same effect as a matter of esthetics, depressing the nose and squeezing the lips to make them thick.

More significant than their supposed agency in shaping noses was women's role in shaping skulls. Skull shape and size in the nineteenth century becomes the measure *sine qua non* of intelligence. It seems most remarkable, then, that mothers should have been seen as a crucial force shaping this particular characteristic. Environmentalists again emphasized the manipulative hands of the mother. If Germans have especially broad heads, it is because German mothers always sleep their babies on their backs. Belgians have oblong heads because Belgian mothers wrap their infants in swaddling clothes and sleep them as much as possible on their sides and temples. Greeks and Turks have nearly spherical heads through the special care of midwives.²² Wild Indians of America have flat heads because their mothers cradle them in such a way that the weight of their body bears down on the crown of their heads, making their faces appear remarkably broad. As Rousseau remarked, if the way in which God has shaped

²⁰ Ibid., p. 232. British childrearing manuals also held mothers responsible for the shape of their children's bodies. See Felicity Nussbaum, *The Autobiographical Subject: Gender and Ideology in Eighteenth-Century England* (Baltimore, 1989).

²¹ Georges-Louis Leclerc de Buffon, *Histoire Naturelle, in Oeuvres complètes de Buffon*, ed. Comte de Lapepède (Paris, 1818), vol. 5, p. 250.

²² Blumenbach, *On the Natural Varieties*, pp. 116, 240.

our heads does not suit us, we have them modelled from without by midwives and from within by philosophers.²³

Continental environmentalists of the eighteenth century were by and large liberals, opposed to slavery and its attendant racism. Most environmentalists were also monogenists who believed that all humanity shares a common ancestry with Adam and Eve. They opposed the polygenists, the worst of the racists who taught that Africans were a race apart; they also opposed the biological determinists who maintained that racial characteristics were innate. Environmentalists emphasized instead that noses and skulls had deviated from those of the original human stock (Adam and Eve) through environmental pressures such as climate, diet, and manner of life. Though monogenists (Buffon, for example) generally saw racial differentiation as a process of degeneration from a white origin, they were generally egalitarians.²⁴ If bodies differed simply in response to the environment, then all peoples were made of the same raw material and had the same potential for intellectual and moral achievement. As one might imagine, eighteenth-century Africans writing against slavery favored the environmentalist argument that all men were by nature equal and that differences in color were the product of climate.²⁵

Yet even the environmentalists suffered from ethnocentrism insofar as European physiognomy was taken as the primordial norm. Lurking in the background was the notion that all children—African, Chinese, Tahitian—are born with the fine features of the European until some outside force acts to deform them. According to Blumenbach (who had it on the testimony of “the most credible eyewitnesses”) it took considerable force to depress the noses of African babies.²⁶ Blumenbach also identified the noses of upper-class Ethiopians with those of Europeans: the noses of upper-class Ethiopians were not wide and flaring, because their mothers did not engage in the hard labor characteristic of lower class women.²⁷ Father Tertre argued that any child who happened to escape these pressures would have an elevated nose, thin lips, and features as fine as those of the European.²⁸

Europeans who considered blacks to be brothers “though carved from ebony” commonly thought of them as European in everything but color. In her novella *Oroonoko* (1688) Aphra Behn developed the prototype of the royal African—

²³ J.-J. Rousseau, *Émile*, in *Oeuvres complètes*, ed. V. D. Musset-Pathay (Paris, 1823), vol. 3, p. 20.

²⁴ Phillip Sloan, “The Idea of Racial Degeneracy in Buffon’s *Histoire Naturelle*,” *Racism in the Eighteenth Century*, ed. Harold Pagliaro, in *Studies in Eighteenth-Century Culture* 3 (1973): 293–321.

²⁵ See Olaudah Equiano, *The Life of Olaudah Equiano, or Gustavus Vassa, the African* (1837; New York, 1969), pp. 27–29; and Ottobah Cugoano, *Thoughts and Sentiments of the Evil and Wicked Traffic of the Slavery and Commerce of the Human Species* (London, 1787), pp. 31–32.

²⁶ Blumenbach, *On the Natural Varieties*, p. 233.

²⁷ *Ibid.*, pp. 116, 232.

²⁸ Buffon, *Histoire Naturelle*, vol. 5, p. 251.

the slave Oroonoko who reveals his princely origins through the classic features of his rising “Roman nose” and his long flowing hair; he is black in color alone.²⁹ The painters Rubens and Van Dyck also subscribed to a European ideal of beauty, painting blacks from European models whose faces had been blackened for that purpose. Even the champion of the African, Blumenbach, saw blacks through European eyes. Of a “Negress” living in Switzerland he wrote: “all the features of her face, even the nose and lips (the latter of which were a little thick, though not so as to be disagreeable) had they been covered with a white skin, must have excited universal admiration.”³⁰ Jakob Le Maire, Buffon, and Blumenbach all agreed that there were Moorish women who – “blackness excepted” – were as well made as the ladies of Europe. Even women whose color was “exceptionally black” could have features perfectly like those of whites – fine eyes, a small mouth and nose, thin lips, and thick but smooth hair.³¹

Skulls and Skeletons

Environmentalism was but one theory of racial variation in the eighteenth century. The opposing camp saw racial (and sexual) characteristics as inborn, immutable, and permanent. While studying blacks at Kassel, Soemmerring paid close attention to the question of how noses become flat. “The Moors are said to flatten the noses of their children,” he wrote in his *Vom Baue des menschlichen Körpers*, “but this characteristic is certainly innate. All of the Moorish children born at Kassel had flat features, though their noses were not pressed in.”³² This was of particular interest to Soemmerring because, though personally opposed to slavery, he thought that blacks were naturally inferior to Europeans: the “cold facts” of anatomy showed them to be “nearer the ape.” Soemmerring, like Buffon and Blumenbach, was a monogenist, yet he also believed that the peoples of the earth differ in morally and intellectually significant ways.³³

Soemmerring did not entirely deny that custom molded biology. He railed against elite European women who deformed their daughters’ bodies through the unnatural use of the corset. He complained that trusses cause the pubic bone to protrude, that too much horseback riding deforms the legs, that too much kneeling widens the kneecap, that shoes ruin the feet. But these, he argued, were relatively superficial transformations affecting only one generation. They were not, in other words, transformations that were heritable.

²⁹ Hugh Honour, *The Image of the Black in Western Art* (Cambridge, Mass., 1979), vol. 4, part 1, p. 51. See also Henri Grégoire, *De la littérature des nègres* (Paris, 1808); and Laura Brown, “The Romance of Empire: Oroonoko and the Trade in Slaves,” *The New Eighteenth Century: Theory/Politics/English Literature*, eds. Felicity Nussbaum and Laura Brown (New York, 1987), pp. 41–61.

³⁰ Blumenbach, *On the Natural Varieties*, pp. 141–42.

³¹ Le Maire cited in Blumenbach, *On the Natural Varieties*, p. 144; also Buffon, *Histoire Naturelle*, vol. 5, p. 250.

³² Soemmerring, *Vom Baue des menschlichen Körpers*, vol. 1, p. 87.

³³ Soemmerring, *Über die körperliche Verschiedenheit des Negers vom Europäer*, preface.

Soemmerring believed that racial characteristics run deeper than generally thought. Responding to the notion of the “royal slave,” he wrote: “if skin were the only difference, then the Negro might be considered a black European,” but this was not the case.³⁴ Soemmerring saw racial differences as more than skin deep and sought to prove this by studying skeletons and skulls.³⁵ The skeleton, as the hardest part of the body, appeared to provide a ground plan for the rest of the body. More permanent than skin color, it seemed a more reliable measure of true racial character. If racial differences could be found in the bones of the body, anatomists could then prove that differences between the races penetrated the entire body of the organism. The same was true of sexual differences. With regard to sex, anatomists in the eighteenth century changed their focus from reproductive organs alone to sexual differences in the bones and many other parts of the body.³⁶ As a result, Europe was flooded with drawings of female skeletons between 1730 and 1790; these studies were the first to differentiate the female from the male skeleton. Soemmerring drew his distinctively female skeleton in 1796, eleven years after his book on racial differences.

It is noteworthy that Soemmerring's and all other female skeletons drawn in this period were *European*. Anatomists were primarily interested in comparing the European female to the European male. At the same time, the study of racial types was devoted primarily to the study of *males* (diversity among females of different races was often handled in separate and subsidiary treatises).³⁷ Blumenbach is indeed unusual in using female skulls to represent two of his five major races (the European skull is labeled female in his classic illustration [see fig. 1]; the Ethiopian one is not). His environmentalism allowed him to do so; the skull, formed as it is by a particular environment, is the same (or nearly the same) for men and women as it is for men of different classes.³⁸ Blumenbach is remarkable also in using the female skull to represent the Caucasian—to his mind, the most beautiful and primitive race from which all others have degenerated. He followed the more general pattern, however, in his representations of “model heads” where he showed—“for the first time in

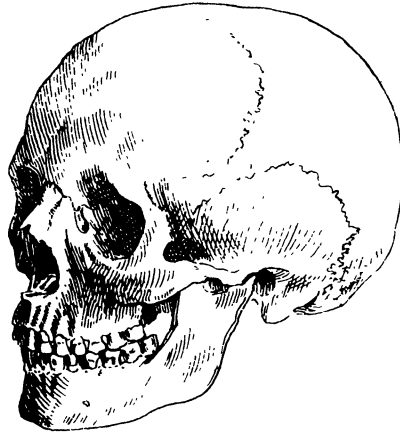
³⁴ *Ibid.*, p. 2. For Soemmerring, the skin was an unreliable measure of racial difference. It was widely reported, for example, that during pregnancy the areola of even the fairest (European) woman turns as black as that of the blackest Negro (see Petrus Camper, *Dissertation physique de M. Pierre Camper* [1786; Utrecht, 1791], p. 16).

³⁵ Stepan, *The Idea of Race in Science*, pp. xviii-xix; also Stocking, *Race, Culture, and Evolution*, pp. 29-31.

³⁶ See Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge, Mass., 1989), chap. 7.

³⁷ See, for example, Virey's *De la Femme*. Blumenbach had at least one skull of a female Ethiopian in his “Golgotha,” his collection of 245 skulls (Blumenbach, *On the Natural Varieties*, p. 8). Soemmerring had one partial skeleton of an African female and a second skull in his extensive private collection, consisting of 1462 specimens preserved in alcohol, 2439 dried preparations, and over 200 skulls of people of various nations, remarkable or sick individuals (Ignaz Döllinger, *Gedächtnißrede auf Samuel Thomas von Soemmerring* [Munich, 1830], pp. 14-15 and Soemmerring, *Vom Baue des menschlichen Körpers*, pp. LXXX-LXXXV).

³⁸ Blumenbach, *On the Natural Varieties*, p. 229.



3

Feminae Georgianae.

FIGURE 1. Blumenbach identified five principal races. The Caucasian skull (represented here by that of a Georgian female) is the most beautifully symmetrical. The skull of the Mongolian—at one extreme—is almost square; the skull of the Negro—at the other extreme—is very narrow. Blumenbach, *On the Natural Varieties of Mankind*, plate 4.

all of natural history”—the exact characteristics of the five major races of humankind.³⁹ These heads are all male (see fig. 2). He seems unconcerned that in two of these portraits (drawn to accompany the five skulls presented in his *De generis humani varietate nativa*) a female skull underlies the flesh of a male.

One reason that anatomists did not focus attention on the skull of the female was that other body parts (the hymen, pelvis, and breasts) were considered more important—at least in regard to universal female anatomical (and social) functions. Blumenbach featured the hymen and periodic menstruation as prime char-

³⁹ Johann Blumenbach, *Abbildungen naturhistorischer Gegenstände* (Göttingen, 1810).



FIGURE 2. Blumenbach chose the portrait of Jusuf Aguiah Efendi to represent the Caucasian race—according to European anatomists, the most perfect human type. Blumenbach wrote that he could have chosen a Milton or Raphael for this portrait, but he chose this man because his home lay near the Caucasus from which the entire race took its name. *Abbildungen naturhistorischer Gegenstände*, ed. Johann Blumenbach (Göttingen, 1810), no. 3.

acteristics separating humans from animals.⁴⁰ In pelvis size, women of all races outranked men—a roomy pelvis was considered a mark of womanliness. Female breasts were also notable objects of attention: Hottentot women were said to have been able to suckle a child on their backs by throwing a breast over their shoulder.⁴¹

Despite these differences in focus—on the female skeleton and male skull—the project of the biological determinists was the same in both cases: to identify and describe innate differences. Soemmerring and his confrères saw these physical differences as markers of lesser intellectual and moral ability in blacks and in women—black bodies carried less capable black brains; women’s bodies carried less capable female brains.⁴² For Soemmerring, moral and intellectual qualities were as innate and enduring as the bones of the body.

Eighteenth-Century Experiments in Education

As “evidence” mounted that women and blacks lacked native intelligence, proponents of equality collected examples of learned European women and learned Africans. In both cases the task was the same: to find the exceptional woman or black who excelled in science or scholarship. Environmentalists denied that there was any relationship between the mind and bodily structure; examples of learned women and blacks were brought forth to prove the case.⁴³

The European literature on learned women is older than that on learned blacks. Giovanni Boccaccio’s fourteenth-century *Claris Mulieribus*, for example, presents short biographies of one hundred and four queens, some real, some mythical, of the ancient world. Encyclopedias such as these—the most common type of women’s history in this period—documented the triumphs and tribulations of the learned lady.⁴⁴ A similar literature—perhaps modeled on the lexicons of learned ladies—developed for blacks. Blumenbach, who had a library entirely composed of books written by Negroes, published a lexicon of learned blacks—men and women—in order to show that “in regard to their mental faculties and capacity, they are not inferior to the rest of the human race.”⁴⁵ There was the

⁴⁰ Blumenbach, *On the Natural Varieties*, p. 90.

⁴¹ J.-J. Virey, *Natural History of the Negro Race*, trans. J. H. Guenebault (Charleston, 1837), p. 13; see also John Hunter, “Inaugural Disputation on the Varieties of Man,” in Blumenbach, *On the Natural Varieties*, p. 384.

⁴² M. Meckel, “Recherches Anatomiques,” *Histoire de l’Académie Royale des Sciences et Belles Lettres* (1753): 79–103.

⁴³ Blumenbach, *On the Natural Varieties*, p. 81.

⁴⁴ We hear about Bettisia Gozzadini, who lectured in law at the University of Bologna in 1296. Novella d’Andrea replaced her deceased father as professor of canon law at the University of Bologna in the fourteenth century. In 1678, Elena Cornaro Piscopia became the first woman to receive the doctorate of philosophy at Padua. Maria Agnesi of Milan became well known for her work in differential and integral calculus. Laura Bassi taught physics at the University of Bologna for forty-eight years. Dorothea Erxleben became the first woman ever to receive a medical degree in Germany in 1754. See my *The Mind Has No Sex?*

⁴⁵ J. F. Blumenbach, “Observations on the Bodily Conformation and Mental Capacity of the Negroes,” *Philosophical Magazine* 3 (1799): 141–46, esp. 145.

African Freidig well known in Vienna as a master of the viola and violin. Anton Wilhelm Amo, a native of Guinea (Ghana), received a Ph.D. from the University of Wittenberg in 1734.⁴⁶ The African Jacobus Elisa Capitein studied theology at the University of Leyden, graduating in 1742. There was also the unnamed “Negress of Yverdun,” celebrated as the best midwife in the Italian part of Switzerland.

Of course, European males generally set the standards of scholarly excellence. Learned women or blacks had to excel in those arts and sciences recognized by the white male academy—fields such as classical music, astronomy, Latin, or mathematics. There were in this regard a number of “experiments” in the eighteenth century, especially in Germany. Germany was, rather surprisingly, a pioneer among European countries in accepting the occasional European woman or African man for admission to university study. (There were, to my knowledge, no examples of university-educated African women.) German universities were being revived at this time, and the new universities, including Halle (where Anton Amo matriculated in 1727 and Dorothea Erxleben received her M.D. in 1754) and Göttingen (where Dorothea Schlözer took her Ph.D. in 1787), were founded to foster the growth of Enlightenment ideas in Germany. The circumstances surrounding these experiments were similar in several respects. In each case the student was shepherded by an enlightened patriarch: Amo was sponsored by the Duke of Brunswick-Wolfenbüttel; Erxleben studied with her father and won special dispensation from Frederick the Great to study at Halle. Schlözer took her degree in the faculty where her father served as professor. Despite the success of these individuals, European universities generally remained closed to both European women and Africans of either sex until late in the nineteenth and sometimes even into the twentieth centuries.

But there were also interesting differences in how women and blacks fared in academic studies. Despite their university education, European women remained barred from the public realm, while black men were in some instances able to go on to limited professional work. Dorothea Schlözer never intended for her Ph.D. to lead to any career but marriage; her doctorate served merely as another badge of honor for an already illustrious academic family. Dorothea Erxleben’s degree served to legitimate her medical practice (and shield her from prosecution by jealous local doctors); but it should be pointed out that her admission to university rested on the legal decision that medicine was not a public office and that women should therefore not be barred from its practice.⁴⁷ The case of Anton Amo was quite different. Upon completion of his doctoral degree at Wittenberg in 1734, he lectured for a while at Halle and was then appointed Councillor at the court of Frederick the Great in Berlin—a position that never would have been accorded a woman. His education was similar to that of Schlözer; they were both well trained in languages, the classics, mathematics,

⁴⁶ On Amo, see Henry Louis Gates, Jr., *Figures in Black: Words, Signs, and the “Racial” Self* (New York, 1989), pp. 11–12; and Paulin Hountondji, *African Philosophy: Myth and Reality*, trans. Henri Evans (London, 1983), chap. 5.

⁴⁷ Schiebinger, *The Mind Has No Sex?*, chap. 9.

and philosophy. Yet Amo's degree carried him into a kind of public employment not open to women.

Amo was not the only university educated minority male to go on to public service. Edward Long reported the case of Francis Williams, a Jamaican boy, whom the Duke of Montagu educated in order to discover whether "by proper cultivation" a Negro might become as capable as a white person.⁴⁸ The Duke sent Williams first to grammar school in England and then to the University of Cambridge where he excelled in mathematics and the classics. The Duke intended to continue his experiment by appointing Williams to a seat in the government of Jamaica, but he could not override the objections of the local English governor. Consequently, Williams went on to head a school for black boys. Long, who reported the story, belittled Williams's achievement, saying that the experiment might have been more significant had it been made using a native African. Long implied that Williams succeeded because he was not truly black. He also reported the failure of Williams's protégé (a young boy trained to be Williams's successor at the school) who went mad, it was said, from too much learning. Long took this to prove that the "African head is not adapted by nature to such profound contemplations"; he also quoted with approval David Hume's judgment that Williams himself was like "a parrot who speaks a few words plainly."⁴⁹

The most striking difference, however, between minority men and majority women in this period was their eligibility for membership in scientific academies. Europe's major scientific academies were founded in the seventeenth century—the Royal Society of London in 1660, the Parisian Académie Royale des Sciences (the most prestigious European academy of science) in 1666, the Akademie der Wissenschaften in Berlin in 1700. Despite the fact that women were trained and ready to take their places among the men of science, they were excluded from these academies for over two hundred years (women were first admitted to the Royal Society in 1945, the Berlin Academy of Sciences in 1949, and the Académie des Sciences in 1979).⁵⁰ One might imagine that racial prejudice would have proven as insurmountable a barrier to minority men. The expansive mood of the Enlightenment, however, made room for a few such men. Mendez da Costa became the first Jewish Fellow of the Royal Society in 1736 (his son Emanuel was elected in 1747). The more remarkable case was that of Jean-Baptiste Lislet-Geoffroy who became the first black member (albeit a corresponding member) of the Académie Royale des Sciences in Paris in 1786. Lislet was the son of Jean-Baptiste Geoffroy, a French engineer working on the Île de France (Mauritius), and a black slave from the coast of Guinea whom his father freed in order to take her as his mistress. Because he was a

⁴⁸ [Edward Long], *The History of Jamaica*, 3 vols. (London, 1774), vol. 2, pp. 475–85.

⁴⁹ David Hume, "Of National Characters," *The Philosophical Works*, ed. Thomas Green and Thomas Grose, 4 vols. (Darmstadt, 1964), vol. 4, p. 252, n. 1.

⁵⁰ The Berlin Academy was unusual in having women of high rank, such as Catherine the Great, as honorary members in the eighteenth and nineteenth centuries. The first woman to be elected for her scientific merit was Lise Meitner in 1949.



FIGURE 3. As Le Cat explains, this illustration brings together the three principal species of mankind – the white, black, and copper. The meeting takes place in America, as symbolized by the exotic parrot, monkey, and pineapples. A

bastard, Lislet took the name of his place of birth (as was customary); his father did not lend him his name until Lislet was thirty-eight years of age, seven years after he had been elected to the academy. Lislet-Geoffroy worked for the French government for most of his life, as head of the army corps of engineers, as a cartographer (he mapped the Île de France, Réunion, and Madagascar), as a meteorologist, botanist, geologist, and astronomer.⁵¹

Lislet-Geoffroy's term as an academicien was not without its troubles. Like other members of the academy, he lost his title during the reorganization of the academy in 1793. But unlike most others, he was not reinstated when the academy reopened. Several explanations have been given. Some said it was the difficulty of communications between France and her colonies that held up his reappointment until 1821; others said he was simply overlooked. Still others said that it was because of racial prejudice. Unable to travel to France because he had been denied a pension, Lislet founded the *Société des Sciences et Arts de l'Île de France*. It was reported that whites refused to become members of this academy because it was founded by a black.⁵² Lislet's attempt to mix with the learned men of Europe did not open the doors of the academy to blacks. As of 1934, he was the only man of color ever to have been a member of the academy in Paris.⁵³

The advantage of being male did not outweigh the disadvantages of race in any significant way. In many respects European women were ranked ahead of minority men. In the frontispiece to his *Traité de la couleur de la peau humaine*, Claude Nicolas Le Cat featured an upper-class European woman as the principal figure receiving the Ethiopian male and American male (see fig. 3).⁵⁴ This scene, though presented in a scientific treatise, could have been taken from

⁵¹ M. Argo, "Notices nécrologiques," *Comptes Rendus* (1836): 97–101. Alfred Lacroix, "Notice historique sur les membres et correspondants de l'académie des sciences ayant travaillé dans les colonies françaises des Mascareignes et de Madagascar au XVIII^e siècle et au début du XIX^e," *Institut de France* (17 December 1934).

⁵² Grégoire, *De la littérature des nègres*, pp. 207–08.

⁵³ Lacroix, "Notice historique sur les membres et correspondants de l'académie des sciences," p. 82.

⁵⁴ Claude Nicolas Le Cat, *Traité de la couleur de la peau humaine* (Amsterdam, 1765).

French woman, mistress of the house, dominates the scene; she is being served lemonade by her maid. These two women of diverse classes represent the white or European nation. A Negro placed behind her represents the Ethiopian nation. An American, dressed and armed according to custom, has come to trade with the European woman and regards himself with astonishment in the mirror presented to him by the Negro. The purpose of Le Cat's illustration was to show that the physiognomy and color of faces are different in all parts of the world. Claude Nicolas Le Cat, *Traité de la couleur de la peau humaine* (Amsterdam, 1765), frontispiece.

any number of new world plantations where European women ruled over black men. Anatomists' ambivalence about where to rank the black man vis-à-vis the white woman in the great chain of being simply reflected the uncertainties in the relative social positions of these two groups. The case of the black woman was little contested: neither her race nor her sex recommended her for rewards.

Despite the success of the eighteenth-century experiments in education, both European women and African men were excluded (except for exceptional cases) from the power and prestige of public life. Both were seen as unwelcome outsiders.

Building Hierarchies

History is often written to vindicate friends and vanquish foes. In this case, however, neither the environmentalists nor the biological determinists were blameless. In order to understand the implications of the eighteenth-century search for sexual and racial difference, we must step back and look at how patterns of participation in science structured knowledge.

The similarities in the study of blacks and women arose first from the structure of the scientific community. Anatomists (mostly male and European) wrote natural history from their own point of view. They seldom compared the black man to the European woman. For them the question was how each of these subordinate groups measured up to the European male. In his study of racial and sexual variation in the skeleton, Soemmerring was quite explicit that the standard of excellence (*Maßstab der Vergleichung*) was the European, and more specifically, the German (*wie wir ihn aus Deutschland vor uns haben*).⁵⁵ Anatomists studied sex and race, using the European male as the standard of excellence.

In this light, the failure of the eighteenth-century experiments in education to open the doors of the academy to blacks and women on a regular basis is especially poignant. Excluded from centers of learning, these groups could say little about their own nature. What they did write on their own behalf was often lost. It is significant that Amos's dissertation on the rights of Africans in Europe (one of his earliest works) has been lost, while his writings on traditional philosophical questions—the art of philosophizing and the mind/body distinction, for example—have been preserved in university libraries and archives.⁵⁶

The striking similarities in the study of women and blacks also arose from broader political developments. The expansive mood of the Enlightenment—the notion that all men are by nature equal—gave women and minorities living in Europe reason to believe that they, too, might begin to share the privileges heretofore reserved for elite European males. In 1791 all free men of color in France and her colonies were awarded full legal rights; in 1794 slavery was

⁵⁵ Soemmerring, *Vom Baue des menschlichen Körpers*, p. 66.

⁵⁶ Hountondji, *African Philosophy*, p. 111. The same was true of women's writings; see my *The Mind Has No Sex?* pp. 270–71.

abolished (only to be reinstated in 1802).⁵⁷ The 1791 “Declaration of the Rights of Woman” followed on the heels of the 1789 “Declaration of the Rights of Man.” Ironically, the first black deputies to the National Convention may have sat in judgment on the question “can women take an active part in affairs of state?”

In the eighteenth century the claim of Africans and women to equality was increasingly taken to be a matter not of ethics but of anatomy. Soemmerring was typical in his belief that the anatomist did not have to take a moral stand in these matters because the body speaks for itself. The belief that science was impartial (*unparteyisch*, as Soemmerring and his colleagues called it) led to the hope that science could arbitrate essentially political debates concerning sexual and racial character. But the notion that science stands above and beyond values proved false. Though anatomists declared their neutrality, their project was framed by social concerns. Abbé Grégoire cited colonial expansion as one of the principal reasons motivating anatomists’ studies of racial differences.⁵⁸ The French National Convention was able to quote directly from anatomy textbooks to justify denying women civic rights. To those concerned, it seemed that nature, and not man, had created the inequalities between the sexes and races.

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⁵⁷ This applied only to the colonies, since slavery had never been recognized as existing in France. Shelby McCloy, *The Negro in France* (Lexington, 1961), p. 6.

⁵⁸ Grégoire, *De la littérature des nègres*, pp. 30–31.