

## Patterns of Human Variability

### The Concept of Race

## Racial Classifications

- From the earliest accounts of travelers noting differences in physical characteristics of peoples from disparate parts of the world, attempts have been made to classify these different groups within the prevailing ideology

## Homer (fl. 1200 - 850 B.C.)

- *Iliad* and *Odyssey* acknowledge variability
  - Aethiopians: the most remote of men
    - A race divided, whom with sloping rays  
The rising and descending sun surveys
  - Cubit-men: African pygmies
    - Cubit was the distance from finger tip to elbow, about 17 - 22"
    - Said to be responsible for sending back the migrating cranes each summer
    - To warmer seas the cranes embodied fly,  
With noise, and order through the midway sky;  
To pigmy nations wounds and death they bring

## Homer

- Humans are depicted as the result of degeneration from an earlier, bigger, stronger race
  - References to a former age when giants populate the earth
    - Then fierce Tydides stoops; and from the fields  
Heaved with vast force, a rocky fragment wields.  
Not two strong men the enormous weight could raise,  
Such men as live in these degenerate days
    - The giant myths appear to be related to the appearance of Old world Megalithic sites

## Herodotus (484 - 425 B.C.)

- Greek historian presaged many elements of later studies
  - In his work, *Historiae*, he argues for an environmental cause of variability
  - He sees human variability as a result of adaptation to differing environments
  - Portrays culture as a modifier, generator of environmental stresses
  - Empirical research to test hypotheses

## Herodotus, 2

- Example of early empiricism
  - Studied a collection of skulls from Egypt and Persia
  - Tossed stones at skulls to see which broke easier
  - Egyptians resisted breaking, had thicker skulls
  - Explained that Persians historically wore caps, providing a culturally based environmental buffer, Egyptians without caps had thicker skulls to compensate.

## Adaptive “Just-So” Stories

- Since the time of Herodotus, adaptive explanations have followed the same general pattern:
  - The demonstration of some kind of biological or behavioral difference between groups
  - The postulation of some kind of adaptive basis for the differences
    - The explanation draws from current notions of man’s place in nature

## Hippocrates (c. 460 - 377 B.C.)

- Early medical practitioner and teacher
- *Corpus Hippocraticum*, 70 treatises
  - Viewed the body as an organism and claimed that it could not be understood without an understanding of the relationship between the environment, behavior, and the body
  - Humoral system accounted for disease
    - Health was a function of the balance between blood, phlegm, yellow bile, and black bile in the body

## Hippocrates, 2

- *Airs, Waters, Places*, treatise on influence of the environment on health and temperament
  - Provides comparisons of the peoples of Asia Minor with Europe and Egypt
    - Recognized two fundamental somatotypes (body build or habitus types) adapted to environment
      - Phthisic: long, thin, and choleric (Easily angered; bad-tempered; showing or expressing anger)
      - Apoplectic: short, squat, and phlegmatic (Having or suggesting a calm, sluggish temperament; unemotional)

## Aristotle (384-322 B.C.)

- Greek philosopher and naturalist
  - *Historia Animalium* describes similarities between man, apes, and monkeys, attributed to position in the great chain of being
  - Argued for environmental causes of variation
    - Woolly hair of Aethiopians (Africans) due to harsh, arid climate
    - Straight hair of Thracians and Scythians due to moist air

## Ancient Racial Classifications

- St. Augustine (354-430)
  - In *De Civitate Dei Contra Paganos* he says all men born everywhere, no matter how strange they appear to us, are descended from Adam
    - Everyone is descended from a single ancestral stock
    - Strong, early supporter of monogenism--unitary origin of man

## Early views on variation

- Herodotus, among other early travelers never perceived human differences as categorical (i.e., racial), but rather as continuous
  - Early travel from place to place was by land, travelling no more than about 25 miles in a day
    - The gradation of one human group into another over such short distances belies the existence of categorical differences

## Renaissance

- 14th - 17th Centuries: Transition from medieval to modern philosophy
  - From interpretations of natural phenomena based on the bible to science and empiricism
- Rise of commercial capitalism
  - Voyages of exploration and discovery lead to the perception of categorical differences between human populations

## Early Racial Classifications

- Leonardo da Vinci (1452-1519)
  - Questioned the environmental hypothesis in accounting for human variation, suggesting an early hereditarian argument based on the power of the mother's seed.
- Andreas Vesalius (1514-1564)
  - Noted a relationship between area of origin and the shape of the skull, argued environmental causes
    - The Genoese, and more particularly the Greeks and Turks, almost exhibit a round shape. To this also (which not a few of them think elegant and consider well adapted to turbans which they use various ways) the midwives sometimes contribute at the urgent request of the mother. The Germans, indeed, have a very flattened occiput and a broad head, because the boys always lie on their backs in their cradles

## François Bernier (1620 – 1688)

- In 1656 Bernier set out on a twelve-year journey to Egypt, India, and Persia
  - Record published in 1670 as Travels in the Mogul Empire
  - Many European travelers before Bernier noted different physical characteristics of the various peoples but he was the first to group those peoples into "races"
  - First text in which the term "race" is used in something like its modern sense to refer to discrete human groups organized on the basis of skin color and other physical attributes

## Bernier's Races

- First species (Europeans)
  - Generally all Europe, except a part of Muscovy; in Africa: Morocco, Algiers, Tunis, and Tripoli up to the Nile; and in Asia: Arabia, Persia, India, Siam, Sumatra, and Borneo, Americas
    - Light skins
      - Egyptians, and (East) Indians are very black, or rather copper-coloured
      - That colour is only an accident in them, and comes because they are constantly exposed to the sun

## Bernier's Races

- Second species (Africans)
  - whole of Africa, except the Mediterranean coast
    - Thick lips and squab noses
    - Blackness of skin which is not caused by the sun
    - Their skin, which is oily, smooth, and polished
    - Three or four hairs of beard
    - Their hair, which is a species of wool
    - Their teeth whiter than the finest ivory, their tongue and all the interior of their mouth and their lips as red as coral.

## Bernier's Races

- Third species (Some Asians)
  - Part of the kingdoms of Aracan and Siam, Sumatra and Borneo, the Philippines, Japan, China, Georgia and Muscovy, the Usbek, Turkistan, Zaquetay, a small part of Muscovy, the little Tartars and Turcomans who live along the Euphrates towards Aleppo
  - The people of all those countries are truly white
    - But they have broad shoulders, a flat face, a small squab nose, little pig's-eyes long and deep set, and three hairs of beard.

## Bernier's Races

- Fourth species (Lapps)
  - They are little stunted creatures with thick legs, large shoulders, short neck, and a face elongated immensely
  - Very ugly and partaking much of the bear
  - I have only seen two of them at Dantzic; but, judging from the pictures I have seen, and the account which I have received of them from many persons who have been in the country, they are wretched animals

## Issues of Context

- Polygenism vs. Monogenism
  - St. Augustine, 4<sup>th</sup> Century A.D. espoused the unity of of mankind—gave a biblical basis for monogenism
    - Until the 19<sup>th</sup> Century, most naturalists consider humans members of a single species; then multiple species views proliferate
- Exploration, contact, conquest
  - Pizarro vs. Atahualpa, November 15, 1532
  - 168 Spaniards surrounded by 80,000 Inca warriors in the middle of the Inca empire of millions of subjects capture Atahualpa, absolute monarch of the largest and most advanced state in the New World

## 18th Century Racial Ideology

- Differential Worth
  - Races are ranked on various criteria judged to assess intelligence or moral standards
  - The rankings are used either to bolster the *scala naturae* or proto-evolutionary relationships
  - Such rankings are highly subjective and loaded with potential for **ethnocentric** abuse, with the highest rank always being reserved for the race of the anthropologist doing the ranking

## Carolus Linnaeus

(1707 – 1778)

- Swedish Botanist
- Father of Taxonomy
- Viewed the task of classification as one of attempting to understand the pattern of the **Scala Naturae**



## Linnaeus

- *Systema Naturae* (1735 - 1766)
  - Original and ten revised editions
- By 1758 edition, man is considered to be a separate species (*sapiens*) within the genus *Homo*, of the order *Primates*.
- Man is divided into several varieties, both imaginary and geographic

## Races of Linnaeus

*Systema Naturae*, 1758

- Americanus: Red, choleric, erect
  - Hair black, straight and thick; nostrils wide; face harsh; beard scanty
  - Obstinate, merry and free; paints himself with red lines; regulated by customs
- Europæus: White, sanguine, muscular
  - Hair flowing and long; eyes blue
  - Gentle, acute and inventive; covered with close vestments; governed by laws
- Asiaticus: Sallow, melancholy, stiff
  - Hair black; eyes dark
  - Severe, haughty, avaricious; covered with loose garments; governed by opinions

## Races of Linnaeus

*Systema Naturae*, 1758

- Afer: Black, phlegmatic, relaxed
  - Hair black, frizzled; skin silky; nose flat; lips tumid; women without shame; breasts lactate profusely
  - Crafty, indolent, negligent; anoints himself with grease; governed by caprice
- Ferus: Wild man, on all fours, mute, hairy
- Monstrous: Reported giants of Patagonia and genuine genetic mutants

## George Louis Leclerc, Comte de Buffon,

(1707 – 1788)

- French naturalist and author
- *Histoire Naturelle*
  - 44 volumes published from 1749–1804



## Buffon

- Described range of variation, subscribing to the *Scala Naturae*, as the pattern of life
- *Varieties of the Human Species* (1749) described physical and cultural variation of many different human groups
  - All humans were members of one species because of the ability to interbreed
  - The differences between populations of a species (including humans) were the result of their accommodation to local environmental conditions

## Degeneration of the Primordial Type

- Buffon argued that skin color differences were reflective of the geographical degeneration of the primordial type
  - He suggests restoration of the “degenerate races to the purity and vigor of the original type” would require the transplantation of these people to a more temperate zone plus a change of diet and a long span of time

## Buffon and Race

- The peoples in the vicinity of the Caspian Sea came close to his conception of the original perfection and purity of humans
  - Degeneration from this perfection was manifest in any direction away from Europe
  - Argued that to avoid degeneration in the tropics and the New World, Europeans must dominate and subdue nature since the “weak and vitiated savage peoples [of these regions] have neither the power to improve themselves, nor, because of their degenerate state, can they bring about the necessary technological domination of nature”

## Johann Friedrich Blumenbach,

(1752 – 1840)

- German Anatomy Professor
- Father of Physical Anthropology
- Father of Craniology
- Founder of Anthropology in Germany



## On the Natural Variety of Mankind

(1775; 1781; 1795)

- Advocates monogenism and points out that the varieties blend into one another in imperceptible ways
  - Thus too there is with this that insensible transition by which as we saw the other varieties also run together, and which, compared with what was discussed in the earlier sections of the book, about the causes and ways of degeneration, and the analogous phenomena of degeneration in the other domestic animals, brings us to that conclusion, which seems to flow spontaneously from physiological principles applied by the aid of critical zoology to the natural history of mankind; which is, That no doubt can any longer remain but that we are with great probability right in referring all and singular as many varieties of man as are at present known to one and the same species

## Blumenbach

- Diverged from Linnaeus
  - Classified man as separate from non human primates (Order Bimanus vs. Quadrumana)
  - On second attempt (1781), divided man into five races versus the four of Linnaeus
    - Split Linnaeus' Asians into Mongolians for most of Asia and Malaysians for Southeast Asia
  - Critiqued Linnaeus' rankings of races while explaining racial origins as degeneration from the Caucasian type
    - Took special exception to arguments about mental limitations of Africans
  - Felt that differences in skull shape and skin color (among other traits) had been caused by the environment

## Blumenbach Position



Blumenbach's skull collection

- Blumenbach related skull shape to racial classification
- He did so by placing a skull between his feet and looking down at it
  - This became known as the "Blumenbach position"
- He used this technique to classify his skulls into his five racial categories

## Blumenbach and "Caucasian"

- I have taken the name of this variety from Mount Caucasus, both because its neighborhood, and especially its southern slope, produces the most beautiful race of men, I mean the Georgian; and because all physiological reasons converge to this, that in that region, if anywhere, it seems we ought with the greatest probability to place the [original forms] of mankind

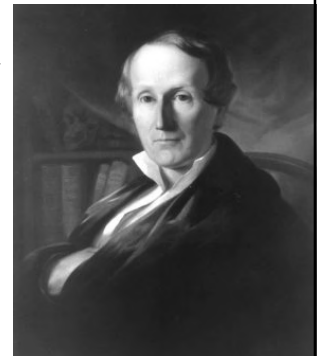
## Caucasian

- For in the first place, that stock displays, as we have seen . . . , the most beautiful form of the skull, from which, as from a mean and primeval type, the others diverge by most easy gradations on both sides to the two ultimate extremes (that is, on the one side the Mongolian, on the other the Ethiopian)
- Besides, it is white in color, which we may fairly assume to have been the primitive color of mankind, since, as we have shown above . . . , it is very easy for that to degenerate into brown, but very much more difficult for dark to become white, when the secretion and precipitation of this carbonaceous pigment . . . has once deeply struck root

## Samuel George Morton

(1799 – 1851)

- Philadelphia Physician, Polygenist, Founder of the American School of Anthropology
  - Measured cranial capacity (volume of braincase) to assess differential worth
- Very careful scientist
  - Collected over 1000 skulls between the 1820s and 1851
  - Considered a great data-gatherer and objectivist
  - Oliver Wendell Holmes praised the "severe and cautious character of his work"
  - On his death, the *New York Tribune* wrote that "probably no scientific man in America enjoyed a higher reputation among scholars throughout the world, than Dr. Morton"



## Morton on race

- Races are primordial divisions of species
- Morton proposed that the five established races would be more aptly described as groups which he divided into families and primary races
  - American race: American family, Toltec family
  - Malay race: Malay family, Polynesian family
- He thoroughly confused the definition of race and species
  - Claimed that interbreeding of human races was not evidence that they were members of the same species
  - Cited evidence of limited fertility in hybrids
    - After an Australian woman gave birth to a child by a European father she could no longer become pregnant by an Australian male—report of a “Polish traveler”

## Morton

- *Crania Americana, or, a Comparative View of the Skulls of Various Aboriginal Nations of North and South America* (Philadelphia: J. Dobson, 1839)
  - Corroborate Blumenbach’s five-fold racial division
  - Concluded that the American Indians were descended from a common stock distinct from the races of the Old World based on cranial capacity
  - Argued against environment causes of race formation
  - Demonstrated significant differences in cranial capacity -- and therefore, according to him, intelligence -- among the races
  - Mongolians and Caucasians head the list, and Americans and Ethiopians bring up the rear

### Morton’s Racial Rankings from *Crania Americana*

- Europeans
  - The Caucasian Race is characterized by a naturally fair skin, susceptible of every tint; hair fine, long and curling, and of various colors. The skull is large and oval, and its anterior portion full and elevated. The face is small in proportion to the head, of an oval form, with well-proportioned features. . . . This race is distinguished for the facility with which it attains the highest intellectual endowments. . . . The spontaneous fertility of [the Caucasus] has rendered it the hive of many nations, which extending their migrations in every direction, have peopled the finest portions of the earth, and given birth to its fairest inhabitants. . . .

### Morton’s Racial Rankings from *Crania Americana*

- Asians
  - This great division of the human species is characterized by a sallow or olive colored skin, which appears to be drawn tight over the bones of the face; long black straight hair, and thin beard. The nose is broad, and short; the eyes are small, black, and obliquely placed, and the eyebrows are arched and linear; the lips are turned, the cheek bones broad and flat. . . . In their intellectual character the Mongolians are ingenious, imitative, and highly susceptible of cultivation [i.e. learning]...So versatile are their feelings and actions, that they have been compared to the monkey race, whose attention is perpetually changing from one object to another...

### Morton’s Racial Rankings from *Crania Americana*

- Native Americans
  - The American Race is marked by a brown complexion; long, black, lank hair; and deficient beard. The eyes are black and deep set, the brow low, the cheekbones high, the nose large and aquiline, the mouth large, and the lips tumid [swollen] and compressed. . . . In their mental character the Americans are averse to cultivation, and slow in acquiring knowledge; restless, revengeful, and fond of war, and wholly destitute of maritime adventure. They are crafty, sensual, ungrateful, obstinate and unfeeling, and much of their affection for their children may be traced to purely selfish motives. They devour the most disgusting [foods] uncooked and uncleaned, and seem to have no idea beyond providing for the present moment. . . . Their mental faculties, from infancy to old age, present a continued childhood. . . . [Indians] are not only averse to the restraints of education, but for the most part are incapable of a continued process of reasoning on abstract subjects. . . .

### Morton’s Racial Rankings from *Crania Americana*

- Africans
  - Characterized by a black complexion, and black, woolly hair; the eyes are large and prominent, the nose broad and flat, the lips thick, and the mouth wide; the head is long and narrow, the forehead low, the cheekbones prominent, the jaws protruding, and the chin small. In disposition the Negro is joyous, flexible, and indolent; while the many nations which compose this race present a singular diversity of intellectual character, of which the far extreme is the lowest grade of humanity. . . . The moral and intellectual character of the Africans is widely different in different nations. . . . The Negroes are proverbially fond of their amusements, in which they engage with great exuberance of spirit; and a day of toil is with them no bar to a night of revelry. Like most other barbarous nations their institutions are not infrequently characterized by superstition and cruelty. They appear to be fond of warlike enterprises, and are not deficient in personal courage; but, once overcome, they yield to their destiny, and accommodate themselves with amazing facility to every change of circumstance. The Negroes have little invention, but strong powers of imitation, so that they readily acquire mechanic arts. They have a great talent for music, and all their external senses are remarkably acute.

