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in the British Romantic Period. V8: Theories of Race

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Charles White, *An Account of the Regular Gradation in Man, and in Different Animals and Vegetables; and from the Former to the Latter. Illustrated with engravings adapted to the subject.* By Charles White. Read to the Literary and Philosophical Society of Manchester at different meetings, in the year 1795 (London, 1799)

Charles White (1728–1813) was an eminent Manchester surgeon, physician and obstetrician. He studied medicine first in London where he became a friend of his fellow-student John Hunter, and then in Edinburgh. In 1752 White and his father, also a physician, were instrumental in founding the Manchester Infirmary, where he acted as surgeon for thirty-eight years. In 1762 he was admitted as a Fellow of the Royal Society and a member of the Corporation (later Royal College) of Surgeons in 1781. White was active in founding and supporting the Manchester Literary and Philosophical Society of which he became Vice-President. His *Account* was first read to the Society in 1795. White also founded a college of sciences, literature and art in which he lectured in anatomy. As an obstetrician he also set up in 1790 the Manchester Lying-in Hospital (now St Mary's), where he was a consulting surgeon for twenty-one years.

White was distinguished in all aspects of his work but he is chiefly credited for his innovations in the practice of mid-wifery. According to Thomas De Quincey he was 'the most eminent surgeon by much in the north of England'. White published several essays on matters relating to obstetrics and anatomy but his *Account* was the only publication with implications for racial theory. There was only one edition of his *Account* nevertheless it became well known and was influential enough to merit a detailed rebuttal from Samuel Stanhope Smith. The essay is dedicated to his son-in-law the antiquary Sir Richard Clayton (d. 1828). The 'Advertisement' to White's essay desires that his work should not further the 'pernicious practice of enslaving mankind' and states his position as both an abolitionist and a total emancipationist: a very radical stance for this time. White claims that he was led to his speculations after having witnessed his friend John Hunter's 'Remarks on the Gradation of Skulls' (see pp. 97–8). The first part of White's essay deals with gradation in general, arguing that 'Nature exhibits to our view an immense chain of

beings, endued with various degrees of intelligence and active powers, suited to their stations in the general system' (p. 1). Included here is the second part of White's essay which deals with his theory of gradation in man. The third part of the essay discusses in detail the physical characteristic of the hair and concludes that 'the hair of the negro's head seems to be a different species from the European hair, and not a variety occasioned by any difference of climate, or from any peculiar mode of living, dependent on their want of civilization' (p. 98). The fourth part of the essay attacks the environmentalist account of the variety of skin colour, especially that of the first edition of Samuel Stanhope Smith's *Essay on the Causes and Variety of Complexion in the Human Species* (1787), concluding that skin colour is permanent in its diversity. White concludes that 'various species of men were originally created and separated by marks sufficiently discriminative... to trace the lines of distinction' (p. 125). The zenith of this scale of gradation is 'the white European; who being most removed from the brute creation, may, on that account be considered as the most beautiful of the human race' as well as the most intelligent (pp. 134-5). In an Appendix, White also prints a translation of certain passages of Sömmering's *Über die Körperliche Verschiedenheit des Negers vom Europäer* (Frankfurt and Mainz, 1789) the only English translation I am aware of. Also printed here are two plates from the work. Plate II is described as follows: 'This Plate is intended to shew the facial line in Man, and in different Animals, from the perpendicular line in the European Man, to the horizontal one in the Snipe or Woodcock, and likewise the angle of 95 degrees, to which the Roman painters were very partial, and that of 100 degrees, the model of the Græcian Antiques'. Plate III is described as: 'This Plate exhibits copies of the best authenticated engravings that have been published of four different kinds of Apes, which approach nearest to Man: likewise the skull of Dr Tyson's Pigmy - the skull of a monkey from Lavater the profiles of a native of Botany Bay and an European - and profiles of an African and an European'.

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PART SECOND.

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ON THE GRADATION IN MAN.

I SHALL now endeavour to prove the general gradation in man, the chief and lord of the creation. The hint that suggested this investigation, was taken, as has been observed, from Mr. *John Hunter*, who had a number of skulls, which he placed upon a table in a regular series, first shewing the human skull, with its varieties, in the European, the Asiatic, the American, the African; then proceeding to the skull of a monkey, and so on to that of a dog; in order to demonstrate the gradation both in the skulls, and in the upper and lower jaws. On viewing this range, the steps were so exceedingly gradual and regular, that it could not be said that the first differed from the second more than the second from the third, and so on to the end\*. Upon considering what Mr. *Hunter* thus demonstrated respecting skulls, it occurred to me that Nature would not employ gradation in one instance only, but would adopt it as a general principle. I had observed that the arms were longer, and the feet flatter

\* See note 7.

in apes than in the human species; and, having the skeleton of a negro amongst others in my museum, I measured the radius and ulna, and found them nearly an inch longer than in the European skeleton of the same stature. The foot of the negro I perceived to be much flatter: the *os calcis* also differed from that of the European both in length, breadth, shape, and position, not forming an arch with the tarsal bones, but making with them nearly a straight horizontal line.—(A drawing of the foot of the negro skeleton may be seen in plate 1.)—These remarks encouraged me to proceed in my investigation. I did not carry my enquiries into provincial or national varieties or features, but confined them chiefly to the extremes of the human race: to the European, on the one hand, and, on the other, to the African, who seems to approach nearer to the brute creation than any other of the human species. I was persuaded, that if I could prove a specific distinction betwixt these two, the intermediate gradations would be more easily allowed.

I next examined the skull, and found the frontal and occipital bones narrower in the negro than in the European; the *foramen magnum* of the occipital bone situated more backward, and the occipital bone itself pointing upwards, and forming a more obtuse angle with the spine in the former, than in the latter. The internal capacity of the skull was less in the former; and the fore parts of the upper and lower jaw, where they meet, were considerably

more prominent. In the negro, the depth of the lower jaw, betwixt the teeth and the chin, was less; and that of the upper, betwixt the nose and the teeth, was greater: the distance from the back part of the *occiput* to the *meatus auditorius* was less, and from thence to the fore teeth was greater. The fore teeth were larger, not placed so perpendicularly in their sockets, and projecting more at their points than in Europeans: the angle of the lower jaw was nearer to a right angle, and the whole apparatus for mastication was stronger. The bones of the nose projected less. The chin, instead of projecting, receded. The *meatus auditorius* was wider. The bony sockets, which contained the eyes, were more capacious. The bones of the leg and thigh more gibbous: and, by the marks which were left upon the skull, it plainly appeared that the temporal muscles had been much larger.—In all these points it differed from the European, and approached to the ape.

I wish it to be particularly understood that I consider the chin of the negro as deserving peculiar attention. This part has either not been properly characterised, or the account has been much understood. It is said by some that the chin of the negro projects: the reverse, however, is the fact: for, beside that the distance of the fore teeth from the bottom of the chin is less than in the European, the lower part of the chin, instead of projecting outward, retreats, or falls back, as in the ape.



The following measurements were taken from three of the tallest soldiers in Captain HORTON'S grenadier company of Royal Lancashire Volunteers.

GRENADIERS	Daniel Lees,		Robert Lees,		John Shepley,	
	F.	IN.	F.	IN.	F.	IN.
Stature,	6	4 $\frac{1}{2}$	6	1	6	0
Upper arm,		16		15 $\frac{1}{2}$		15
Fore arm,		12 $\frac{1}{2}$		11 $\frac{1}{2}$		11 $\frac{1}{2}$
	John Harris,		Joseph Bamford,		James Peatfield,	
	F.	IN.	F.	IN.	F.	IN.
Stature,	6	3 $\frac{1}{2}$	6	2	6	2 $\frac{1}{2}$
Upper arm,		15 $\frac{1}{2}$		15 $\frac{1}{2}$		15 $\frac{1}{2}$
Fore arm,		11 $\frac{1}{2}$		11 $\frac{1}{2}$		11 $\frac{1}{2}$
	John Lee, (a Lafcar)		A tawney woman,		Cast of the Jew at Somerset-house.	
	F.	IN.	F.	IN.	F.	IN.
Stature,	5	4	5	4	5	8
Upper arm,		12 $\frac{1}{2}$		12		14 $\frac{1}{2}$
Fore arm,		10 $\frac{1}{2}$		10 $\frac{1}{2}$		11
	Venus de Medicis,		European women,		European women,	
	F.	IN.	F.	IN.	F.	IN.
Stature,	5	0	5	4	5	0
Upper arm,		13 $\frac{1}{2}$		13		12 $\frac{1}{2}$
Fore arm,		9 $\frac{1}{2}$		9 $\frac{1}{2}$		8 $\frac{1}{2}$

*Lavater*, speaking of the difference of skulls relatively to sexes and nations, says, 'the skull of a Dutchman is more rounded, in every sense; the bones of it are broader,—more uniform,—have fewer curves,—and, in general, have the form of an arch, less flattened at the sides.

'The skull of a Calmuck has an appearance much more rude and coarse; it is flattened at the top, prominent at the sides, and at the same time firm and compact: the face is broad and flat.

'That of the Ethiopian is erect and stiff, suddenly narrowed towards the top, sharpened above the eyes, projecting below, elevated and globular in the hinder part.

'The forehead of the Calmuck is flat and low; that of the Ethiopian higher, and more sharpened: and in Europeans, the vault of the hind head is more arched and rounded, in form of a globe, than in the negro and the African in general.'

*Lavater* gives us a plate with engravings of skulls belonging to the subjects of different nations.

'1. That of a German. Every thing about it bears the impress of an European head, and it sensibly differs from the three which follow. The hinder part is thick-

‘er, the fore part more slender: the forehead, better  
‘arched than the others, is neither too straight nor too  
‘round.

‘2. Is the skull of an East Indian. It is easily distin-  
‘guishable from the first: The crown of the head is more  
‘pointed, the hind head more shortened, the bones of the  
‘jaw and the whole face infinitely thicker.

‘3. That of the African differs from both of the pre-  
‘ceding in the hind head, which is much narrower, and  
‘by the size of the bone which serves for its base: besides,  
‘the bone of the nose is too short, and the sockets of the  
‘teeth advance too much; hence that little flat nose, and  
‘those thick lips, which are natural to all the nations of  
‘Africa. I am particularly struck with the sensible dispro-  
‘portion between the forehead and the rest of the profile.  
‘That excepted, the arch of the forehead considered by  
‘itself, bears not that character of stupidity which is mani-  
‘fest in the other parts of the head.

‘4. The Nomade Tartar, or Calmuc. The forehead  
‘has a resemblance to that of the monkey, not by its situ-  
‘ation, but by its flatness. The orbits of the eyes are  
‘very much sunk, and the bone of the nose so short, and  
‘so flat, that it scarcely projects beyond the adjoining  
‘bones. That of the chin is more pointed and promi-

‘nent, but at the same time so small, that it produces, in  
‘the whole, an outline bending inward, the effect of which  
‘is very disagreeable.’

Again—*Lavater* says, ‘It must have been already re-  
‘marked, that I take the system of the bones as the great  
‘outline of man, the skull as the principal part of that sys-  
‘tem, and that I consider what is added almost as the co-  
‘louring of this drawing; that I pay more attention to the  
‘form and arching of the skull, as far as I am acquainted  
‘with it, than all my predecessors; and that I have confi-  
‘dered this most firm, least changeable, and far best de-  
‘fined part of the human body, as the foundation of the  
‘science of Physiognomy.’

He asks, ‘Which are in general the weakest animals; and  
‘the most remote from humanity? the most incapable of  
‘human ideas and sensations? Beyond all doubt, those  
‘which in their form least resemble man.’

*Lavater* frequently dwells upon the forehead, the nose,  
and the chin; which he conceives to be the three leading  
features. He asks, What care of education can arch the  
skull of a negro, like that of a star-conversant astronomer?

Speaking of the monkey, he says, ‘Brutal inferiority to  
‘man is especially to be fought—in the shortness of the

' forehead, which is far from having the beautiful propor-  
 ' tions of the human; and, accurately speaking, is no fore-  
 ' head: a flat forehead is as great a solecism as it would  
 ' be to say a horizontal perpendicular—in the nose, small  
 ' above, flat below, and not prominent—in the descent  
 ' from the nose to the mouth, which is nearly as long as  
 ' the chin, or the part which corresponds to the chin;—  
 ' whereas, in man, it has usually only half the length of  
 ' the chin. The chin of man is more projecting; the  
 ' chin of the monkey is so far back, that if a man's skull  
 ' and a monkey's be placed upon a table, resting on the  
 ' chin, the latter can scarcely be perceived to have any.'

He observes, ' I believe it may be received as a physi-  
 ' ological axiom, that the more chin the more man, so  
 ' long as it bears a proportion to the nose: I speak not of  
 ' fleshy, but bony chins. Hence, scarcely any beast viewed  
 ' in front has chin. Hence the retreating chin and the  
 ' retreating forehead generally accompany each other.—  
 ' Particularly visible in profile is the form and size of the  
 ' back of the head; how much more lengthened and de-  
 ' pressed than that of man is the monkey's! The angle  
 ' formed by the back part of the under jaw and the line  
 ' of the bottom of the head, is nearly a right one.'

Professor *Camper* says, ' From the moment in which I  
 ' was in possession of the head of a negro and that of a

' Calmuck, I desired nothing so much as to compare these  
 ' two heads with that of an European, and to unite with  
 ' them the head of a monkey; the result of this comparison  
 ' was a discovery, that a line drawn from the forehead to  
 ' the upper lip would demonstrate the difference betwixt the  
 ' faces of different nations, and likewise the resemblance  
 ' betwixt the head of a negro and that of a monkey.—  
 ' Taking with great care a sketch of each of these faces  
 ' upon an horizontal line, I traced the facial lines, follow-  
 ' ing the angles which they made with the line horizontal.  
 ' As soon as I brought the line of the face forward, I had  
 ' the head of an antique; if I inclined it backward, I had  
 ' the head of a negro; a little farther back, it presented the  
 ' head of a monkey; still farther, that of a dog; and lastly,  
 ' that of a woodcock—and in this consists the basis of my  
 ' edifice\*.'

\*The facial line of a monkey makes an angle of  $42^{\circ}$ , with the horizontal line; that of an orang-outang,  $58^{\circ}$ ; that of a negro,  $70^{\circ}$ ; of a Chinese,  $75^{\circ}$ ; of an European,  $80$  or  $90^{\circ}$ . The Roman painters preferred the angle of  $95^{\circ}$ ; the Grecian antique,  $100^{\circ}$ . If above  $100^{\circ}$ , it begins to grow monstrous, and with a greater angle the head must resemble that of a child labouring under a hydrocephalus.

So far, according to *Camper*.—But perhaps the angle made by the facial line may be estimated as follows: That of the European, from  $90$  to  $80^{\circ}$ ; of the Asiatic, from  $80$  to  $75^{\circ}$ ; (I have seen an Asiatic whose facial line appeared to me to be near  $80^{\circ}$ )—of the American, from  $75$  to  $70^{\circ}$ ; of the African negro, from  $70$  to  $60^{\circ}$ ; of the orang, from  $60$  to  $50^{\circ}$ ; of the common monkey, from  $50$  to  $40^{\circ}$ . It is less in the dog, and still more so in birds.—There is, therefore, a perfect and regular gradation in the inclination of the face, from the perpendicular line of the European man, to the horizontal one of the snipe or woodcock; in which last there is no room in the jaws for teeth.

But, to return to my own observations. After having compared my negro skeleton with the European, I was obliged to pursue the comparison with a great number of living subjects, before any fair induction could be obtained. Accordingly, I measured the arms of about fifty negroes;—men, women, and children, born in very different climates; and found the lower arm longer than in Europeans, in proportion to the upper arm and to the height of the body.—The preceding table contains the measures of the first twelve negroes I met with, and also of the first twelve Europeans, of nearly corresponding stature that I measured, beginning with those of my own family; so that no selection was made in either case for the purpose of serving an hypothesis. I took the following method to measure the fore arm. I applied a pair of callipers to the extremity of the elbow, and to the lower extremity of the *ulna*, where it is joined to the wrist; by which the length may be accurately obtained. But it is not so easy to find the length of the *os humeri* in a living subject. I contented myself with applying one end of the callipers to the extremity of the elbow, and the other end just below the *acromion*: the distance gave the length of the *os humeri*, together with the thickness of the *ulna*, at its upper part; but, as all were measured in the same manner, this circumstance is immaterial. By a careful admeasurement I found, that, not only in the twelve, but in *all* the negroes, the length of the lower arm was greater than in those of Europeans corresponding in

stature. I am informed, however, of a negro skeleton in St. *Bartholomew's* Hospital, in which the *radius* and *ulna* are no longer than the medium of Europeans: But as Africans, as well as Europeans, are liable to some variation in this particular, one or two exceptions have no force against the general inference.

Living subjects are always more to be depended upon than skeletons, for two reasons: first, the bones may be changed in preparing or in mounting them; and, secondly, the stature of the skeleton is entirely governed by the manner of putting together the bones of the spine.

The first negro on the list, is one in the Lunatic Hospital in Liverpool. His fore arm measures twelve inches and three quarters, and his stature is only five feet ten inches and a half. I have measured a great number of white people, from that size up to six feet four inches and a half; and, amongst them, one who was said to have the longest arms of any man in England; but none had a fore arm nearly equal to that of the black lunatic.

I measured the lunatic myself, in the presence of several gentlemen of the faculty, at the Hospital; but after my return from thence, finding the measure of the arm to exceed all others so much, I was afraid of a mistake; and wrote to a medical man of the Infirmary, desiring the lunatic might



be measured again. This was done; and two pupils at the Infirmary sent me a note, of which the following is a copy:

	F.	IN.
" Height of the BLACK at the Asylum, . . . . .	5	10 $\frac{1}{2}$
" Length of the humerus, . . . . .		15
" Length of the ulna, . . . . .		12 $\frac{1}{2}$

" 11th April, 1794.

" RICH. FORSHAW,  
" THO. CHRISTIAN."

I have measured the arms of a great number of European skeletons, and have found that the *os humeri*, or upper arm, exceeds in length the *ulna*, which is the longer bone of the fore arm, by two or three inches; in none by less than two, and in one by not less than three inches and one eighth. In my negro skeleton, the *os humeri* is only one inch and one eighth longer than the *ulna*. In Dr. Tyson's pigmy, the *os humeri* and *ulna* were of the same length; and in my skeleton of a common monkey, the *ulna* is three quarters of an inch longer than the *os humeri*: so that, in respect to the fore arm, the gradation is as regular as possible.

I next examined the feet of living blacks, of men, women, and children, born in Liverpool, and clothed and educated as the other natives of that town are; these I found to be flatter than in Europeans. There was a difference also in other particulars; the bones of their thighs and legs were gibbous on the fore part; their fingers and toes were longer and smaller, but the thumb appeared shorter and

smaller. Upon the whole, therefore, I think it cannot be doubted, that, from whatever cause it may arise, there actually subsists a characteristic difference in the bony system, betwixt the European and the African. This difference exists in the skull, in the sockets for the eyes, in the nose, in the chin, in both the upper and lower jaws, and in the position of the head upon the spine; also in the length of the fore arm, in the feet, and in the legs and thighs\*.

Professor *Camper* was decidedly of opinion, that the whole human race descended from a single pair, and that all the varieties were occasioned by climate, nutrition, air, &c. 'But (says he) how these operate, and why the upper *maxilla* of a negro and the cheek bones of a Calmuck project, and why the socket of the eye is lower and more oblique in a Chinese and a Moluccan, cannot be fully explained.' But what would he have said, if he had known that the lower arm of the African was considerably longer than that of the European, though there seems to be no difference in the length of the upper arm, the leg, or the thigh? He very justly explodes the idea of the heads, noses, and jaws of negro children being modified by absurd customs of their parents. Some persons have supposed that the mouth, being exposed to the influence of climate more than some other parts, might be more luxuriant in hot

\* Some differences in different subjects, relative to the number of the *vertebrae* of the loins, have been observed by anatomists. See Note 7.

countries; but we find mouths of the same form in the frigid zone. Besides, were the above supposition admitted, we should expect to find the nose and the chin enlarged for the same reason; whereas, the very reverse is the case, the nose being shorter, and the chin also shorter and less prominent. And if it should be alleged that the fore arm might be longer, from the same cause, why not the upper arm, the leg, and the thigh also?

Were we to look over the world at large, and take into consideration the numerous varieties which would be presented to us in respect to the bones, it would probably appear, that several tribes resembled the European, in many particulars, but that none of them united all his characteristics; the arched hind-head and fore-head, the prominent nose, the round projecting chin and flat mouth, the same facial line, and the short fore arm, being not known to exist together in any other quarter of the world. Whatever deviations from these are found to take place, they are generally in the line of gradation from the European man down to the ape.

Having endeavoured to establish and illustrate the fact of a gradation from the European man to the brute, in respect to the bones, being that part of the system allowed to be least affected by climate, diet, customs, &c. we will now proceed to shew that a similar gradation takes place in the cartilages, muscles, tendons, skin, hair, sweat, catamenia, rank

smell and heat of the body, duration of life, testes, scrotum, and *frænum præputii*, *clitoris*, *nymphæ* and *mammæ*, size of the brain, reason, speech and language, sense of feeling, parturition, diseases, and manner of walking; and likewise that a gradation takes place in the senses of hearing, seeing, and smelling; in memory, and the powers of mastication: but in these last particulars the order is changed, the European being the lowest, the African higher, and the brute creation still higher in the scale.

With regard to the cartilages, muscles, and tendons, we are not in possession of a sufficient number of comparative anatomical facts to allow us to state much. The cartilage of the nose in the negro is much broader than in the European, and still broader in the ape. The *gastrocnemii* muscles are smaller, and placed higher in the African than in the European; they are still smaller and higher in the orang-outang: in the monkey those muscles are totally wanting. The temporal muscles are larger in the African than in the European, and still larger in apes. The *tendo achillis* is longer in the African than in the European, and still longer in the ape.

The *SKIN*, including the *epidermis* and *rete mucosum*, is well known to be thicker in the African than in the Europeans, and still thicker in monkeys.

The HAIR of the head, chin, &c. is shorter and more woolly in the African than in the European, and still more so in monkeys.

The SWEAT.—Captains and Surgeons of Guinea ships, and the West India planters, unanimously concur in their accounts, that negroes sweat much less than Europeans; a drop of sweat being scarcely ever seen upon them. Simia sweat still less, and dogs not at all. As to insensible perspiration, I do not know how the fact stands; probably it is less in negroes, owing to the thickness of their skins: and the consequence may be a greater exhalation of moisture from the lungs.

CATAMENIA.—It is the general opinion of physiologists, that females menstruate in larger quantities in warm climates than in cold; twenty-four ounces being the quantity in the warmest climates, eighteen ounces in Greece, from ten to four in this country, and two ounces in the coldest, as Lapland. This may be true in Europeans, and in Creoles born of European parents, but I believe it is much otherwise in negroes.—Dr. *Spaarman*, the Swedish naturalist, who went to make discoveries in Africa, informs us, that those periods are much less troublesome to the female sex in Africa than in Europe. The fact has been confirmed to me by the testimony of many Planters, as well as of Captains and Surgeons of Guinea ships, who have had the fullest opportuni-

ties for observation. Apes and baboons menstruate less than negroes, monkeys still less, and saporious and sagouins not at all.

The RANK SMELL emitted from the bodies of many negroes is well known; but it is much stronger in some tribes or nations than in others, and the strongest in apes.

HEAT.—This may be considered in two points of view; the capability of persons sustaining a warm or cold climate, and the natural temperatures of their bodies as indicated by a thermometer. As to the first, Dr. *Spaarman*, speaking of the Africans, says—‘ Though they did not appear of a chilly nature, they never shewed the least signs of being displeased with the hottest days of summer.’ West India planters have assured me, and all writers agree, that the negroes in the West Indies suffer more from the cold and moist weather, than from the warm and dry: cold renders them languid and dispirited, but heat revivifies them.— Their infants are so sensible of the impressions of cold air, that they are obliged to be kept for the first nine days after birth in close warm chambers. If this precaution be neglected, they are liable to be affected with the *tetanus*, or locked jaw, which generally proves fatal to them. It is allowed that the creole negroes sustain the extremes of heat much better than the creole whites. On the other hand, when the blacks are transported into these colder climates,

they seem to suffer more than we do from cold. I myself have known instances where negroes have lost their toes by the frost, in circumstances wherein an European would not have suffered. Consistently with this, we find that the whole genus of *simia* is impatient of cold; and no orang-outang has ever yet been able to bear the cold of many European winters.—With regard to heat, in the second point of view, it has been said that negroes are two degrees colder than Europeans. The practice of the luxurious Turk gives countenance to this, as he prefers a negroes for summer, a fair Circassian for spring and autumn, and an European brunette for winter.

**DURATION OF LIFE.**—Negroes are shorter lived than Europeans. All observations confirm the fact, that the children of negroes are more early and forward in walking than those of Europeans; likewise that they arrive at maturity sooner. The males are often ripe for marriage at ten, and the females at eight years of age. Now, it is a general principle in natural history, that the more early any species of animals arrive at maturity, the shorter is the natural period of their life.

*Citius pubescunt, citius senescunt.*

In conformity with this principle, we find that negroes rarely attain to the longevity of Europeans. Lieutenant *Patterson*, in his account of the *Caffres*, mentions one of ninety years

as a very rare phenomenon. Most other travellers concur in observing, that negroes and Hottentots of fifty are reckoned very old men; and that at forty they become wrinkled, and discover every other mark of old age, notwithstanding they may have vigorous constitutions, and be free from disease. In this respect, therefore, gradation is apparent; for, according to *Linnaeus*, the orang-outang lives only twenty-five years.

That the **PENIS** of an African is larger than that of an European, has, I believe, been shewn in every anatomical school in London. Preparations of them are preserved in most anatomical museums; and I have one in mine. I have examined several living negroes, and found it invariably to be the case. A Surgeon of reputation informs me, that about forty years ago, when he was pupil to the late *William Bromfeild*, Esq. he assisted at the dissection of a negro, whose penis was *ad longitudinem pollicum duodecim*. It was preserved and deposited in Mr. *Bromfeild's* museum. *Haller*, in his *primæ Linæ*, speaking of the Africans, says, '*In hominibus etiam penis est longior & multo laxior*;' but I say, *Multo firmior & durior*. In *simia* the penis is still longer, in proportion to the size of their bodies.

I found with some surprise, that the **TESTES** and **SCROTUM** are less in the African than in the European. They are still less, proportionally, in the ape. That the

*penis* should be larger, and the *testes* and *scrotum* smaller, in the order thus stated is another remarkable instance of gradation.

FRAENUM PRAEPUTII.—I have examined twelve negroes, who had not been circumcised, but had the *praeputium* complete and large, and in four of them there was no *fraenum praeputii*, nor the least preparation for one, nor any sign of their ever having had any; there was no appearance of ulceration or incision having taken place; and, upon the strictest enquiry, I could not find that any such thing had happened\*. Six of them had very trifling ones, which hardly could be called bridles: the remaining two were as perfect as Europeans.

CLITORIS and NYMPHAE.—Dr. *Spaarman*, speaking of the then prevalent opinion that the Hottentot women have a kind of natural veil which covers the sexual parts, says, ‘The women have no parts uncommon to the rest of the sex; but the *clitoris* and *nymphae*, particularly of those who are past their youth, are much elongated.’ This has been confirmed to me by several surgeons of Guinea-ships; and, from the observations upon the *penis* given

\* I had scarce an opportunity of examining only one of the sons of these four, (Thomas Rogers’s—see the preceding table) and he had no *fraenum praeputii*.—This boy was only four years old: a convincing proof that the *fraenum* was not destroyed by any venereal complaint.

above, analogy seems to require it. Notwithstanding this, it may be observed, that in the four or five instances I had occasion to examine, there was no material difference from Europeans discoverable.—In the females of the ape and the dog, the *clitoris* is still longer.

MAMMAE.—We are informed by Drs. *Thunberg* and *Spaarman*, that the Hottentot women have long flabby breasts; and that they can suckle their children upon their backs, by throwing the breast over their shoulders. Monf. *Buffon* says the same of the women of Greenland; and further, ‘that their nipples are as black as jet, and their skin of a deep olive colour; and it is said that some of them are as black as the Ethiopian.’ Long flabby breasts, therefore, are not the effect of relaxation in a warm climate, but are found with people of colour in the frigid as well as torrid zone. No European white woman, however, in any age or climate, was ever known to have a breast of such description. The African, therefore, in this particular approaches to the simia.—*Long*, in his History of Jamaica, says, ‘Negresses have larger nipples than Europeans.’—Brutes have still larger nipples.

SIZE OF THE BRAIN. REASON.—The cavity of the skull, which contains both *cerebrum* and *cerebellum*, is less capacious in the African than in the European, and still less in the brute species. All the nations of Africa, and the inha-

bitants of the southern isles have either very narrow skulls, the two parietal bones approaching near to each other; or they have a flat, receding forehead, and hind-head: and the bony sockets which contain the eyes, are more capacious than those of Europeans. It has been observed already, that man has the largest brain of any animal; and, of all men, the European has the largest; yet some animals possess a larger brain in proportion to their body; as mice, squirrels, &c. and some birds.

We know so little of the physiology of the brain and nerves, that I shall not state much concerning them.— It should seem, however, from the observations made upon man, the elephant, and other creatures, that, generally speaking, those animals which have a greater quantity of brain, have also more reason, or sagacity. Mr. *John Hunter*, who, it must be allowed, was as capable as any man of examining the *interior* of the elephant's head, and who had opportunities of dissecting no fewer than three elephants that belonged to the Queen, preserved and arranged the brains of different animals, upon which his editor remarks: ‘ In the insect the brain has a more compact form, --- is ‘ larger in fish, --- but still more so in birds, --- gradually ‘ advancing in size, as the animal is endowed with a ‘ greater degree of sagacity, till at last it becomes the large ‘ complex organ found in the elephant and in the human ‘ subject.’—On the other hand, *Lavater*, who seems to

have been equally attentive in examining the *exterior* of the elephant's head, when speaking of that animal, discovers ‘ his retentive memory in the size and arching of his ‘ forehead, which approaches nearer to the outline of the ‘ human forehead than that of any other beast.’ *Vol. 2. page 174.*

Again— ‘ Superior to all is distinguished the elephant, ‘ by an increase of skull, alike in the back part and in the ‘ forehead. How true, how natural an expression of wisdom, power, and delicacy!’ *Page 159.*

It has been customary to distinguish, by the name of *instinct*, the ruling principle in animals, from *reason* in man: but it is much more probable that *instinct* and *reason* are only different degrees of the same principle. It can scarcely be denied, that “ man differs more from man, than man from beast.”—Whether it proceeds from a difference in the quantity of brain, or from any other source, there seems a difference in the original capacity of the different tribes of mankind. We shall state the opinions of two or three intelligent observers on this head.

*Dr. Thunberg* says, ‘ It may indeed be alleged, that the ‘ inhabitants of the warmer climates have a dull torpid brain, ‘ and are less keen and sharp than the Europeans. They ‘ have a power of thinking, but not profoundly, and con-

‘ frequently conversation among them is rather trifling. —  
 ‘ They are, in general, idle, sleepy, heavy, and lascivious.  
 ‘ To these qualities, the heat of the climate itself inclines  
 ‘ them; and, without insulting the dark brown inhabitants  
 ‘ of the East Indies, one may truly say that there is a greater  
 ‘ difference between them and the Europeans, than between  
 ‘ the monkeys and them.’

Mr. *Jefferson*, speaking of the negroes, says, ‘ Comparing  
 ‘ them by their faculties of memory, reason, and imagina-  
 ‘ tion, it appears to me, that in memory they are equal to  
 ‘ the whites, in reason much inferior, as I think one could  
 ‘ scarcely be found capable of tracing and comprehending  
 ‘ the investigations of Euclid; and that in imagination they  
 ‘ are dull, tasteless, and anomalous.’ Indeed it may be  
 ‘ reckoned unfair to compare the capacity of Africans with  
 ‘ that of Europeans, who have been so long civilized; but it  
 ‘ cannot be reckoned so in comparing them to the American  
 ‘ Indians. Mr. *Jefferson* continues — “Many millions of  
 ‘ them have been brought to and born in America; most  
 ‘ of them indeed have been confined to tillage, to their  
 ‘ own homes, and their own society; yet many of them  
 ‘ have been so situated, that they might have availed them-  
 ‘ selves of the conversation of their masters; many have  
 ‘ been brought up to the handicraft arts, and from that  
 ‘ circumstance have always been associated with the whites.  
 ‘ Some have been liberally educated, and all have lived in

‘ countries where the arts and sciences are cultivated to a  
 ‘ considerable degree, and have had samples of the best  
 ‘ works from abroad. The Indians, with no advantages of  
 ‘ this kind, will often carve figures on their pipes, not def-  
 ‘ titute of design and merit. They will crayon out an ani-  
 ‘ mal, a plant, or a country, so as to prove the existence  
 ‘ of a germ in their minds, which only wants cultivation.  
 ‘ They astonish you with strokes of the most sublime ora-  
 ‘ tory, such as prove their reason and sentiment strong,  
 ‘ their imagination glowing and elevated; but never yet  
 ‘ could I find, that a black had uttered a thought above the  
 ‘ level of a plain narration, never see even an elementary  
 ‘ trait of painting and sculpture.’ — *Notes on the State of*  
*Virginia*, page 232.

SPEECH and LANGUAGE. — Dr. *Thunberg* says, ‘ The  
 ‘ language, which frequently is almost the only thing that  
 ‘ distinguishes the indolent Hottentots from the brute crea-  
 ‘ tion, is poor, unlike any other in the world, is pronounced  
 ‘ with a clack of the tongue, and is never written.’ *Gamon*  
 ‘ says, ‘ The sound of their voice resembles fighting.’ *Spits-*  
*bergh* says, ‘ that their language resembles the clucking of a  
 ‘ turkey.’

In whatever respect the African differs from the European,  
 the particularity brings him nearer to the ape. The LIPS,  
 however, form an exception to this rule; and would have

been a considerable infringement on the order of gradation, if the ape had been possessed of the faculty of speech. But as it is, the chasm betwixt the African and the ape, relative to speech, is so great, that we need not wonder at a change in the organization. With respect to this point, it may be remarked, that since the mouth of the African protrudes more; since the distance is of course greater from the throat to the teeth, and all the appendages of the mouth, except the chin, are larger than in Europeans; it was perhaps necessary to have the lips larger, in order to strengthen or modulate the voice in speaking or singing. It is further observable, that such Europeans as have concave mouths, or are denominated in-mouthed, have all thin lips; and in such the distance from the wind-pipe to the teeth is of course less than in those who are out-mouthed. Now it is found, that in wind instruments, both the length of the tube and the form of its extremity, have an effect upon the sound: the longer the tube, the deeper will be the note; and the more divergent its extremity, the louder will be the sound. Out-mouthed people seem then to require thick divergent lips, in order to give force and energy to their utterance. All the other parts subservient to speech, and those subservient to mastication, being larger in the negro than in the European, the distance of the teeth from the larynx being also greater, the tongue larger, the teeth stronger, and the nose broader, it should seem that proportion required the

lips to be thicker, in order to give the best effect to the voice and articulation.

As an account of the manner in which the human voice and speech is effected, is not to be met with everywhere, and as it bears a near relation to the present subject, it may not be improper to subjoin a few observations on that head.

The larynx is the organ by which the voice is formed; but without the assistance of the parts above it (as the throat, palate, uvula, mouth, teeth, tongue, nose, lips, &c.) we should not be able to form articulate sounds, which are necessary for the communication of our ideas. When we have a mind to speak, we draw in our breath, and, in expiring it, contract the vocal chords till they vibrate, and afford such a sound as we choose; this is modified by the tongue, lips, &c. so as to form determinate sounds or words. The letters of the alphabet, which may be considered as elementary sounds, are divided into different classes, denominated *gutturals*, *linguals*, *dentals*, *labials*, and *nasals*, according to the organ most particularly concerned in their pronunciation.— Thus, *a* and *o* are gutturals; *b* and *p*, labials; *c* and *s*, dentals; *l* and *r*, linguals; and *m* and *n*, nasals. Hence, as every letter and word requires a peculiar distinct action, disposition, and configuration of these organs, which are visible if nicely and accurately attended to, curious persons have availed themselves of this circumstance to teach deaf and



dumb people to understand what is said to them, and even to speak intelligibly.

The manner in which the larynx acts is but little known, though various opinions have been given concerning it.—Some of the best modern physiologists are of opinion that the voice is formed by the air upon its egress, forcibly impinging on the sides of the rimula, and exciting a tremulous motion, as in wind instruments. Others have imagined, with less probability, that it is produced after the manner of the sound of musical chords, bells, &c. where the percussion of some other body besides air, excites the vibratory motion in the strings, &c. which is communicated to the air. Others, again, have imagined the organs of speech to comprehend the powers of both wind and string instruments. All the notes of music result from the variety in the length, thickness, and tension of musical chords. Thus, the shorter, smaller, and more tense any chord is, the more acute is the sound, because the vibrations are quicker; on the contrary, the longer, thicker, and laxer the string, the slower is the vibration, and the graver the note. In the human voice, when an acute sharp note is to be sounded, the chords are stretched, made smaller, and more tense, by the *crico-thyroidaei* and *crico-arytenoidaei possici* muscles, and the rimula is at the same time constricted. On the contrary, for a deep base note, the rimula is pretty open, and the chords are laxer and thicker, and the vibration slower, as then the rimula is in a great measure left to itself.

**SENSE OF FEELING.**—The cuticle, including *reticulum*, is much thicker and harder in black people than in white ones, the *reticulum* in the latter being a thin mucus, in the former a thick membrane. Wherever the cuticle is thicker, the *corpus reticulare* is thicker also, as appears by the feet of negroes. The office of the *rete mucosum* is to keep the *papillae*, which are the immediate organs of touch, moist; and both together serve to defend them from injury: the thicker, therefore, those integuments are, the duller must be the sense of touch. It is no wonder then, that negroes have not that lively and delicate sense of touch that the whites have, since both the cuticle and *rete mucosum* are thicker in them.—In brutes this sense is still duller than in negroes.

**PARTURITION.**—There exist many differences in the human species, which have been attributed to relaxation, from heat; but which do not, in fact, proceed from that cause. We have had frequent accounts of the very easy parturitions of the natives of Africa, the West Indies, America, and the southern parts of Asia, by *Brookes*, *Bruce*, *Waser*, *Dampier*, *Neuhoff*, *Woods*, *Rogers*, *Pittavillians*, and *Long*. These writers inform us, that the women have very easy labours, and that they retire to the woods, bring forth alone, and return directly home,—after washing themselves and their children in the sea, or in a river. Such easy labours have been generally attributed to relaxation, from the warmth of the climate: but *Hen-*

*nepius* says, 'The wives of the Livonian peasants and the savages of North America use the same custom. The women retire to some private place when the time of their delivery is at hand, and return immediately after to their work.' As the same thing happens both in warm and cold climates, we cannot attribute it to relaxation from heat. It must, therefore, either be occasioned by the infants of people of colour having smaller heads, or the mothers having large and capacious pelvises, or from their living nearly in a state of nature, or, perhaps, from all these three causes. Mr. *Soemering* says, the *pelvis* of the male negro is smaller than that of the European; but he does not say what is the size in the female. Several surgeons of Guinea-ships have informed me, that, in general, the negroes have larger hips and more capacious *pelvises* than European women; and, as the heads of adult negroes are smaller than those of the Europeans, we may suppose that the heads of their infants are also smaller. Something, likewise, may be attributed to their living in a state of nature; for it has been observed by Dr. *Bland*\*, 'that those cows that are kept in London upon gross and improper food, with little exercise, have more frequently difficult labours, and suffer more in consequence of parturition than those that live in the country, under less restraint, and in a manner more adapted to their nature.' But whatever

\* *Observations on Human and Comparative Parturition*, page 40.

may be the cause or causes, the fact seems to be, that women of colour have easier parturitions, in general, than white Europeans; and that brutes have easier parturitions than the human species.

**DISEASES. LOCKED JAW.**—This is a complaint with which various species of the animal kingdom are afflicted: it does not, however, equally prevail amongst all those species. It attacks the human European, sometimes in their own climes; but more frequently, and more fatally, in the torrid zone. Medical observers state, that negroes are much more liable to it, and that it is more fatal to them, even in the torrid zone, than to Europeans. It is still more frequent among quadrupeds, and more fatal to some of them, particularly horses, than to negroes. I have often seen this disease, both in the human species and in horses; but where one of the human species suffers with it in this kingdom, I may safely say, that ten or twenty horses are affected by it. I have known it arise from docking, and nicking their tails; from cropping, or setting their ears; also, after castration, and many other operations; from gathering a nail in the foot; and, frequently, when no visible cause could be discovered.

Dr. *Benjamin Mosely*, in his treatise on Tropical Diseases, says, 'I have lost many patients in the locked jaw, after amputations; and never found that leaving out the nerves, or whether ligatures were made or not, caused the smallest

‘ difference in the event, nor were any security against the  
‘ locked jaw, nor diminished the symptomatic fever.

‘ How far the sensibility of the nerves, or the irritability  
‘ of the muscles, are concerned in the tetanus; or how the  
‘ muscles should act in sympathy without the nerves appear-  
‘ ing to be any way affected, is, I believe, in as much ob-  
‘ scurity as GALEN’s *principalis animæ vis*.

‘ The locked jaw appears to be a disease entirely of irri-  
‘ tability. Negroes, who are most subject to it, whatever  
‘ the cause may be, are void of sensibility to a surprising de-  
‘ gree. They are not subject to nervous diseases. They  
‘ sleep sound in every disease, nor does any mental disturb-  
‘ ance ever keep them awake. They bear surgical opera-  
‘ tions much better than white people; and what would be  
‘ the cause of insupportable pain to a white man, a negro  
‘ would almost disregard. I have amputated the legs of  
‘ many negroes, who have held the upper part of the limb  
‘ themselves.—Susceptibility of the tetanus, whether original  
‘ or symptomatic, does not depend on age or sex, neither  
‘ is it confined to the human species:—every species of  
‘ animal is subject to it: I have seen many horses die of it.  
‘ It arises in animals from many of the same causes that  
‘ produce it in human beings.

‘ Negro children are chiefly the victims of this disease in  
‘ the West Indies.—The cause of the tetanus among chil-

‘ dren in the West Indies is generally attributed either to the  
‘ intemperance of the mother during pregnancy, or to the  
‘ irritation of the navel after birth, or to the smoke\* of the  
‘ lying-in room, or to the dampness of its situation, or to  
‘ the carelessly letting in cold air upon the child. Some  
‘ people even attribute it to the wickedness of the mother,  
‘ to avoid the trouble of bringing up the child. The ne-  
‘ groes often charge it to the malice of OBED; or witch-  
‘ craft. Speculators have searched for other causes in the  
‘ most remote corners of nature. That negroes, who never  
‘ see this accident happen to white children, nor any others  
‘ who have proper care taken of them, if born healthy,  
‘ should attribute it to witchcraft, is very natural; but that  
‘ physicians should be ignorant of the cause, and that the  
‘ effects should so often be permitted to happen, is extraor-  
‘ dinary and unnatural.’

Dr. John Hunter, in his Observations on the Diseases of  
the Army in Jamaica, page 305, says, ‘ The diseases of the  
‘ negroes fell seldom under my observation; what I have  
‘ to say of them, therefore, will be very short, and chiefly  
‘ with a view of calling the attention of others to the sub-  
‘ ject; for we are hitherto much in the dark respecting se-  
‘ veral disorders, that are in a great measure confined to

\*Dr. Clark is decidedly of opinion, that the *trismus-nascentium*, or jaw-fall of  
infants, is occasioned by the smoke of wood fires in the negroes huts:—where no  
fires have been made, he has never known the disorder to occur.

the negroes in that part of the world. A better history of them would enlarge our knowledge of pathology, and teach us, I doubt not, many new and interesting facts in the animal œconomy.

European women, in hot countries, are very subject to floodings, and to the *fluor albus*. Negresses are almost exempt from both these complaints; but are very liable to obstructions of the *menses*. *Gonorrhœa simplex* is a very common complaint among the negro men, when there is not the least suspicion of any venereal taint.

That the Indians of America are subject to fatal diseases, which do not affect white people, we have a convincing proof in the 54th volume of the *Philosophical Transactions*; p. 386\*. It is there related, that in 1763, in the island of Nantucket, there were three hundred and fifty-eight Indians, when a sickness broke out, which, in about six months, seized two hundred and fifty-eight of them; of whom only thirty-six recovered. Of the hundred that escaped, thirty-four were with the sick, eight separate, eighteen at sea, and forty in English families. It was particularly remarkable, that although the English inhabitants were much more numerous,

\* "An Account of an extraordinary Disease among the Indians of Nantucket and Martha's Vineyard, in New England: in a Letter from Andrew Oliver, Esq. Secretary of His Majesty's Province of Massachusetts Bay, to Israel Mauduit, Esq. F.R.S."

not one of them had the sickness; but that some persons, half Dutch and half Indian; and one, half negro and half Indian, had it, and recovered. The distemper, about the same time, broke out at Martha's Vineyard, and was attended with similar circumstances.

Dr. John Hunter says, 'The *Cacabay* is a negro name for a disease not known among Europeans or their descendants, as far as I could learn. It begins in whitish spots upon the skin, near the ends of the extremities.— Those spots turn to ulcers, commonly upon the fingers and toes; there is much swelling and pain, and the joint afflicted drops off without any mortification. The fore afterwards heals up, and remains well even for months, but returns again, affects the next joint, which, after a time, drops off; and the disease, attacking one joint after another, in the end reduces the miserable sufferer to a mere trunk. It continues often several years before it proves fatal.—He likewise mentions dirt-eating as a disorder peculiar to negroes, and which frequently proves fatal to them.—On the other hand, speaking of the expedition against Fort St. Juan, he observes, that few or none of the soldiers survived; they being taken off by fevers, from which the negroes, who accompanied them, were almost wholly exempt. From this circumstance he takes occasion to recommend, that a company of negroes should be attached to each

regiment, to perform any hard labour that might be required in the heat of the day.

We have equally authentic accounts, of negroes being wholly, or in great part, exempt from some diseases, which prove very fatal to white people. That accurate observer, Dr. Lining, speaking of the yellow fever which prevailed in South Carolina, says, 'There is something very singular in the constitution of the negroes, which renders them not liable to this fever; for, though many of them were as much exposed as the nurses to this infection, yet I never knew an instance of this fever amongst them, though they are equally subject with the white people to the bilious fever\*.'

Mr. Matthew Carey, however, in his short account of the malignant fever at Philadelphia †, after relating the above, observes:—'The same idea prevailed for a considerable time in Philadelphia, but it was erroneous. They did not escape the disorder: however, the number of them that were seized with it was not great; but, as I am informed by an eminent doctor, it yielded to the power of medicine in them more easily than in the whites.'

\* *Essays and Observations*, vol. 2, page 407.

† Page 78.

With respect to the yellow fever which prevailed in the West Indies in former years, and particularly that which, during the last summer, took off many of our soldiers, sailors, and officers, and likewise many of the white inhabitants, I have made diligent enquiry of several officers and other well-informed people, but do not find that any of the negroes caught the disease, though many of them attended the sick, and were employed in burying the dead.

These remarks upon diseases seem to prove, that there are original differences in the constitutions of the white Europeans, the negroes, and the Indians.

Mr. Long takes notice of a fact, which seems to have escaped the observation of naturalists:—that the lice which infest the bodies of negroes are blacker, and generally larger, than those which are found on white people\*.

The African's MANNER OF WALKING is very different from that of the European's, and very much resembles that

\* Perhaps this apparently trivial circumstance may be deemed no inconsiderable argument in support of the opinion that Africans are a different race from Europeans. It is known to naturalists, that the different species of animals and plants nourish various insects, many of which are supported upon one or a few species. Rarely, if ever, is it found that the same plant or animal, modified by any peculiarity in the soil, situation, &c. is refused by the insect on that account: yet, I have been informed by negroes born in North America, who had never been in a hot climate, that their lice were of a black colour, and larger than those common to Europeans; and that those which infest the Europeans seem to refuse the negroes.

of the ape. This, no doubt, proceeds from the bones of the leg and thigh being gibbous, from the flatness of the feet, from the height of the calves of the legs, and from the smallness of the gastrocnemii muscles. These circumstances, together with the forward position of the head upon the spine, oblige them, when they walk, to put themselves into such an attitude as will best preserve their balance.

We have now shewn that there exist material differences in the organization and constitution of various tribes of the human species; and not only so, but that those differences, generally, mark a regular gradation, from the white European down through the human species to the brute creation. From which it appears, that in those particulars wherein mankind excel brutes, the European excels the African.

It remains yet to notice, that in those particular respects in which the brutes excel mankind, the African excels the European: these are chiefly the senses of SEEING,—HEARING,—and SMELLING;—the faculty of MEMORY,—and the power of MASTICATION.

SEEING.—Professor *Pallas* informs us, that ‘ Nothing is more astonishing than the acuteness of *sight* in most of the Calmucks, and the extraordinary distance at which they perceive very minute objects, such as the dust raised by cattle or horses, and this from places very little elevated.’

*Soemmering* informs, us that ‘ the olfactory and optic nerves, and those of the 5th pair, are uncommonly large in the African.’ Neither Calmucks nor negroes, however, can be compared with hawks, eagles, and some other birds, in acuteness of vision.

HEARING.—The *meatus auditorius* is wider in the Negro than in the European. The external ears of Negroes are, notwithstanding, in general, small and round, and have no lobes. This is the case with many monkeys: but the Calmucks have very large ears, which stand out considerably from the head; and the ears of Dr. *Tyson's* pigmy were constructed in the same manner. There seem, therefore, to be two different approaches to the brute species in the construction of the external ear.—Professor *Pallas* says, the Calmucks hear, at a great distance, the trampling of horses, the noise of an enemy, of a flock of sheep, or even of strayed cattle: they have only to stretch themselves on the ground, and to apply their ear close to the turf.—Certain quadrupeds, as hares, horses, asses, and such others as can erect their large ears, are still more perfect in hearing than the Calmucks.

SMELLING.—It is observable that negroes have wider nostrils than Europeans. *Pallas* informs us, that the nose of a Calmuck is of a structure quite singular, being, generally, flat and broken towards the forehead. They find

the subtilty of the sense of smell very useful in their military expeditions; for by it they perceive, at a distance, the smoke of a fire, or the smell of a camp. There are many of them who can tell, by applying the nose to the hole of a fox, or of any other quadruped, whether the animal be in or not. But dogs possess this sense in the greatest perfection.

It is said that negroes excel Europeans in MEMORY; but those domestic animals with which we are best acquainted, as the horse and the dog, excel the human species in this faculty.

Negroes have stronger powers of MASTICATION than Europeans: and most quadrupeds have them still stronger.

As to the senses in general, so far as relates to the human species, custom and exercise seem to have a considerable effect in improving them; but are not, it may be presumed, sufficient to account for the differences that actually exist\*.

\* The reader will find a large extract from a treatise entitled "On the Corporal Difference of the Negro and European," by S. T. Soemmering, M. D. Professor of Anatomy at Mainz, &c. &c. 1785. 8vo. The original is printed in the German language: and Dr. Holme, Physician to the Manchester Infirmary, has done me the favour to translate the extract into English. It contains some important observations of that celebrated anatomist, on the organs of the senses, the bony system, &c. in Negroes; and likewise on the brain and nerves.

It will not be amiss here to exhibit, in one point of view, the conclusions deducible from the facts and observations stated in the second part of this essay.

1. There are material differences in the corporeal organization of various classes of mankind.

2. Taking the European man as a standard of comparison, on the one hand, and the tribe of simia on the other; and, comparing the classes of mankind with the standards, and with each other, they may be so arranged as to form a pretty regular gradation, in respect to the differences in the bodily structure and economy, the European standing at the head, as being farthest removed from the brute creation.

3. That the African, more especially in those particulars in which he differs from the European, approaches to the ape.

4. That the following characteristics which distinguish the African from the European, are the same, differing only in degree, which distinguish the ape from the European:

IN THE BONY SYSTEM,  
The narrow and retreating forehead and hind-head.

The flat bone of the nose.

The great distance betwixt the nose and mouth.

The small retreating chin.

The facial line.

The great distance betwixt the ear and the fore part of the mouth.

The small distance between the *foramen magnum* and the back of the head.

The long and strong under jaw.

The large bony sockets which contain the eyes, and the wide *meatus auditorius*.

The long fore arm.

The flat foot; and the length, breadth, shape, and position of the *os calcis*.

IN OTHER PARTS OF THE SYSTEM,

The broad and flat cartilage of the nose.

The small *gastracnemii*, and large temporal muscles.

The long *tendo achillis*.

The thick skin, and short woolly hair.

The small brain.

The long breasts of the females.

The parts of generation.

The paucity of different discharges.

The rank smell.

Their manner of walking.

The power of adaptation to a warm climate.

Their shorter period of life.

5. That different classes of men are not liable to all the diseases incident to mankind, and that they are infested with different insects.

6. That, in comparing the classes of mankind with each other, and with the brute creation, as in the second article, there is a gradation also discoverable in the senses of *seeing*, *hearing*, and *smelling*, in *memory*, and in the powers of *mastication*, but in a contrary order to that above stated, the European being least perfect, the African more so, and the brutes most perfect of all, in these particulars.



Plate 2	Negro.	American Savage.	Asiatic.
	70°	73°	75°
<i>Goat.</i>			
65°			

*Snipe.*

*Crocodile.*

*Greyhound.*

*Great Southern Hound.*

European.	European.	Roman Sculptors.	Grecian Statues.
80°	90°	95°	100°
	42°		58°
		55°	

*Bull Dog.*

*Monkey.*

*Man of the Woods.*

*Orang Outang.*