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SECTION III.

ON THE CAUSES AND WAYS BY WHICH MANKIND HAS DEGENERATED, AS A SPECIES.

41. *Order of proceeding.* Now let us come to the matter in hand, and let us apply what we have hitherto been demonstrating about the ways in and the causes by which animals in general degenerate, to the native variety of mankind, so as to enumerate one by one the modes of degenerating, and allot to each the particular cause to which it is to be referred. We must begin with the colour of the skin, which although it sometimes deceives, still is a much more constant character, and more generally transmitted than the others¹, and which most clearly appears in hybrid progeny sprung from the union of varieties of different colour composed of the tint of either parent. Besides, it has a great connection with the colour of the hair and the iris, and a great relation to the temperament of men: and, moreover, it especially strikes everywhere the eyes even of the most ignorant.

42. *Seat of the colour of the skin.* The mucous, commonly called the cellular membrane, about whose most important function in the economy of the human body we have spoken above, affords as it were a foundation to the whole machine. It is interwoven with almost all parts alike, even to the marrow of the bones, and is collected on the outermost surface of the body

¹ Kant, in *Berliner Monatsschrift*, 1785, T. VI. p. 391, and in *Teutschen Merkur*, 1788, P. I. p. 48.

into a thick white universal integument, called the *corium*. By this the rest of the body is surrounded and included; and above all it is penetrated by a most enormous apparatus of cutaneous nerves, lymphatic veins, and finally with a most close and subtle net of sanguiferous vessels.

The nerves communicate sensation to the corium, so as to make it the organ of touch, and as it were the sentinel of the whole body. The lymphatic veins make this same corium the instrument of absorption and inhalation. But the sanguiferous vessels have most to do with the subject under discussion, as being the constituent parts of the common integuments of the body, and equally with the lungs and the alimentary canal make up the great purifier and chemical laboratory of the human machine; whose surfaces, as will soon be seen, have a good deal to do with giving its colour to the skin. The corium is lined with a very tender mucus, which from the erroneous description of its discoverer, is called the *reticulum Malpighii*: this affords a sort of glutinous bond, by which the most external stratum of the integuments, the epidermis, or cuticle, stretching over and protecting the surface of the body, and which in the born man is exposed immediately to the atmospheric air, adheres to the corium. The reticulum, just like the epidermis, is a most simple structure, entirely destitute of nerves and vessels, differing both of them as much as possible from the nature of the corium. They agree themselves in more than one way, so that it seems most probable that these similar parts are allied, or that the exterior cuticle draws its origin in some way from its substratum, the reticulum. Besides, each of these allied strata of integuments so make up the *seat of colour*, that in clear-complexioned men, where they are stained with no pigment, they permit the natural roseate whiteness of the corium to be seen through: and in brown or coloured men, although the principal cutaneous pigment may adhere to the Malpighian reticulum, although the epidermis may be paler, still it will manifestly partake of its tint. The darker the reticulum the thicker it is, and the more it approaches the appearance of a membrane peculiar to itself; the more transparent it is on the contrary

the more tender it becomes, and only appears to have the constitution of a diffused mucus.

43. *Racial varieties of colour.* Although the colour of the human skin seems to play in numberless ways between the snowy whiteness of the European girl and the deepest black of the Ethiopian woman of Senegambia¹; and though not one of these phases is common either to all men of the same nation, or so peculiar to any nation, but what it sometimes occurs in others, though greatly different in other respects; still, in general, all the varieties of national colour seem to be most referable to the five following classes.

1. The white colour holds the first place, such as is that of most European peoples. The redness of the cheeks in this variety is almost peculiar to it: at all events it is but seldom to be seen in the rest.

2. The second is the *yellow, olive-tinge*, a sort of colour half-way between grains of wheat and cooked oranges, or the dry and exsiccated rind of lemons: very usual in the Mongolian nations.

3. The *copper colour* (Fr. *bronzé*) or dark orange, or a sort of iron, not unlike the bruised bark of cinnamon or tanner's bark: peculiar almost to the Americans.

4. *Tawny* (Fr. *basané*), midway between the colour of fresh mahogany and dried pinks or chesnuts: common to the Malay race and the men of the Southern Archipelago.

5. Lastly, the *tawny-black*, up to almost a pitchy blackness (*jet-black*), principally seen in some Ethiopian nations. Though this tawny blackness is by no means peculiar to the Ethiopians, but is to be found added to the principal colour of the skin in others of the most different and the most widely-separated

¹ The indefinite and arbitrary sense in which most authors use the names of colours has caused vast difficulty in all the study of natural history: and will certainly be particularly troublesome in this anthropological disquisition. That I may not be accused of the same fault, I must give notice that I am far from considering such words for example as the English *yellow* and *olive tinge*, &c. which I have subjoined to each of the five principal colours which I have distinguished, as genuine synonyms. All I wanted to do was to show that these words had been used by different authors, and those classical ones, in denoting the national colour of one and the same race.

varieties of mankind: as in the Brazilians, the Californians¹, the Indians, and the islanders of the Southern Ocean, where, for instance, the New Caledonians in this respect make an insensible transition from the tawny colour of the Otaheitans, through the chesnut-coloured inhabitants of the island of Tongatabu, to the tawny-black of the New Hollanders.

44. *Causes of this variety.* The seat of the colour of the skin has now been placed beyond all doubt. The division of the varieties of colour, and their distribution, seem sufficiently plain and perspicuous. But to dig out the *causes* of this variety is the task and the trouble. Authors have laboured most in endeavouring to explain the colour of the Ethiopians, which above all other national colours from the most remote period has struck the eyes of Europeans, and excited their minds to inquire. Nor is it surprising that with that object all sorts of hypotheses should be elaborated, which, however, I pass by unnoticed, as being sufficiently known², and already explained all together by others³, and shall go into the details of that opinion alone, which, unless I am much mistaken, seems to come nearest the truth. I think, myself, the proximate cause

¹ On the Brazilians comp. G. Forster on Wilson's *Nachrichten von den Pelew Inseln*, p. 36. On the Californians, Begert, *Nachrichten von Californien*, p. 89.

² Buffon attributes most to climate. *Hist. Naturelle*, T. III. p. 526. Zimmermann, *Geograph. Geschichte des Menschen*, T. I. p. 77. Abb. Nauton in *Journal de Physique*, T. XVIII. Sept. 1781. P. Barrere to bile. *Diss. sur la cause physique de la Couleur des Negres*, Perpig. 1741, 12mo. To the blood besides others especially Th. Towns in *Philos. Trans.* T. X. p. 398, who also has doubts about the power of the sun to dye the skin of the Ethiopians. To part of the globules of the blood adhering to the skin the author of the medical question of Paris, an opinion supported on more than one occasion, as by Des Moles in 1742, and by Mounier in 1775. Kant in Engel, *Philos. für die Welt*, P. II. p. 151, to the abundance of iron in the blood of the Ethiopians, precipitated by the transpiration of phosphoric acid on the *rete mucosum*. I say nothing of a sort of mixture of nervous juice and some secret liquid in the nervous and arterial paps of the integuments by which Le Cat, who was a great physiologist as far as dreaming went, imagined that he had explained the blackness of the Ethiopians, in his *Traité de la Couleur de la Peau Humaine*, Amst. 1765, 8vo., or the elongated fibres in the aborigines of Nubia, the dissolution of the red blood, the evaporation of the serum, and the fixed saline particles of the blood, remaining oily and fat in the skin, by all of which Attumonelli, *Elementi di Fisiologia Medica*, Neap. 1787, T. I. p. 140, tries to explain the same thing.

³ Thus the opinions of the ancients have been collected by B. S. Albinus, *De sede et causa Coloris Ethiopum*, Ludg. Batav. 1737, 4to. Those of the moderns by Haller, *Element. Physiolog.* T. V. p. 20. A heap of authors are cited by Krüniz, *Hamburgisch Magazin*, T. XIX. p. 379.

of the adust or tawny colour of the external integuments of the skin, is to be looked for in the abundance of the carbon in the human body, which, when it is excreted with the hydrogen through the corium, and precipitated by the contact of the atmospheric oxygen, becomes imbedded in the Malpighian mucus. Hence it is well known that the national colour of their skin is not congenital even to the Ethiopians themselves, but is acquired by the access of the external air after birth and after the intercourse with the mother, by which the fœtus was nourished, has been taken away.

Besides this, the action of the sanguineous vessels of the corium seems necessary as well for secreting as for storing up the carbon. For if this is disturbed or comes to a stop, an unnatural and diseased colour is everywhere brought upon the skin in dark men just as much as in Ethiopians. But on the other hand, although in a white skin that action of the corium may be stimulated, ephelides and spots of tawny colour occur, and sometimes it is found that it puts on an Ethiopic blackness.

Generally carbon seems to be in greater quantity in the atrabiliar; for the connexion of the manufactory of the bile with the common integuments, and those which belong to them, as the hair, is plain: indeed both organs, that is, the liver and the skin, must be considered as by far the principal and mutually co-operating purifiers of the mass of the blood.

Then there is the vast influence of climate upon the action of the liver, which in tropical countries is wonderfully excited and increased by the solar heat. Hence the various kinds of bilious and endemic disorders in the tropics. Hence also the temperament of most inhabitants of tropical countries is choleric and prone to anger. Hence also, what was first observed by physicians¹, the bilious constitution and habit of Europeans who dwell in India, and especially in the children which are born there. But there is no other climate, in the vehemence and duration of the heat, or in the peculiar chemical constitu-

¹ De Haen, *Praelectiones in Boerhavi Institut. Pathologicas*, T. II. p. 155.

ents that make up the atmosphere there, such as particular winds, and rains, which can be compared to that burning and scorching climate which is to be found on the wet and marshy regions both of eastern and western Africa under the torrid zone. Now the aboriginal Ethiopians have been for a long time and for many series of generations exposed to the action of that climate, since they must without doubt be ranked amongst the most ancient nations of the world¹. So we must not be surprised if they propagate unadulterated, even under another climate to succeeding generations, the same disposition which has spread such deep and perennial roots in their ancestors from the most distant antiquity. But, on the other hand, from this tenacity and constancy of the constitution of the Ethiopians, this comes out all the clearer, that such a power can only be contracted after a long series of generations, and so it must be considered as a miracle, and against all natural law, if it be true, what we find frequently related that the present descendants of some Portuguese colonists who emigrated to Guinea in the 15th century, have in so short an interval of time, only through the influence of the climate², been able to contract the Ethiopian habit of body.

45. *Final exposition of the causes of the colour of the skin.* What I have summarily and succinctly already laid down about the causes of the colour of the skin is strongly corroborated, on more accurate inquiry, by all sorts of arguments answering most accurately to each other, and taken from actual observation of human nature.

We have discovered from the antiphlogistic chemistry of the French³ that carbon belongs to the radical elements of the

¹ Those who like may consult three very learned works: Jac. Bryant, *New System of Ancient Mythology*, Vol. I.; Ja. Bruce, *Journey to the Discovery of the Sources of the Nile*, Vol. I., and Sir W. Jones, *Diss. in Asiatic Researches*, Vols. II. and III.

² We all know that black men have been found at the Gambia descended from the original Portuguese. But it seems most probable that their blackness has been derived principally from the union of men with the indigenous Ethiopian women, for this reason, that European women when taken directly from their own country to Guinea can very seldom preserve life there; for the effect of the climate is such as to produce very copious menstruation, which almost always in a short space of time ends in fatal hemorrhages of the uterus.

³ See Girtanner, *Anfangsgründe der Antiphlogistischen Chemie*, p. 202.

animal body, and is also the cause of dark colour, whether it be yellow, tawny, or blackish. In order that the animal economy may not be disturbed and endangered by a redundancy of this substance various emunctories have been provided, in which the liver and the skin occupy by no means the lowest place. Pathology, here as elsewhere so often the instructor of physiology, shows together with the phenomena just mentioned, the co-operation of the functions of the bile with the common integuments. For although I do not wish to insist too much on the analogy of jaundice with national tints of the skin, still there are various peculiar phenomena which deserve attention, common to those suffering under the regius morbus, and the nations of colour (so to speak) to which I refer, the fact of the albuminous part of the eye being tinged with yellow, a thing common to tawny nations and specially to the Indians¹, the Americans², and the Ethiopians³. Besides it not unfrequently happens with jaundiced persons, according to the varieties of the disease, that the skin, even after the disorder has been removed, remains always tinged with a different shade, very like the skin of coloured nations⁴. Nor are examples wanting of a genuine sooty blackness being sometimes deposited in atrabillious disorders by a sort of true metamorphosis of the skin⁵. And from the affinity of the bile with fat⁶ it is clear that this sort of cherry tint has been observed in tawny peoples⁷. Hence, unless I am mistaken, we must look for the reason why nations

¹ I myself have often observed this in those on this side the Ganges. On those beyond the Ganges see De la Loubere in *Descript. du Royaume de Siam*, T. I. p. 81. On the Nicobars, Nic. Fontana in *Asiatic Researches*, Vol. III. p. 151.

² On the Caribbees see Rochefort, *Histoire Naturelle des Antilles*, p. 383.

³ Sömmerring, *Ueber die Körperliche verschiedenheit des Negers vom Europäer*, p. 11.

⁴ See Strack, *Observationes de Febris Intermittentibus*, l. III. c. 2, de ictero ex *Febre Intermittente*. "I have seen," says he, p. 194, "from such a jaundice that an olive-coloured skin, just like that of Asiatics, has remained in the children. Another person has become almost as black as an Indian from fever. The whole body of another has preserved a black complexion, as if he had been born from an Indian father and an European mother; but like such he had the soles of his feet and the palms of his hands white," &c.

⁵ Lorry, *De Melancholia*, T. I. p. 273.

⁶ Fourcroy, *Philosophie Chimique*, p. III.

⁷ Observed in the Ethiopians by J. Fr. Meckel, *Histoire de l'Academie des Sciences de Berlin*, 1753, p. 92, and by Sömmerring, *l. c.* p. 43.

who feed copiously on animal oil not only smell of it, but also contract a dark colour of skin¹; while the more elegant Otaheitans on the contrary, who try to be of a pale colour, live every year for some months on the bread-fruit alone, to the use of which they attribute great virtue in whitening the skin²; although part of that effect must be attributed to the fact that during the same period they remain at home, covered with clothes, and never go out. How great an influence abstinence from the free and open air has in giving whiteness to the skin, our own experience teaches us every year, when in spring very elegant and delicate women show a most brilliant whiteness of skin, contracted by the indoor life of winter. Whilst those who are less careful in this way, after they have exposed themselves freely to the summer sun and air, lose that vernal beauty before the arrival of the next autumn, and become sensibly browner³.

If then under one and the same climate the mere difference of the annual seasons has such influence in changing the colour of the skin⁴, is there anything surprising in the fact that climates, in the sense defined above (s. 34), according to their diversity

¹ Cranz, *Historie von Grönland*, T. I. p. 178, attributes the tawny skin of the Greenlanders to their particularly oily diet. Sloane declares, *Voyage to Jamaica*, Vol. I. Introd. p. 18, and Vol. II. p. 331, that the skin of Europeans in the East Indies becomes yellow from copious meals of dishes prepared from the calipash of turtles.

² See the account of the surgeon Anderson in Cook's *Voyage to the Northern Hemisphere*, Vol. II. p. 147.

³ From the cloud of witnesses who have observed the same well-known effect of the mode of life in other parts of the world, I will quote only one, Poret, about the Moors in *Voyage en Barbarie*, p. 31. "The Moors are by no means naturally black, spite of the proverb, though many writers think so; they are born white and remain white all their lives, when their business does not expose them to the heat of the sun. In the towns the women are of such a brilliant whiteness that they eclipse most Europeans; but the Mauritanian mountaineers, burnt unceasingly by the sun and always half-naked, become, even from infancy, of a brown colour, which comes very near to that of soot."

⁴ A few examples out of many will suffice. We know the Biscayan women are of a brilliant white, those of Granada on the contrary brownish, so that in this southern province the pictures of the Virgin Mary are painted of the same national colour as is observed by Ol. Toree, *Reise nach Surate*, p. 9. We are told expressly about the Malabars, that their black colour approaches nearer to tawny and yellow the further they dwell towards the north, in *Tranquebarischen Missions-Berichten*, Contin. XXII. p. 896. The Ethiopians on the north shore of the Senegal are tawny, on the south, black. See with others Barbot in Churchill's *Collection of Voyages*, T. V. p. 34.

should have the greatest and most permanent influence over national colour: everywhere within the limits of a few degrees of geographical latitude, and still more when a multifarious concurrence of the causes¹ above-mentioned has occurred even under the same latitude, a manifest difference in the colour of the inhabitants may be observed².

46. *Creoles*. The same power of affecting colour, about which we are speaking, is shown very clearly in *Creoles*, under which name (so frequently improperly confounded even by good authors³ with the word *Mulattos*) in a narrower sense⁴ we understand those men born indeed either in the East or the West⁵ Indies, but of *European parents*. In these the face and colour are so constant and impossible to be mistaken, breathing as it were of the south, and particularly besides the hair and the almost burning eyes, that the most brilliant in other respects and most beautiful women may easily be distinguished by those peculiar characters from others, even their relatives, if these are born in Europe⁶. Nor does this appear only in Europeans, but also in

¹ Marsden, *History of Sumatra*, p. 43, notices the effect of sea-air upon the skin, and so Wallis in Hawkesworth's *Collection of Voyages*, Vol. I. p. 260. Hartsink, that of woods, *Beschryving van Guinea*, T. I. p. 9. - Bouguer of mountains, *Figure de la Terre*, Intr. p. 101, de Pinto of the altitude of the country, in Robertson's *Hist. of America*, Vol. II. p. 403.

² On this point Zimmermann has some deep and learned remarks when discussing the problem why we do not find Ethiopians in America also in equatorial regions, *Geograph. geschichte des Menschen*, T. I. p. 86.

³ As Thomas Hyde in the notes to Abr. Peritsol, *Itinera mundi*, in Ugolini, *Thesaurus Antiquitatum Sacrarum*, T. VII. p. 141.

⁴ This word originated with the Ethiopian slaves transported in the sixteenth century to the mines in America, who first of all called their own children who were born there, *Criollos* and *Criollas*: this name was afterwards borrowed from the Spaniards, and imposed upon their children born in the new world. See Garcilasso, *Del Origen de los Incas*, p. m. 255. Now this word has been extended in the East Indies to the domestic animals which are not indigenous in America, but have been transplanted there by Europeans. Oldendorp, *Geschichte der Mission auf den Caraib. Inseln*, T. I. p. 232.

⁵ On these Creoles of the Antilles, see the curious and elaborate works of Girtanner, *über die Französische Revolution*, T. I. p. 60—72, 2nd ed.

⁶ Hawkesworth's *Collection of Voyages*, T. III. p. m. 374. "If two natives of England marry in their own country and afterwards remove to our settlements in the West Indies, the children that are conceived and born there will have the complexion and cast of countenance that distinguish the Creole; if they return, the children conceived and born afterwards will have no such characteristics," &c.

Asiatics who are born in the East Indies from Persian or Mongolian parents who have emigrated there¹.

47. *Mulattos, &c.* Remarkable too is the constancy with which offspring born from parents of different colours present a middle tint made up as it were from that of either parent. For although we read everywhere of single specimens of hybrid infants born from the union (s. 37) of different *varieties* of this sort, who have been of the colour of one or other parent alone²; still, generally speaking, the course of this mixture is so consistently hereditary, that we may suspect the accuracy of James Bruce about the Ethiopians of some countries in the kingdom of Tigre, who keep their black colour unadulterated, although some of the parents were of one colour and some of another; or about the Arabians, who beget white children with the female Ethiopians like the father alone³. But as the hybrids of this sort of origin from parents of various colours are distinguished by particular names, it will be worth while to exhibit them here arranged in synoptical order.

A. *The first generation.* The offspring of Europeans and Ethiopians are called *Mulattos*⁴. Of Europeans and Indians, *Mestizos*⁵. Of Europeans and Americans also *Mestizos*⁶ or *Mestinde*⁷, or *Metifs*⁸, or *Mamlucks*⁹. Of Ethiopians and Americans *Zambos*¹⁰; by those called also *Mulattos*¹¹, *Lobos*¹², *Curibocas* and *Kabuglos*¹³. All these present an appearance and colour compounded of either parent, and that more or less

¹ See Hodges's *Travels in India*, p. 3.

² Comp. Jac. Parsons in *Philos. Trans*, Vol. LV. p. 47.

³ *Journey to the Sources of the Nile*, Vol. III. p. 106, and Vol. IV. p. 470. See the remarks of Tychem at T. v. p. 357.

⁴ See a law-suit which turned upon the habit and characters of mulattos in Klein, *Annalen der Gesetzgebung in den Preussischen Staaten*, T. VII. p. 116.

⁵ See the figure of the Cingalese Mestizo in de Bruin, *Reizen over Moskovie*, p. m. 358, and of the Ternatense though less remarkable in Valentyn, *Oud en Nieuw Oost-Indien*, T. I. P. 2, p. 18.

⁶ Garcilasso, "Por dezir que somos mezclados de ambas Naciones."

⁷ Twiss' *Travels through Portugal and Spain*, p. 332, from pictures seen by him at Malaga.

⁸ Labat, *Voyage aux isles de l'Amerique*, T. II. p. 132.

⁹ De Hauterive, *Hist. de l'Acad. des Sc. de Paris*, 1724, p. 18.

¹⁰ Gily, *Storia Americana*, T. IV. p. 320.

¹¹ Garcilasso, l. c.

¹² Twiss, l. c.

¹³ Marcgrav, *Tractatus Brasiliae*, p. 12.

brownish or muddy, with scarcely any redness visible in the cheeks. The hair of Mulattos is generally curly, that of the rest straight, of almost all black; the iris of the eye is brown.

B. *The second generation.* Mulattos forming unions with each other produce *Casquas*¹; Europeans and Mulattos *Tercerons*², which others call *Quarterons*³, others *Moriscos*⁴ and *Mestizos*⁵. The countenance and hair of all is that of Europeans, the skin very lightly stained with a brownish tint, and the cheeks ruddy. The lips of the female mouth and pudenda violet coloured; the scrotum of the male blackish. The Ethiopians with the Mulattos produce *Griffs*⁶, called by others *Zambo Mulattos*⁷, and by others *Cabros*⁸. The Europeans with the Indian Mestizos, *Castissi*⁹. Those born of Europeans and American Mestizos are called *Quarterons*¹⁰ or *Quatralvi*¹¹, and by the Spaniards also *Castissi*¹². Those born of the Americans themselves and their Mestizos are called *Tresalvi*¹³. Those of the Americans and the Mulattos are also called *Mestizos*¹⁴. Those of Europeans and Zambos or Lobos of the first generation are called indifferently *Mulattos*¹⁵. Those of the Americans and these same Zambos or Lobos *Zambaigi*¹⁶. The progeny of the Zambos or Lobos themselves are called contemptuously by the Spaniards *Cholos*¹⁷.

C. *The third generation.* Some call those who are born of Europeans and Tercerons *Quaterons*¹⁸, others *Ochavons*¹⁹, or *Octavons*, and the Spaniards *Alvinos*²⁰. In these it is asserted

¹ De Hauterive, *l. c.*

² Long, *History of Jamaica*, T. II. p. 260.

³ Aublet, *Histoire des Plantes de la Guiane*, T. II. App. p. 122.

⁴ Twiss.

⁵ Moreton's *Manners and Customs in the West India Islands*, p. 123.

⁶ De Hauterive, *l. c.*

⁷ *Hist. of Jamaica*, *l. c.*

⁸ Bomare, *Dictionnaire d'Histoire Naturelle*, ed. 4, T. IX. Art. *Nègre*.

⁹ *Tranquebarische Missions-Berichte*, Contin. XXXIII. p. 919.

¹⁰ Gumilla, *Orinoco Ilustrado*, T. I. p. 83.

¹¹ Garcilasso, *l. c.*, "to show that they are one-fourth Indian, and three-fourths

Spanish."

¹² Twiss.

¹³ Garcilasso, "to show that they are three parts Indian and one part Spanish."

¹⁴ *Hist. of Jamaica*.

¹⁵ Fermin, *Sur l'Econ. Animale*, T. I. p. 179.

¹⁶ Twiss.

¹⁷ Garcilasso, "Cholo is a word of the islands of Barlovento, meaning the same as Dog; and the Spaniards use it by way of contempt or reproach."

¹⁸ *History of Jamaica*. The offspring of Quaterons of this kind from Tercerons of the second generation are called *Tente-enel-cyre*.

¹⁹ Gumilla, *l. c.* p. 86.

²⁰ Twiss.

by the most acute observers that no trace of their Ethiopian origin can be found¹. Those of Mulattos and Tercerons *Salta-tras*². Of Europeans and Castissi, *Postissi*³. Of Europeans and American Quarterons of the second generation *Octavons*⁴. Of Quarterons and American Mestizos of the first generation, *Coyotas*⁵. Of Griffs and Zambo Mulattos with Zambos of the first generation *Giveros*⁶. Of Zambaigis and Mulattos *Cambujos*⁷. There are those who extend even into the fourth generation this kind of pedigree, and say that those born from Europeans from Quarterons of the third generation are called *Quinterons*⁸, in Spanish *Puchuelas*⁹, but this name is also applied to those who are born of Europeans and American *Octavons*¹⁰. But that the slightest permanent vestige of their mixed origin¹¹ is to be found in productions like these, after what we have been told by most credible eye-witnesses about the men of the third generation, that as to colour and constitution they are exactly like the aboriginal Europeans, is a thing that seems almost incredible.

48. *Brown skin variegated with white spots.* What I said above (s. 44) about the action of the sanguiferous vessels of the corium in excreting the carbon, which is afterwards precipitated by the addition of oxygen, is singularly confirmed by the instances of dark-coloured men, especially Ethiopians, whose skin, and that too not always from their first tender infancy¹², is distinguished by spots of a snowy whiteness (Fr. *nègres-pies*; Eng. *piebald negroes*).

I saw an Ethiopian of this kind at London, by name John Richardson, a servant of T. Clarke, who exhibited there (in Exeter Change), live exotic animals as shows and also for sale.

¹ Aublet. ² *Hist. of Jamaica.* ³ *Tranquebarische Missions-Berichte, l. c.*

⁴ Gumilla, *l. c.* p. 13.

⁵ Twiss.

⁶ *History of Jamaica.*

⁷ Twiss.

⁸ *Hist. of Jamaica.*

⁹ Gumilla, p. 86.

¹⁰ *Id.* p. 83.

¹¹ Thus those born from the Coyotes of the third generation and the Americans are called *Harnizos*; from the Cambujos and Mulattos, *Albarassados*; finally, Twiss, whom I have so often quoted before, calls those born from the last and Mulattos, *Barzinos*.

¹² W. Byrd, in *Philos. Trans.* Vol. XIX. p. 781, mentions the instance of an Ethiopian boy in whom the spots did not appear till his fourth year, and in process of time began to increase in size.

The young man was perfectly black except in the umbilical and epigastric region of the abdomen, and in the middle part of either leg, that is the knees, with the adjoining regions of the thigh and the tibia, which were remarkable for a most brilliant and snowy whiteness, and were themselves again distinguished by black scattered spots, like those of a panther. His hair was also parti-coloured. For the middle part of his sinciput descending in an acute angle from the vertex towards the forehead was white, not however like the regions of the skin we have been speaking of, but a little snowy with a tinge of yellow. The rest of the hair was, as is usually the case with Ethiopians, curly; and this curliness still continues unaltered up to this time, in a specimen of each kind of hair which I obtained from the man himself more than two years ago. I had also a picture taken of the man, which on comparison with three others equally of Ethiopians, which I have by me, a boy and two girls, shows that in all, the regions of the abdomen and legs were more or less white, but that the hands and feet, that is, those parts which with the groin are the first to grow black in newborn Ethiopians, were perfectly tawny, and that in all the disposition of the white regions was thoroughly symmetrical. The gums, to go on to that also, in the man I saw, the tongue and all the jaws, were of an equable and beautiful red.

Both the parents of the man I am speaking of, as of all the other spotted Ethiopians¹ of whom I have found descriptions, were perfectly black, so that the conjecture of Buffon seems badly founded when he attributes such offspring to the union of Ethiopians and Leucaethiopian women, when suffering under a diseased affection of the skin and the eyes, about which I shall take an opportunity of speaking more particularly below.

Care must always be taken that the spots we are speaking about, and which can only be distinguished by a snowy white-

¹ See a print of a girl of this kind in Buffon, *Suppl.* T. iv. Tab. 2, p. 565. This, unless I am mistaken, is the same which has been described at length by Gumilla, *Orinoco Illustrado*, T. I. p. 109. Other instances of this kind of Ethiopians are found in La Mothe, *Bibliothèque Impartiale*, Apr. 1752. See D. Morgan in *Transactions of the Philosophical Society at Philadelphia*, Vol. II. p. 392.

ness from the rest of the skin, the epidermis being in other respects unaffected, be not improperly confounded with those by which the whole integument is covered, which are to be recognized not so much by a different colour as by a degradation of the texture of the corium itself, which becomes rough, and as it were scaly or scurvy. Writers have observed this kind of cutaneous disorder particularly amongst the Malabars¹, and the Tschulymik Tartars². But these snowy, equable and smooth spots which only occur in a disordered action of the smallest vessels of the corium, are by no means confined to the Ethiopians, but sometimes occur amongst our own people. I have myself had the opportunity of observing two instances of this kind in German men, one a young man, the other more than sixty years old. The skin of each was brownish, studded here and there with very white spots of different sizes. In neither were these congenital, but had appeared suddenly and spontaneously in one during infancy, in the other in manhood.

49. *Similar remarkable mutations of the colour of the skin.*

As these instances I have just been mentioning seem to demonstrate the power of the smaller vessels of the corium in modifying the colour of the skin; so there are other phenomena which often occur, and point in this direction, by which, unless I am much mistaken, those conjectures I made above (s. 44, 45) about the abundance of carbon, and the impressions of the Malpighian mucus being as it were the proximate cause of that colour, are well illustrated.

Above all others I shall consider in this place the singular change of colour so often observed in European women³, in some

¹ *Tranquebarische Missions-Berichte*, Cont. XXI. p. 741, compare the disorder to leprosy.

² See Strahlenberg, *Nord-ostlich Europa und Asien*, p. 166, who suspects them to be the same Tartar horde which went under the name of *Piegaja* or *Pestraja orda*. J. G. Gmelin attributes it to disease, *Reise durch Sibirien*, pref. T. II. and J. Bell to some scorbutic affection, *Travels from St Petersburg to diverse parts of Asia*, Vol. I. p. 218.

³ "In many women the under part of the body (the abdomen) and the rings about the breasts (that is the teats) when they are ill, become quite black." Camper, *Klein Schrift*, T. I. P. I. p. 47. "In our own time a similar metamor-

of whom, and those in other respects particularly white, at the time of pregnancy a larger or smaller number of the parts of the body are darkened with a coaly blackness, which however gradually disappears again after child-birth, when the original clearness is restored to the body. The solution of this puzzling problem is to be found in the application of modern chemistry to the physiology of pregnancy. When the woman is not pregnant the moderate portion of carbon of her own body is easily excreted by superfluous cutaneous perspiration; but in a pregnant woman, besides her own share, another quantity accrues from the fœtus, which immersed in ammonial liquid does not as yet breathe. Thus the blood of the mother becomes too much laden with the carbon arising from two human bodies joined as it were in one, so that all of it cannot as usual be excreted with the perspiration of the mother: so part of it is precipitated in the Malpighian mucus, and there remains, tinging the skin, until the child being delivered, the original equilibrium between the carbon of her own body and the perspiring vessels of the skin is restored; and the epidermis, which with the mucus lying under it is constantly destroyed by degrees and again renewed at last, recovers its natural whiteness.

In different circumstances the same reason seems to hold good in so many instances of Europeans, in whom the different parts of the body are unnaturally affected by a smoky blackness; since here also it may be referred to a congestion of carbon. Thus, for instance, a similar blackness is observable in women who never menstruate¹. So also in other atrabillious

phosis has been renewed annually in the person of a lady of distinction, of a good complexion, and a very white skin. As soon as she was pregnant, she began to get brown, and towards the end of her time she became a true negress. After her deliveries the black colour disappeared little by little, her original whiteness returned, and her progeny had no trace of blackness." Bomare, *l. c.* Art. *Nègre*. Le Cat, *l. c.* in many places; for ex. p. 141. "A peasant of the environs of Paris, a nurse by profession, had the belly regularly quite black at every pregnancy, and that colour disappeared after delivery." "Another always had the left leg black on those occasions," &c. So also Lorry, *De Melancholia*, T. 1. p. 298, &c.

¹ Comp. Jas. Yonge in *Philosoph. Trans.* Vol. xxvi. p. 425.

men¹, especially of the lowest sort, and those who suffer from cachexia caused by want and dirt. This is often the case too in scurvy², &c. On the other hand we know by experience that the blackness of the Ethiopians is not so constant but what it sometimes is rendered paler, or even changed quite into a white colour. It has been recorded that Ethiopians, when they have changed their climate in early infancy, and from that time forward have inhabited a temperate zone, have gone on getting paler by degrees³. The same thing happens also somewhat quicker to the same negroes when they suffer under severe disorders⁴. Many instances also are to be found where, apart from any particular state of health, the natural blackness of the Ethiopian skin has sensibly and spontaneously been changed into a whiteness, such as that of Europeans⁵.

50. *Some other national properties of skin.* Besides colour, other singular qualities are often attributed to the skin of some nations, about which I must say a few words at all events. Amongst these there is that smoothness and softness of skin which has been compared to silk, and has been noticed

¹ I have in my anatomical collection a specimen of the integuments of the abdomen of a beggar who died here some years ago, which does not yield at all in blackness to the skin of the Ethiop. Others too have shown many instances of that kind in Europeans. See for ex. Haller, *Element. Physiol.* T. v. p. 18. Ludwig, *Epistole ad Hallerum scriptæ*, T. I. p. 393. De Riet, *De organo tactus*, p. 13. Albinus, *De sede et caussa coloris Ethiopum*, p. 9. Klinkosch, *De cuticula*, p. 46. Sömmering, *Über die körperl. verschiedenheit des Negers vom Europäer*, p. 48. Comp. Loschge in *Naturforscher*, P. xxiii. p. 214. *ib.* P. xvi. p. 170, for the description of some brown (*Dunkelbraun*) spots of different size, some of the diameter of a span, observed in a man then sixty years old, in whom they appeared when young during a quartan fever.

² Comp. besides others, Jo. Narborough's *Voyage to the Straits of Magellan*, p. m. 64. "Their legs and thighs are turned as black as a hat," &c. So also Phillip's *Voyage to Botany Bay*, p. 229.

³ "There is a cobbler of this nation still living at Venice, whose blackness, after a great many years, (for he came to this country a boy) has so sensibly diminished, that he seems like one suffering from a slight jaundice." Caldani, *Institut. Physiol.* p. 151, ed. 1786. Comp. also Pechlin, *De habitu et colore Ethiopum*, p. 128, and Oldendorp, T. I. p. 406.

⁴ "I have seen them of so light a colour that it was difficult to distinguish them from a white man of a bad complexion." Labat, *Relation d'Afrique occidentale*, T. II. p. 260. And Klinkosch, *l. c.* p. 48.

⁵ Comp. Jas. Bate in *Philosoph. Trans.* Vol. LI. P. I. p. 175.

by writers in many nations, as the Caribs¹, the Ethiopian², the Otaheitans³ and even the Turks⁴. It is clear that in all these it depends either upon a more tender epidermis, or a thicker stratum of the Malpighian mucus. The cause of the coldness to the touch which has been observed in the skin of various nations of Africa⁵ and the East Indies⁶ seems different, and must be referred rather to the chemical affinities of the body and the atmospheric elements. Here also is to be considered that insensible perspiration of Sanctorius, which is accompanied in some nations with a peculiar smell, as in the Caribs⁷, Ethiopians⁸, and others; in the same way that in some varieties of domestic animals, as among dogs, the Egyptian, among horses, those of a reddish-white are well known to have a specific and peculiar perspiration⁹.

51. *Consensus of the hair and skin.* As the hair, especially that of the head, is generated and nourished by the common integuments, so it has invariably a great and multifarious agreement with them. Hence, those variegated Ethiopians we spoke of have also hair of different colour. Men whose white skin is marked with ephelitic spots have red hair¹⁰. Besides,

¹ "Their flesh is very dark and soft; when you touch their skin, it feels like satin." Biet, *Voyage de la France Equinoxiale*, p. 352.

² Pechlin, *l. c.* p. 54, and Sömmerring, *l. c.* p. 45.

³ "Their skin is most delicately smooth and soft." Hawkes. *Coll. T. II.* p. m. 187.

⁴ "The wife of every labourer or rustic in Asia (Turkey) has a skin so soft that you seem to touch a fine velvet." Belon, *Obs.* p. m. 198.

⁵ Bruce's *Voyage to the Sources of the Nile*, T. II. p. 552, T. IV. p. 471 and 489.

⁶ On the Indians see Kant in Engel, *Philosophie für die Welt*, P. II. p. 154. On the inhabitants of Sumatra, Marsden, p. 41.

⁷ "They all have a strong and disagreeable smell. I know nothing which can give an idea of it. When anything smells like it, they say in the Antilles, 'a smell of Carib,' which shows the difficulty of expressing it." Thibault de Charwalon, *Voyage à la Martinique*, p. 44.

⁸ Comp. Schotte *On the synochus atrabiliosa*, p. 104. *Hist. of Jamaica*, II. pp. 352, 425.

⁹ So Pausanias in his *Phocica* tells us that the Ozolians, an indigenous people, of Locris, smelt disgustingly on account of something in the air. Comp. Lavater, *Physiognom. Fragmente*, T. IV. p. 268. And J. F. Ackerman, *De discrimine sexuum præter genitalia*, p. 10.

¹⁰ Among ourselves the thing is very common. It has been observed also among the most distant nations; as in the island Otaha of the Pacific ocean. See J. R. Forster, *Bemerkungen auf seiner reise um die welt*, p. 205. Many inhabitants of

there is a remarkable correspondence of the hair with the whole constitution and temperament of the body. This, too, we learn from pathological phenomena, such for example as that those who have yellow hair (*blondins*), in consequence of the tenderer and more impressible cellular texture, break out more easily in rashes and similar eruptions; whilst those who have black hair are almost always of a costive and atrabilious temperament, so much so that it has long since been observed that far the greater number of men in mad hospitals and jails have black hair.

52. *Principal national varieties of hair.* In general, the national diversity of hair seems capable of being reduced to four principal varieties:

1. The first of a brownish or nutty colour (*cendré*), shading off on the one side into yellow, on the other into black: soft, long, and undulating. Common in the nations of temperate Europe; formerly particularly famous among the inhabitants of ancient Germany¹.

2. The second, black, stiff, straight, and scanty; such as is common to the Mongolian and American nations.

3. The third, black, soft, in locks, thick and exuberant; such as the inhabitants of most of the islands of the Pacific Ocean exhibit.

4. The fourth, black and curly, which is generally compared to the wool of sheep; common to the Ethiopians.

Thus, a general division of this kind may be made, which is not without its use. That it is no more a purely natural division than other divisions of the national varieties of human races, is not necessary to dwell upon here. This I will show, though it is quite unnecessary, by one or two arguments, namely, that curliness is not peculiar to the Ethiopians, nor blackness to the three varieties I put in the last place. Some

Timur are of a copper colour with red hair; see Van Hogendorp in *Verhandelingen van het Bataviaasch Genootschap*, T. I. p. m. 319. Marcgrav saw an African woman with an undoubted red skin and red hair, *Tractatus Brasiliae*, p. 12.

¹ Conring, *De habitus corporum Germanicorum antiqui ac novi causis*, p. 85.

racés of Ethiopians are found with long hair¹; other copper-coloured nations again have curly hair², like that of the Ethiopians. There are others, the New Hollanders, whose hair, as I see from the specimens I have in hand, holds so perfectly the middle place between the curliness of the Ethiopians and the locks of the inhabitants of the islands in the Pacific Ocean, that a wonderful difference of opinion is to be found in the accounts of expeditions from the first Dutch ones of the last century to the very latest of the English, as to which variety of hair it should be considered to belong. As to the various colour of hairs, occurring amongst those nations also, who generally have black hair, it is sufficient to cite good witnesses, who say that red hair is frequently found in the three other varieties I reckoned besides the first.

53. *The iris of the eye conforms to the colour of the hair.*

We have seen that the hair coincides with the common integuments of the body. Aristotle³ had, however, long ago taught that the colour of the eyes followed that of the skin. Those whose colour was white had grey eyes; black, black eyes. Thus very often amongst ourselves new-born infants have grey eyes and light hair, which afterwards in those who become dark (*brunet*), is slowly and as it were simultaneously darkened also. In old men as the hair grows white the pigment of the internal eye loses much of its usual dark colour. In the Leucethiopians, about whom I shall speak more particularly below, as the hair passes from a yellowish tinge to white, so the pigment of the eye is clearly nothing, and hence a pale rosy kind of iris.

It is remarkable that in no case at all is there any variation in the eyes of animals, except in those who vary in the colour of their skin and hair, as we know to be the case not only in men and horses, which was the opinion of the ancients, but also

¹ Comp. Bruce on the Gallas, *Journey, &c.* Vol. II. p. 214. As to the inhabitants of the kingdom of Bornou, *Proceedings of the Association*, p. m. 201.

² The inhabitants of the Duke of York's Island not far from the New Ireland of the Southern Ocean. See J. Hunter's *Historical Journal of the Transactions at Port Jackson, &c.* p. 233: "they are of a light copper colour, the hair is woolly."

³ *Problemat. s. 10.* p. 416, ed. Casaub.

in other principally domestic animals. Very often also the iris is variegated with more than one colour in those animals whose skin is variegated. This was first observed in parti-coloured dogs¹. I have noticed something like it in sheep and horses, but in no animal so plainly as in rabbits. Grey rabbits who have kept their natural wild colour have the iris quite black, whereas the parti-coloured ones, whose skin is spotted with black and white, have the iris manifestly spotted in the same way. Those which are quite white, and like Leucæthiopians, have, as is well known, the iris of a pale red.

54. *Principal colours of eyes.* Aristotle, whom I just quoted, divided well the primary colours of the iris of the human eye into three; first, blue; second, dark orange, called goats' eyes (*yeux de chèvres*²); third, dark brown. All these three as they occur everywhere in individuals of one and the same nation, so also are they to be noticed as more constant and as it were racial in different families of the same continent within the limits of a few degrees of geographical latitude. Hence Linnæus³ attributes those among the Swedish population to the Gothic race, who have white hair, with the iris of the eye of a dark-blue colour; to the Finnic, those with yellow hair and dark iris; to the Lapp, finally, those with black hair and blackish iris. Blue eyes equally with yellow hair were formerly considered as natural characteristics of the ancient Germans. But they are found everywhere amongst the most widely separated nations⁴. The very black irides of the Ethiopians are such that, especially in living subjects, they cannot be distinguished, excepting when very close, from the pupil itself⁵.

55. *National face.* I now turn naturally enough from the

¹ Comp. Molinelli in *Commentar. instituti Bonon.* T. III. p. 281.

² There is a middle colour between grey and orange of a strange greenish tint, and as it were grass green, which is to be seen in men who have fiery hair, and skin much spotted with freckles. Comp. that singular book Portius, Sim. *De coloribus oculorum*, Florentii, 1550, 4to.

³ *Fauna Suecica*, p. 1.

⁴ I have collected the instances in my notes to J. Bruce, *Reise zu den quellen des Nils.* T. V. p. 239.

⁵ Thus must be understood the words of J. G. Walter, *De venis oculi*, p. 23, "The Ethiopian has no iris," &c.

eyes to the rest of the face, the diversities of which are all over the world so great and so remarkable in individuals that it is little short of a miracle to find even two who cannot be distinguished from each other, and are, as they say, cast in the same mould. Besides it is certain that this difference of faces may be observed not only in Europeans but also among barbarous nations¹. Yet, however true all this may be, it is not the less undoubtedly a fact that every different variety of mankind (and everywhere, even in the inhabitants of single provinces²) all over the world has a racial face peculiar to each of them by which it may be easily distinguished from the remaining varieties.

56. *Racial varieties of the face.* I have made an attempt, after assiduously comparing a quantity of prints of foreigners made for me from the life by skilled artists, and after seeing myself a great number of men in the markets which are principally frequented by foreigners, to reduce these racial varieties of the face into certain classes. And unless I am much mistaken, although open to particular exceptions, still they will come close to natural truth if they are reduced in the following way to five, as models and principal forms of the other diversities of small moment:

1st. Face oval, straight, the parts moderately marked. The forehead smooth. Nose narrow, slightly hooked, or at all events somewhat high. The jugal bones in no way prominent. Mouth small, lips (especially the lower) gently pronounced. Chin full, round. In general that kind of face, which, accord-

¹ Thus on the aborigines of the Friendly Islands that most sagacious observer, W. Anderson: "their features are very various, in so much that it is scarcely possible to fix on any general likeness by which to characterize them, unless it be a fulness at the point of the nose, which is very common. But, on the other hand, we met with hundreds of truly European faces, and many genuine Roman noses amongst them." Cook's last voyage, Vol. I. p. 380. Other instances of this kind observed amongst Ethiopians and Americans will be spoken of below. On the other hand the similarity of individual Europeans with the Ethiopians or Mongolians is so common as to have passed into a proverb.

² On this point Libavius, an author by no means to be despised, says two hundred years ago: "The aspect of the Thuringians is one thing; that of the Saxons another; and that of the Suevi another, and nearly every village has its own, so that if you chose to study the subject, you could nearly tell a man's country by his appearance."

ing to our opinion of symmetry, we think becoming and beautiful. This same kind of face constitutes, as it were, a medium which may fall off by degeneration into two exactly opposite extremes, of which the one displays a wide and the other an elongated face. Each of these two includes again two different varieties, which can best be distinguished from each other when seen in profile. For then one of these varieties shows the nose and the remaining parts somewhat indistinct, and, as it were, running into one another. In the other they appear deeper, so to say, cut out, and, as it were, projecting angularly. Thus we come to form the four remaining varieties besides that first mean type.

A. *One pair with the face developed in width:—*

2nd. Face wide, at the same time flat and depressed; the parts, therefore, indistinct and running into one another. Interspace between the eyes, or glabella, smooth, very wide. Nose flattened. Cheeks usually rounded, projecting outwards. Opening of the eyelids narrow, linear (*yeux bridés*). Chin, somewhat prominent. This is the countenance common to the Mongolian nations (*the Tartar face* from the common figure of speech which we shall touch on below, confounding the Tartars with the Mongolians).

3rd. Face also wide and cheeks prominent, though not flat or depressed, but the parts when seen in profile more worked and, as it were, deeply cut out. Forehead low. Eyes deeply set. Nose somewhat turned up, but prominent. This is the face of most Americans.

B. *Pair of varieties of the face elongated below:—*

4th. Narrow face, prominent below. Forehead short, wrinkled. Eyes very prominent (*à fleur-de-tête*). Nose thick and half confused with the extended cheeks (*le nez épaté*). Lips (especially the upper) full and swelling. Jaws stretched out. Chin falling back. This is *the Guinea face*.

5th. Face less narrow, somewhat prominent below, when seen in profile the parts more projecting and distinct from each other. Nose full, somewhat broad, as it were diffuse, end thick

(*bottled*). Mouth large. This is the face of the Malay, especially of the inhabitants of the islands of the Southern Ocean.

57. *Causes of the racial face.* First of all, notice must be taken that I am not going to speak here of the countenance, taken in a physiognomical sense, (*look, expression,*) as an index of the temperament, which is however itself sometimes racial, and peculiar to some nations, and may be derived from a common source. In that way it is probable that to their diet you may attribute the placid countenance of the abstemious Brahmins and Banyans of India, and the atrocious aspect, on the other hand, of the man-eating Botocudos¹ of Brazil; or you may instance religion by the examples of the pious and devoted countenance by which especially the softer sex is distinguished in some countries of southern Europe (in the vernacular *Madonna faces*); or cultivation and luxury, in which the soft and effeminate Otaheitans so much excel the manly and powerful New Zealanders.

But our business is with the causes of the racial face, that is, of the countenance itself and the proportion and direction of its parts, all of which we see to be peculiar and characteristic to the different varieties of mankind. The mere discussion, however, of these causes is overwhelmed with such difficulties that we can only follow probable conjectures. I am persuaded, myself, that climate is the principal cause of the racial face, on three grounds especially; 1st, we see the racial face so universal in some populations under a particular climate, and always exactly the same in men of different classes and modes of life, that it can scarcely be referred to any other cause. There are the Chinese, for example, amongst whom a sort of flattened face is just as characteristic as a symmetrical and particular beauty is common amongst us Europeans to the English and inhabitants of Majorca.²

2nd. Unless I am mistaken there are instances of peoples who after they have changed their localities and have migrated

¹ I owe my account of this most ferocious and anthropophagous race to two Portuguese Brazilians, de Camara and d'Andrada.

² *Mémoires du Cardinal de Retz*, T. III. p. 343.

elsewhere, in process of time have changed also their original form of countenance for a new one, peculiar to the new climate. Thus the Yakutes have been referred to a Tartar origin by most authors on northern antiquities. Careful eye-witnesses assert that now their face is Mongolian, and I myself see it plainly in the skull of a Yakute, with which the munificence of Baron von Asch has enriched my anthropological collection¹. Something of the same kind will be observed below about the Americans of either coldest zone (s. 88). I have already shown that the Creoles sprung from English parents and ancestors in the Antilles, have finally exchanged to some extent the native British countenance for one more like the aborigines of America, and have acquired their deep-set eyes and their more prominent cheeks².

Egypt, however, and India this side the Ganges afford us the clearest examples of all. For as this peninsula has been frequently subdued by the most different nations, because the first conquerors becoming effeminated by living in such a soft climate were at last conquered by other and stronger northern nations who came after them, so also their appearance seems as it were to have accommodated itself to the new climate. In fact, we only know the racial aspect of the old possessors of India and their manifest characteristics from the most ancient works of Indian art, I mean those stupendous statues, which are carved out in a wonderful way in the subterranean temples of the islands of Salsette and Elephanta, wonderful copies of which I saw at London, both in the British Museum, as amongst the antiquarian treasures of the polished C. Townley³. The more modern conquerors of India, that is, the Mongolians, have lost much of their original features under a new climate, and approached nearer the Indian type, of which I have had ocular experience from the Indian pictures shown me by John Walsh, a most learned man on Indian antiquity.

As to the racial face of the ancient Egyptians, I am much surprised that some famous archæologists, and those most learned

¹ *Decas craniorum altera*, p. 11.

² *History of Jamaica*, Vol. II. p. 261.

³ *Archæologia*, Vol. VII. Tab. 25, 26, 27.

in Egyptian art, have been able to attribute one and the same common countenance to all alike¹; when a careful contemplation and comparison of these monuments has easily taught me to distinguish three sorts of face amongst them. The first like the Ethiopian; the second the Indian; and the third, into which both of the others have by the progress of time and the effect of the specific and peculiar climate of Egypt degenerated, spongy and flaccid in appearance, with short chin, and somewhat prominent eyes².

3rd. We see nations which are reputed to be but colonies of one and the same stock have contracted in different climates different racial faces. Thus the Hungarians are considered to be of the same primitive stock as the Lapps³. The latter living in the furthest North have acquired the face so peculiar to the most northern nations, whereas the former living in the temperate zone, in the neighbourhood of Greece and Turkey, have gained a more elegant form of face.

Every one knows that much in all these cases must be attributed to the marriages between different nations, and I myself intend soon to say something about their influence in changing the racial face. Still it seems most probable that the influence of climate alone is very great on this point, especially when we add what was noticed above about the causes and ways in which brute animals degenerate.

To find out the reason why one climate turns out this and another that kind of racial face seems extremely difficult; yet most sagacious men have made the attempt when endeavouring to explain the face of different nations; as Kant upon the Mongolian⁴ and Volney upon the Ethiopian⁵. That accessory

¹ Winkelmann, *Description des pierres gravées de Stosch*. p. 10, and elsewhere. D'Hancarville, *Recherches sur l'origine des arts de la Grèce*, Tom. I. p. 300.

² I have said more about this triple character of the ancient art of Egyptian monuments in *Philosoph. Trans.* 1794, P. II. p. 191.

³ Comp. Ol. Rudbeck, Jun., *Analogia linguæ Finnonicæ cum Ungarica*, at the end of *Specim. usus linguæ Gothicæ*, Upsal. 1717, 4to, p. 77; and amongst other recent writers, J. Hager, *Neue Beweise der verwandtschaft der Hungarn mit den Lappländern*, Wien, 1794, 8vo.

⁴ In Engel, *Philosoph. für die Welt*, T. II. p. 146.

⁵ *Voyage en Syrie et en Egypte*, T. I. p. 74. "In fact I see that the face of the

causes sometimes endemical to peculiar climates, such as constant clouds of gnats, may do something towards contracting the natural face of the inhabitants, may be gathered from the observation of Dampier about the inhabitants of the south of New Holland¹.

I am not sure whether the opinion of our Leibnitz about the similitude of nations to the indigenous animals of the country is to be interpreted as referring to the influence of climate on the conformation of man and brute animals alike; as it seems that the Lapps recall the face of the bear, the Negroes of the ape, of which also the people of the extreme East likewise partake².

Besides the climate we find it stated that the kind of life sometimes contributes to the racial form of face, as in the instance of the Ethiopians, whose thick nose and swelling lips are always attributed to the way in which, whilst in their infancy, they are generally carried on the backs of their mothers, who give them suck whilst they pound millet, or during their hard and heavy tasks³.

Negroes indicates exactly that state of contraction which seizes our own countenance, when it is struck by the light and a strong reflection of heat. Then the eyebrow frowns; the cheek bones become elevated, the eyelid closes, the mouth is pinched up. Cannot this contraction which is perpetually taking place in the bare and warm country of the Negroes, become the peculiar characteristic of their faces?"

¹ "Their eyelids are always half-closed to prevent the gnats getting into their eyes. Hence it happens, that being incommoded by these insects from their infancy, they never open their eyes like other people." T. II. p. 169.

² Feller, *Otium Hanoveranum*, p. 150. I will add here, on account of the resemblance of the argument, a passage from Marsden, *History of Sumatra*, p. 173: "Some writer has remarked that a resemblance is usually found between the disposition and qualities of the beasts proper to any country, and those of the indigenous inhabitants of the human species, where an intercourse with foreigners has not destroyed the genuineness of their character. The Malay may be compared to the buffalo and the tiger. In his domestic state he is indolent, stubborn, and voluptuous as the former, and in his adventurous life, he is insidious, blood-thirsty and rapacious as the latter. Thus the Arab is said to resemble his camel, and the placid Gentoo his cow."

³ Comp. besides many others, Barbot in Churchill's *Collection of Voyages*, Vol. v. p. 36. "The wives of the better sort of men being put to no such hard labour as the meaner, it has been observed that their children have not generally such flat noses as the others; whence it may be inferred that the noses of these poor infants are flattened by being so long carried about on their mothers' backs, because they must be continually beating on them when the motion of their arms or bodies is

In various barbarous nations also, such as the Ethiopians¹, the Brazilians², Caribs³, the Sumatrans⁴, and the inhabitants of the Society Islands in the Southern Ocean⁵, it is placed beyond all doubt by the testimony of eye-witnesses most worthy of credit that considerable force is used to depress and, as it were, subdue into shape the noses of the new-born infants; although perhaps it is going too far in what they say about the bones of the nose being broken or dislocated in this way⁶.

It is however scarcely necessary to recollect that the natural conformation of the nose can only be exaggerated by this violent and long continued compression of the nose when soft, but can in no wise be made thus originally, since it is well known that the racial face may be recognized even in abortions.

Finally, these kinds of racial face just like the colour of the skin, become mingled, and as it were run together in the offspring from the unions of different varieties of mankind, so that the children present a countenance which is a mean between either parent. Hence the mixed appearance of the Mulattos; hence the progeny of the Cossacks⁷ and the Kirghis⁸ becomes sensibly deformed by marriages with the Calmucks, whereas the offspring of the Nogay Tartars is rendered more beautiful through unions with the Georgians⁹.

The ancient Germans¹⁰ gave formerly instances of the unadulterated countenance of nations unaffected by any union with any other nation, and to-day the genuine Zingari, inhabitants

anything violent; especially when they are beating or pounding their millet every morning, which is the constant task of the women of inferior rank."

¹ Besides a forest of other evidence see *Report of the Lords of the Committee of Council for the Consideration of the Slave Trade*, 1789, fol. P. I. fol. C. ib.

² Lery, *Voyage en la terre du Brésil*, p. m. 98, 265.

³ De la Borde, *Relation des Caraïbes*, in the smaller collection of M. Thevenot, Paris, 1674, 4to, p. 29.

⁴ Marsden, *History of Sumatra*, p. 38.

⁵ J. R. Forster, *Bemerkungen auf seiner reise um die Welt*, pp. 482, 516.

⁶ Comp. Kolbe, *Beschreibung des vorgebürges der guten Hoffnung*, p. 567.

⁷ *Decas craniorum prima*, p. 18.

⁸ *Decas craniorum altera*, p. 8.

⁹ Peyssonel, *Sur le commerce de la Mer Noire*, T. I. p. 177.

¹⁰ Tacitus, *De moribus Germanorum*, c. 4.

of Transylvania¹ do the same; and above all the nation of the Jews, who, under every climate, remain the same as far as the fundamental configuration of face goes², remarkable for a racial character almost universal, which can be distinguished at the first glance even by those little skilled in physiognomy, although it is difficult to limit and express by words³.

58. *Racial form of skulls.* That there is an intimate relation between the external face and its osseous substratum is so manifest⁴, that even a blind man, if he has any idea of the vast difference by which the Mongolian face differs from the Ethiopian, can undoubtedly, by the mere touch, at once distinguish the skull of the Calmuck from that of the Negro. Nor would you persuade even the most ignorant person to bend over the head of one or other of them as he might over those after whose models the divine works of ancient Greece were sculptured. This, I say, is clear and evident so far as the general habit goes.

But it might have been expected that a more careful anatomical investigation of genuine skulls⁵ of different nations would throw a good deal of light upon the study of the variety of mankind; because when stripped of the soft and changeable parts they exhibit the firm and stable foundation of the head, and can be conveniently handled and examined, and considered under different aspects and compared together. It is clear from a comparison of this kind that the forms of skulls take all sorts of

¹ *Decas cranium altera*, p. 3.

² Hence it is generally considered as the highest proof of the art of the Dutch engraver, Bernh. Picart, that in his well-known work, *Cérémonies et coutumes religieuses*, he has represented an immense number of Jews, as far as the lineaments of the face go, each differing from one another, yet all bearing the racial character, and most clearly distinguished from the men intermingled with them of other nations.

³ The great artist Benj. West, President of the Royal Academy of Arts, with whom I conversed about the racial face of the Jews, thought that it above all others had something particularly goat-like about it, which he was of opinion lay not so much in the hooked nose as in the transit and confux of the septum which separates the nostrils from the middle of the upper lip.

⁴ Comp. Sir Thos. Brown's *Discourse of the Sepulchral Urns found in Norfolk*, p. m. 13. This sagacious author was the first, as far as I know, who attended to the racial form of the Ethiopian skull: "it is hard to be deceived in the distinction of Negro skulls."

⁵ The rules and criteria which I use for this object in forming an opinion upon skulls are laid down in my *Decas prima collectionis cranium*, p. 5.

license in individuals, just as the colour of skins and other varieties of the same kind, one running as it were into the other by all sorts of shades, gradually and insensibly: but that still, in general, there is in them a constancy of characteristics which cannot be denied, and is indeed remarkable, which has a great deal to do with the racial habit, and which answers most accurately to the nations and their peculiar physiognomy. That constancy has induced some eminent anatomists from the time of Andr. Spigel¹ to set up a certain rule of dimensions to which as to a scale the varieties of skulls might be referred and ranked; amongst which, above all others, the facial line of the ingenious Camper deserves special mention².

59. *Facial line of Camper.* He imagined, on placing a skull in profile, two right lines intersecting each other. The first was to be a horizontal line drawn through the external auditory meatus and the bottom of the nostrils. The second was to touch that part of the frontal bone above the nose, and then to be produced to the extreme alveolar limbus of the upper jaw. By the angle which the intersection of these two lines would make, this distinguished man thought that he could determine the difference of skulls as well in brute animals as in the different nations of mankind.

60. *Remarks upon it.* But, if I am correct, this rule contains more than one error. First: what indeed is plain from those varieties of the racial face I was speaking of (s. 56), this universal facial line at the best can only be adapted to those varieties of mankind which differ from each other in the direction of the jaws, but by no means to those who, in exactly the contrary way, are more remarkable for their lateral differences.

Secondly: it very often happens that the skulls of the most different nations, who are separated as they say by the whole heaven from one another, have still one and the same direction of the facial line: and on the other hand many skulls of one and the same race, agreeing entirely with a common disposition, have

¹ *De corporis humani fabrica*, p. m. 17.

² See *Kleinere Schriften*, T. I. P. I. p. 15, and *Naturgeschichte des Orang-utan*, pp. 181, 212; and his separate book, *Über den natürlichen unterschied der gesichtszüge*, &c.

a facial line as different as possible. We can form but a poor opinion of skulls when seen in profile alone, unless at the same time account be taken of their breadth. Thus as I now write I have before me a pair of skulls, viz.: an Ethiopian of Congo¹, and a Lithuanian of Sarmatia². Both have almost exactly the same facial line; yet their construction is as different as possible if you compare the narrow and, as it were, keeled head of the Ethiopian with the square head of the Sarmatian. On the other hand, I have two Ethiopian skulls in my possession, differing in the most astonishing manner from each other as to their facial line³, yet in both, if looked at in front, the narrow and, as it were, squeezed-up skulls, the compressed forehead, &c. sufficiently testify to their Ethiopian origin.

Thirdly, and finally, Camper himself, in the plates appended to his work, has made such an arbitrary and uncertain use of his two normal lines, has so often varied the points of contact according to which he has drawn them, and upon which all their value and trustworthiness depends, as to make a tacit confession that he himself is uncertain, and hesitates in the application of them.

61. *Vertical scale for defining the racial characters of skulls.*

The more my daily experience and, as it were, my familiarity with my collection of skulls of different nations increases, so much the more impossible do I find it to reduce these racial varieties—when such differences occur in the proportion and direction of the parts of the truly many-formed skull, all having more or less to do with the racial character—to the measurements and angles of any single scale. That view of the skull however seems to be preferable for the diagnosis which is our business that presents together at one glance the most and the principal parts best adapted for a comparison of racial characters. With this object I have found after many experiments that position answer best in which skulls are seen from above and from behind, placed in a row on the same plane, with

¹ *Decas cran. altera*, Tab. 18.

² *Decas tertia*, Tab. 22.

³ *Decas prima*, Tab. 7, 8.

the malar bones directed towards the same horizontal line jointly with the inferior maxillaries. Then all that most conduces to the racial character of skulls, whether it be the direction of the jaws, or the cheekbones, the breadth or narrowness of the skull, the advancing or receding outline of the forehead, &c. strikes the eye so distinctly at one glance, that it is not out of the way to call that view the vertical scale (*norma verticalis*). The meaning and use of this will easily be seen by an examination of Plate III., which represents, by way of specimen, three skulls disposed in the order mentioned. The middle one (fig. 2) is a very symmetrical and beautiful one of a Georgian female; on either side are two skulls differing from it in the most opposite way. The one (fig. 3) elongated in front, and as it were keeled, is that of an Ethiopian female of Guinea; the other (fig. 4) dilated outwardly toward the sides, and as it were flattened, is that of a Reindeer Tungus.

In the first, the margin of the orbits, the beautifully narrowed malar bones, and the mandibles themselves under the bones, are concealed by the periphery of the moderately expanded forehead; in the second, the maxillary bones are compressed laterally, and project; and in the third, the malar bones, placed in nearly the same horizontal plane with the little bones of the nose and the glabella, project enormously, and rise on each side.

62. *Racial varieties of skulls.* All the diversities in the skulls of different nations, just like those of the racial face we enumerated above, seem capable of reduction also to five principal varieties; of which specimens selected out of many are exhibited in Plate IV.

1. That in the middle is beautifully symmetrical, somewhat globular; the forehead moderately expanded, the malar bones somewhat narrow, nowhere projecting, sloping down behind from the malar process of the frontal bone; the alveolar ridge somewhat round; the primary teeth of each jaw perpendicular. As a specimen (Plate IV. fig. 3) I have given a most beautiful skull of a Georgian female. This beautiful form of skull comes between two extremes; of which one has

2. The head almost square, the malar bones projecting outwards; the glabella and the little bones of the flattened nose lying in almost the same horizontal plane with the malar bones: scarcely any supraciliary ridge; narrow nostrils; the fossa malaris only gently curved; the alveolar ridge obtusely arched in front; the chin slightly prominent. This form of skull is peculiar to the Mongolian nations. Pl. iv. fig. 1, gives one of this kind, of a Reindeer Tungus.

The other extreme

3. Has the head narrow; laterally compressed; the forehead knotty and uneven; the malar bones projecting forwards; nostrils ample; the fossa malaris deeply winding behind the infraorbital foramen; the jaws projecting; the alveolar margin narrow, elongated, and very elliptical; the primary upper teeth slanting; the lower jaw large and strong; the head generally thick and heavy, common to the Negro, such as (Plate iv. fig. 5) of an Ethiopian female of Guinea. Finally, the two following varieties are intermediate between the first and those two extremes, for example:

4. That with broader cheeks but more arched and rounded than in the Mongolian variety, not as in this stretched out on each side and angular; the orbits generally deep; the form of the forehead and vertex frequently artificially distorted; the skull usually light. This is the American variety. Pl. iv. fig. 2 is the head of a Carib chief from the island of St Vincent.

5. The calvaria moderately narrowed; forehead slightly swelling; cheek bones by no means prominent; upper jawbone somewhat prominent; the parietal bones extending laterally. Common to the Malay race throughout the Southern Ocean. A specimen in Pl. iv. fig. 4, the skull of an Otaheitan. This racial form of the skull is so universally constant that it may be observed even in the skulls of young infants. Thus I possess the skull of a Burat infant¹ with very manifest Mongolian characters; and another of a newly-born Negro² as manifestly Ethiopian.

¹ *Decas tertia*, Tab. 29.

² *Ib.* 30.

63. *Causes of the racial variety of skulls.* The bones of all parts of the human body alike are very solid, and particularly firm, so that they may adhere together as foundations and props to the other solid parts; still it is clear from pathological phenomena and physiological experiments that they are not less liable to perpetual mutations than the soft parts of the body. The elements of the bones, although imperceptibly so, are in a continual sort of flux and reflux; and fresh secretions from the red stream of the blood are deposited in their place, and at last solidify and repair the loss. By this continual permutation of the osseous material, which is perpetually going on from the first formation of the bones, it results that these accommodate themselves to the neighbouring parts, and are to some extent formed and modelled by their action.

This is most particularly evident from the configuration of the skull in advanced age. For then the internal basis of the skull gives, as it were, a sort of cast of the lobes and convolutions of the brain to which it was fitted. The exterior osseous face gives unmistakeable marks as well of the action of the muscles as of the whole countenance, whose general appearance and character may very easily be divined from the skull when stripped of flesh. So, if it is true, and it seems very true indeed, that the influence of climate on the racial face is great, it is at once clear that the same cause must have a great though an indirect share in forming the racial character of the skull, especially as regards the bones of the face itself.

Besides this principal cause, it seems to me very probable that others also are accessory, as the violent and long-continued pressure, in having an effect upon these facial bones. My collection rejoices, owing to the liberality of the illustrious Banks, in the very rare skull of a New Hollander¹ from the neighbourhood of Botany Bay, conspicuous beyond all others for the singular smoothness of the upper jaw, where the upper teeth and the canines are inserted. But it is now known that those barbarians have a paradoxical custom of perforating the septum

¹ *Decas tertia*, Tab. 27.

of the nose with a piece of wood inserted crosswise, and of so stopping up their nostrils with a sort of peg that they cannot breathe except through the open mouth. It seems credible, therefore, that this smoothness may have been gradually effected by the perpetual pressure of this transverse insertion. It is, however, much more often the case that the smooth bones of the calvaria suffer through constant pressure a peculiar and everywhere the same sort of change towards the racial conformation, whether it be induced by the common method which obtains in some nations of treating infants in the cradle, or by some more violent manual application, long and carefully continued. Hence Vesalius said, that in his day the Germans were generally remarkable for having the occiput compressed and the head broad, because the children were always placed on their backs in the cradle. But he attributed more oblong heads to the Belgians, because their mothers wrapped up the male infants in swaddling-clothes, and made them sleep as much as possible on their sides and temples.

Hence also the wild Americans from South Carolina as far as New Mexico are remarkable for having depressed calvaria, which the infants contract from their low position in the cradle, in which their head and the weight of their whole body reposes immovably in a small bag filled with sand¹. As to other artifices, such as the pressure of the hands, and the reduction of the head of newly-born infants by bands or other instruments into some racial form, they, it is well known, have been in use equally amongst the most ancient races as those of to-day, amongst ourselves as in the most remote nations².

¹ See Adair's *History of the North American Indians*, p. 9: "they fix the tender infant on a kind of cradle, where his feet are tilted, above a foot higher than a horizontal position;—his head bends back into a hole, made on purpose to receive it, where he bears the chief part of his weight on the crown of the head, upon a small bag of sand, without being in the least able to move himself. By this pressure, and their thus flattening the crown of the head, they consequently make their heads thick and their faces broad."

² "The way in which the Author of our being has shaped our heads does not suit us; we must have them modelled from without by midwives and from within by philosophers.—The Caribs are more fortunate by half than ourselves." J. J. Rousseau, *Emile*, T. I. p. m. 19.

Indeed we find it stated that solemn rites of this kind take place even now, or at all events did recently among the inhabitants of some provinces of Germany¹, as well as amongst the Belgians², the Gauls³, some of the Italians⁴, the islanders of the Grecian archipelago⁵, the Turks⁶, the ancient Sigynnes⁷, and the Macrocephali on the Euxine sea⁸, the Sumatrans⁹ of to-day, and the Nicobars¹⁰, but especially amongst different people of America, such as the inhabitants of Nootka Sound¹¹, the Shactas¹², an indigenous race of Georgia, the Waxsaws of Carolina¹³, the Caribs¹⁴, the Peruvians¹⁵, and the free Ethiopians of the Antilles¹⁶. Strange to say there have been lately some authors who have dared to throw doubts upon the whole of this artificial habit of moulding the heads of infants¹⁷. Yet it is a thing proved by the unanimous testimony of many eye-witnesses; from which a name has been given to several nations

¹ On the Varisci of to-day, see J. C. G. Ackermann in Baldinger, *Neuen Magazin für Aerzte*, T. II. p. 506. On the Hamburgians of his day, see Lairemburg, *Pasicompse*, p. 63.

² Spigel, *De Humani Corporis Fabrica*, p. 17.

³ On the Parisians, see Andry, *Orthopédie*, T. II. p. 3.

⁴ On the Genoese, see Vesalius, *De Corp. Hum. Fabrica*, p. m. 23. Spigel, *l.c.*

⁵ My dear old pupil, Philites, M. D. of Epirus, an eye-witness, told me personally about the Chians.

⁶ Baron de Asch informed me in a letter dated the 20th July, 1788, that the midwives of Constantinople generally inquire of the mother, after the birth, what form she would like to have given to the head of the newly-born infant? and that the Asiatics prefer that, which is produced by a bandage passed over the forehead and tied tight round the occiput, because they think that in that way the red coverings they use for the head are made to sit better. Comp. *Decas Craniorum prima*, Pl. 2.

⁷ Strabo, l. XI. p. 358, ed. Casaub.

⁸ Hippocrates, *De aeribus, aquis, et locis*, ed. Charter. T. VI. p. 206.

⁹ Marsden, *Hist. of Sumatra*, p. 38.

¹⁰ Nic. Fontana in *Asiatic Researches*, Vol. III. p. 151.

¹¹ Meares' *Voyages*, p. 249.

¹² Adair, *l.c.* pp. 8, 284. Comp. *Decas Craniorum prima*, Pl. 9.

¹³ Lawson's *History of Carolina*, p. 33.

¹⁴ Oviedo, *Historia General de las Indias*, Sevilla, 1535, fol. p. 256. Raymond Breton, *Dictionnaire Caraïbe-François*, Auxerre, 1665, 8vo, pp. 58, 92, 145, 289. Comp. *Decas Craniorum prima*, Pl. 10, and the plates appended to this work, Pl. IV. fig. 2. *Decas secunda*, Pl. 20.

¹⁵ Torquemada, *Monarchia Yndiana*, Sevill. 1615, fol. T. III. p. 623. De Ulloa, *Relacion del viage para medir algunos grados de meridiano*, Madr. 1748, fol. T. II. p. 533.

¹⁶ Thibault de Chanvalon, *Voyage à la Martinique*, p. 39.

¹⁷ See Haller, Camper, Sabatier, &c.

both of North¹ and South² America. Two hundred years ago we know it was forbidden to the barbarians of the new world by the councils of the Spanish clergy³. We have the particular points of each method most accurately described, and the machines and bands⁴ by which they impress upon the flexible infant calvaria a form they like through a daily continuous and uniform pressure kept up for many years. And finally, the heads of these very barbarians, which have been brought to Europe and long since represented in prints⁵, exactly and in every point answer to all these things. Although however the fact itself is beyond all doubt, still there is some question about what we read has often been asserted from the times of Hippocrates, that peculiar forms of the skull of this sort, though formed first on purpose and by artifice, when they have been kept up and repeated for a long series of generations, become at last in process of time to be a sort of hereditary prerogative and congenital, and finally a second nature. There is to be found in that golden little treatise of Hippocrates *On Air, Water, and Soil*, a celebrated passage about the Macrocephali, a nation living near the Euxine sea, about whom he speaks first and almost chiefly, because no other nation at all was known to have heads like theirs. He says, that in the beginning custom was the reason of their having such long heads, but that

¹ "The name of Omaguas in the Peruvian language, like that of Cambevas, which is given them by the Portuguese of Para, in the Brazilian, means Flat-head; in fact, these people have the strange custom of pressing the heads of their children as soon as they are born between two planks, and of causing them to take the strange shape which is the result, to make them more like the full moon, as they say." De la Condamine in *Mém. de l'Acad. des Sciences de Paris*, 1745, p. 427.

² Bullet-heads and Flat-heads. Comp. Charlevoix, *Histoire de la Nouvelle France*, T. III. pp. 187, 323.

³ Jos. Saenz de Aguirre, *Collectio max. concil. omnium Hispaniæ et novi orbis*, ed. 2, Rom. 1755, fol. T. VI. p. 204, where in the history of the synod of the third diocese of Lima, July 17, 1585, is the decree that the Indians are not to shape the heads of their children in moulds. "Being desirous entirely to extirpate the abuse and superstition under which the Indians everywhere impress certain shapes on the heads of their children, which they themselves call *Caito*, *Oma Opatta*, we order and enjoin," &c. various punishments for the delinquents, as that a woman who has done so "shall attend the instruction for ten successive days, morning and evening, for the first offence; for the second, twenty," &c.

⁴ Comp. the careful pictures of the bands of this sort made use of by the Caribs in *Journal de Physique*, Aug. 1791, p. 132.

⁵ In *Mém. de l'Acad. des Sc. de Paris*, 1740, Pl. 16, fig. 1.

afterwards nature had acted in concert with custom. It was thought the most honourable thing among the Macrocephali to have the head as long as possible. This was the beginning of the custom; when an infant of theirs was just born, its head being like wax, or wet and soft clay, they pinched it as soon as possible with their hands, and modulated it so as to compel it to increase in length, and besides, confined it with bands, and tied it round with proper contrivances, so as to prevent the head becoming round and make it increase in length. This custom had at length effected the production of heads of this kind, and in process of time they had been produced naturally, so that it was no longer necessary to use this custom for that purpose. The old man of Cos endeavours to explain the cause of this singular phenomenon by his celebrated hypothesis of generation, which is not very different from that of Buffon: his idea was that the genital liquid proceeded and was as it were elaborated from all the members of the body; and so the forms of the parts, of which moulds, so to speak, were thus taken, conduced to the formation of the fœtus. Hence it happened that bald men produced bald children; grey men, grey; and macrocephali, long-headed. Something of the same kind has been lately reported of other nations, the Peruvians¹ and Genoese² for example. I leave this matter however in the abstract just as it is, and shall only refer to what I said above (s. 39) on the occasion of other similar phenomena.

64. *Some racial varieties of dentition, and their causes.* Some varieties of teeth generally closely accompany the forms of skulls, as has been observed in some nations. Thus, as long ago as 1779, I observed a singular anomaly of the primary teeth both in the fragment of a mummified Egyptian, as in the entire skull of a mummy³; for the coronæ are not shaped for incision, or furnished with a delicate edge, but are thick and like truncated cones, and the coronæ of the canines cannot be dis-

¹ On the inhabitants of the province of Porto Vecchio see Cardanus, *De Rerum Varietate*, T. III. p. 162, ed. Sponii.

² J. C. Scaliger, *Comment. in Theophr. de Causis Plantarum*, p. 287.

³ *Decas Craniorum prima*, Pl. I.

tinguished from their neighbours excepting by position. This same singular conformation has been noticed also in other mummies; as in a mummy at Cambridge¹, and Cassel²; something of the same kind also at Stuttgard³: and I myself, when I was in London two years ago, found exactly the same sort of incisors in a young mummy, which its possessor, J. Symmons, very kindly allowed me to unrol⁴. Although it is scarcely necessary to observe that during such a series of ages as the custom of preserving corpses prevailed in Egypt, and under the vicissitudes of the lords of its soil and its inhabitants, a very great diversity must necessarily be found between mummies and their skulls, and that no sane person could ever expect to find in all mummies the same extraordinary form of teeth I was speaking of. The variety is however remarkable and perhaps may sometimes be of utility as a distinctive character, by which the mummies of one age or race may be distinguished from those of another. It would be difficult to discover the causes of this peculiar conformation: but it seems very likely that it is in great part to be attributed to the kind of diet, which we are expressly told by Diodorus Siculus, was of a rustic sort amongst the ancient Egyptians, and consisted of cabbages and roots. Hence the teeth became much worn; and when teeth are worn or flattened purposely it has been observed that they increase in thickness, in the case both of men⁵ and brutes⁶. Considerable weight is added to this conjecture from the observation of Winslow⁷, who noticed a similar remarkable thickness of the incisors, and the like similarity to the molars, in the skull of a Greenlander taken from the Island of Dogs⁸, and attributed

¹ Middleton, *Monumenta Antiquitatis*, Opera, T. iv. p. 170. "All the teeth are still found firmly adhering to the upper jaw; what however is singular, and may be considered almost a prodigy, is that the anterior incisors are not acute, and adapted for cutting, but are broad and flat, just like the molars."

² Comp. the account by Brickmann, the head physician of Brunswick, of that mummy. Brunswick, 1782, 4to.

³ Storr, *Prodr. methodi Mammalium*, Tubing. 1780, 4to, p. 24.

⁴ *Philosoph. Trans.* 1794, Part II. p. 184.

⁵ Birch's *History of the Royal Society*, T. iv. p. 3.

⁶ On the ivory tusks of elephants, see *Tranquebarische Missions-Berichte*, Contin. CVI.

⁷ *Mém. de l'Acad. des Sc. de Paris*, 1722, p. 323.

⁸ *Hond-Eyland*. "This island, lying in Disko Strait on the coast of south

it to the fact that those barbarians live on raw flesh¹. This observation is also supported by the thick and wonderfully worn teeth in two Esquimaux skulls which have lately come to me from the colony of Nain in Labrador². It is well known that the Esquimaux and the Greenlanders belong to one and the same stock, and their racial name is commonly derived from their habit of eating raw flesh. What several authors have related about the teeth of the Calmucks³, that they are very long and separated by large interstices, I find at last has been taken originally, and then not quite accurately, from the account of Yvo, a priest of Narbonne, originally written in 1243, and afterwards garbled by many, nor does it agree with the modern Mongolian skulls which I now have in my collection. Finally, other racial peculiarities of the teeth are due exclusively to artifice, as in some groups of negroes who by filing their teeth sharpen them like saws⁴; or, as in some Malay nations, who remove a great part of the enamel of the teeth⁵, or cut furrows

Greenland, is so well known, and so clearly laid down in all good geographical maps of that country from the time of Zorgdrager, that I must confess I cannot understand what Camper meant when he went so far as to accuse Winslow of ignorance, and to correct him according to Hübner's geography, in which forsooth the Island of Dogs is relegated to the Pacific Ocean under the tropic of Capricorn. Did he not know that this southern island was described by its discoverer Schouten in 1616, in his well-known journey, as being altogether uninhabited, and, so far as I know, from that time forth never visited again by any European? Whereas that northern land from which Winslow received his skull is frequented by numberless Europeans engaged in the whale-fishery."

¹ "The incisors are short," says Winslow, "large behind and flat, instead of being cutting, and are more like molars than incisors. M. Riecke (the finder of the skull) tells me that the inhabitants of that island eat flesh quite raw. They make many extraordinary movements with the jaw, and many grimaces in chewing and swallowing. It was chiefly the sight of this which induced M. Riecke to look for the corpses of these islanders to see if their jaws and their teeth had any peculiar conformation."

² Comp. Buffon, *Erxleben*, &c.

³ Van Lischoten, *Schipvaert naer Oost*, Part I. p. m. 60. Von der Gröben, *Guineische Reisebeschreibung*, pp. 51, 94. Barbot in Churchill's *Collections of Voyages*, Vol. v. pp. 139, 143, 385. Schotte in *Philosoph. Trans.* Vol. LXXIII. Part I. p. 92. *Report of the Lords of the Committee of Council for the consideration of the Slave Trade*, fols. L and M.

⁴ I am surprised that some famous authors, as Römer and Niebuhr, have taken this artificial deformation of the teeth for a natural disposition. See Römer, *Efterretning om Kysten Guinea*, p. 21. Niebuhr, *Diss. in Deutsche Museum*, 1787, Part I. p. 425.

⁵ On the Philippines of Maginda, see Forrest, *Voyage to New Guinea*, p. 237. On the Sumatrans, Marsden, p. 46.

in it¹, &c. I have seen something of the same kind myself in some Chinese from Java, who had carefully and regularly destroyed with a whetstone the same substance from the extremity of the primary teeth.

65. *Some other racial varieties in respect to particular parts of the body.* Thus far we have investigated the chief varieties of different nations, which are observable either in their colour (as that of their skin, hair, or eyes) or in their countenance and form of the skull. Some few things still remain to be observed respecting other parts of the body, which although certainly of less importance can by no means be passed over unnoticed, and so I may say a little of each of them in a few words. And although it would be impossible to explain with equal clearness the causes and reasons of them all, still there is nothing so singular or so enigmatical but what may be rendered more easy of comprehension by comparing with analogous phenomena such observations as we have compiled in the section above on the brute animals.

66. *Ears.* It is known to antiquarians that many of the idols of ancient Egypt, both of bronze and pottery, or those cut out of different kinds of stones or sycamore wood, and finally those painted on the sarcophagi, are remarkable for having the ears too high up. A recent author² has summarily been pleased to attribute this to the fault of the artists, unskilled in the art of drawing. But I cannot quite give my adhesion to this view, because of the elaborate art and taste with which I see many of them are executed, and also because I have observed it particularly in those which have an Indian cast of countenance³; and a similar collocation is to be found in genuine pictures of Indians, which have been executed with the greatest care. Altogether however this diversity is no greater than what we see everywhere in varieties of domestic animals, especially in horses and pigs, in the position and collocation of the ears, especially inasmuch as, if we take into consideration in these same Egyptians

¹ On the Javanese, Hawkesworth, Vol. III. p. 349.

² *Recherches Philosophiques sur les Egyptiens*, T. I. p. 212.

³ *Philosoph. Trans.* 1794, Part II. p. 191, Plate 16, fig. 2.

and Indians the inclination of the aperture of the eyelids, from the root of the nose towards the ears, we shall find that the elevation of the ears depends upon the way in which the head is carried, the occiput being elevated, and the chin depressed. We find also, not only from passages in the ancient authors, but also from ancient representations, that the ears of the aboriginal Batavians were remarkable for their form and position¹. So also the ears of the Biscayans were remarkable for their size².

It is well known that in barbarous nations the ears often stand out a good deal from the head, and are moveable; and in many races, especially of the East Indies and the Pacific Ocean, the lobe of the ear is enlarged and prodigiously elongated by various artifices. This absurd custom has no doubt given rise to the exaggerated stories of ancient writers about the enormous ears of certain races.

67. *Breasts.* There is a cloud of witnesses to prove that the breasts of the females in some nations, especially of Africa³ and some Islands of the Pacific Ocean⁴, are very long and pendulous. Meanwhile I must observe first, that their proportions have been exaggerated beyond the truth; and also that this conformation is not common to all the women of the same race. Even in the Islands of the Southern Ocean⁵ many women, and also many Ethiopians⁶ every day in the European markets, are to be

¹ Smetius has some drawings of them in *Antiquitates Neomagenses*, p. 70, and Cannegieter, *De Brittenburgo, Matribus Brittilis*, &c. p. 144.

² See Countess d'Aunoy, *Relation du Voyage d'Espagne*, T. I. p. m. 23. Diezo in his notes to Puente, *Reise durch Spanien*, T. II. p. 271, vindicates the authority of this deserving work.

³ Comp. about the Ethiopians, Fermin, *Sur l'Economie Animale*, T. I. p. 117. About the Hottentots, Kolbe, p. 474.

⁴ See the inhabitants of Horn Island in Schouten in Dalrymple's *Collection*, Vol. II. p. 58.

⁵ See the assertion of Towrson in Hakluyt's *Collection*, T. II. p. 26, about the negroes of the Isle of St Vincent. "Divers of the women have such exceeding long breasts, that some of them will lay the same upon the ground and lie downe by them." And of Bruce, about the breasts of the Shangalla, which in some of them hang down almost to the knees. *Reise nach den Quellen des Nils*, T. II. p. 546. Nor have I any greater faith in the story of Mentzel about the tobacco-pouches made out of the breasts of Hottentot women, and sold in great quantity at the Cape of Good Hope. *Beschreibung des Vorgebirge der guten Hoffnung*, T. II. p. 564.

⁶ J. R. Forster, *Bemerkungen*, &c. p. 242.

seen, who are remarkable for the extreme beauty of their breasts. Besides, this excessive size is by no means peculiar to barbarous nations alone, but has been observed frequently in Europeans, as amongst the Irish¹, and up to this day amongst the Morlachians². It seems the principal reason is to be looked for in the way the mother gives suck to the infant attached to its back, and partly because lactation is kept up long, sometimes for years. And we read too that the breasts are often artificially elongated amongst nations, who reckon that feature a beauty³.

Other nations are conspicuous for the size and turgescence of the breasts, like the Egyptians. Juvenal long ago said,

"Or breasts at Meroe big as good-sized babes,"

as if speaking of a thing common and well known to all. And not only the women, but also the men in Egypt, are said to be very large-breasted⁴. Amongst European nations the Portuguese women have very large breasts⁵, whilst those of the Spanish on the contrary are thin and small; and in the last century especially they took pains to compress them and obstruct their growth⁶. That by taking pains the circumference of the breasts can be increased is indubitable. How far, moreover, precocious venery may operate in that direction is shown by the remarkable instances amongst the immature and girlish prostitutes who flock to London, especially from the neighbouring suburbs, and offering themselves for hire, wander about the streets by night in great numbers.

¹ Lithgow's *Rare Adventures and Painefull Peregrinations*, p. m. 433. "I saw in Ireland's North parts women travayling the way, or toylng at home, carry their infants about their neckes, and laying the dugges over their shoulders, would give sucke to the babes behinde their backes, without taking them in their armes; such kind of breasts, me thinketh, were very fit, to be made money bags for East or West Indian merchants, being more than halfe a yard long, and as well wrought as any tanner, in the like charge, could ever mollife such leather."

² Fortis, *Viaggio in Dalmazia*, T. I. p. 81.

³ On the inhabitants of the coast of Western Africa, between the white promontory and the river Senegal, see Cadamosto in Ramusio, T. I. p. m. 100. Comp. Lamiral, *L'Afrique et le peuple Africain*, Paris, 1789, 8vo, p. 45. "In Senegal the young girls study to make their breasts depend, in order that they may be thought women, and treated with more respect."

⁴ Alpinus, *Historia Naturalis Egypti*, T. I. p. 14.

⁵ I have this from Abildgaard, just returned from a journey in Portugal.

⁶ Countess d'Aunoy, *l. c.* T. II. p. 128.

68. *Genitals.* Linnæus says in the prolegomena of his *Systema Naturæ*, "that a too minute inspection of the genitals is abominable and disagreeable." It is evident however by the terminology of his conchyliæ that in process of time he came to think otherwise, and above all we find it so from the *Venus Dione*, depicted by him in a sufficiently licentious metaphorical style. The shade therefore of this illustrious man will no doubt pardon me if I enumerate here shortly what seem to me worthy of mention about some racial varieties of the genitals.

It is generally said that the penis in the Negro is very large. And this assertion is so far borne out by the remarkable genitatory apparatus of an Æthiopian which I have in my anatomical collection. Whether this prerogative be constant and peculiar to the nation I do not know¹. It is said that women when eager for venery prefer the embraces of Negroes to those of other men². On the other hand, that Ethiopian³ and Mulatto⁴ women are particularly sought out by Europeans. The cause of this preference may be various, but I do not know what it is. Perhaps they resemble the Mongolian⁵ women and those of some American tribes⁶, about whom we are told that the muliebria remain small, not only after marriage but even after child-bearing. Steller⁷ attributes the contrary character to the pudenda of the Kamtschadales. He also says that many of them are remarkable for long and protruding nymphæ; which some say in Hottentot women come to be appendages like fingers⁸. But this *sinus pudoris*, as Linnæus called it, seems rather to

¹ The same was said of the northern Scotch, who do not wear trowsers, by Faust, *Wie de Geschlechtstrieb der Menschen in Ordnung zu bringen*, p. 52. I have shown however on the weightiest testimony that this assertion is incorrect, in *Medicinische Bibliothec.* T. III. p. 413.

² Saar, *Ostindische Kriegsdienste*, p. m. 45.

³ Chanvalon, *Voyage à la Martinique*, p. 61. Sparrmann, *Reise nach dem Vorgebirge der guten Hoffnung*, p. 72.

⁴ *De Werken van W. V. Focquenbrach*, T. II. p. 421.

⁵ Georgi, *Beschreibung aller Nationen des Russischen Reichs*, Part II. p. 220.

⁶ Vespucci, *Lettera a Lorenzo de' Medici*, p. 110, ed. Bandini. Riolani fil. *Anthropographia*, p. m. 306.

⁷ *Beschreibung von Kamtschatka*, p. 299.

⁸ Comp. W. ten Rhyne, *De Promontorio bonæ Spei*, Scafus. 1686, 8vo, p. 33.

consist in the elongation of the labia themselves¹, which is said to be due to artifice²; and has given a handle for that story about the skinny ventrale, which credulous authors have thought hung down from the abdomen³ and concealed the pudenda of these women⁴.

69. *Legs.* Some difference in the proportion and appearance of the legs is known to exist in certain nations. Thus the Indians are remarkable for the length of their legs⁵, the Mongolians on the other hand for their shortness⁶. The Irish women are said to have very large thighs⁷. The legs of the New Zealanders are so thick as to appear œdematous⁸. Others tell us that these antipodes of ours have those same legs crooked and deformed, and that such evils are contracted from the position in which they usually sit⁹. Bandy legs however are very common amongst the Calmucks, and are ascribed as well to the kind of cradles their children have, as to the fact that they are accustomed to be on horseback from tender youth¹⁰. The feet of the Tierra del Fuegians¹¹, who are called by De Bougainville¹² Pecheras, are described as being remarkably deformed.

That the populations of Africa, however, are those in which deformities of the legs and feet are racial, has been noticed by the ancients, especially in the case of the Egyptians¹³, the Ethi-

¹ Hawkesworth's *Collection*, T. III. p. m. 388. I owe to the liberality of Sir Jos. Banks several drawings of this *Sinus pudoris* taken from nature at the Cape of Good Hope. In one of them the labia are so elongated that they measure six inches and a half Rhine-land measure.

² Le Vaillant, *Voyage dans l'Interieur de l'Afrique*, pp. 3, 371.

³ See a print in F. Leguat, *Voyage et Aventures*, T. II. Plate 13.

⁴ Voltaire makes use of this fabulous *ventrale*, with other arguments of the same weight, to prove that the Hottentots cannot be referred to the same species of man as Europeans. *Lettres d'Amabel*, Oper. T. XLV. p. m. 224.

⁵ De la Boullaye-le-Gouz, *Voyages et Observations*, p. 153. Kant in Engel, *Philosoph für die Welt*, T. II. p. 155.

⁶ Yvo Narbonensis in Matthew Paris, *Historia Major*, ed. Wats. p. 530.

⁷ Twiss' *Tour in Ireland*, p. 39.

⁸ Monneron in de la Borde, *Histoire de la Mer du Sud*, T. II. p. 97.

⁹ G. Forster's *Voyage round the World*, Vol. II. p. 480.

¹⁰ Pallas, *Ueber die Mongolischen Völkerschaften*, T. I. p. 98.

¹¹ J. R. Forster, *Bemerkungen*, p. 525. "The feet bear no proportion to the upper limbs: the shanks are thin, the legs crooked, the knees bent outwards, the toes turned inwards."

¹² *Voyage autour du Monde*, p. 147. "We called them Pecherais, because that was the first word they pronounced on meeting us, and which they repeated without stopping."

¹³ Aristotle, *Problemata*, 5. 14, p. 431, ed. Casaub.

opians¹, and the negro slaves². In the legs of black slaves of our day three defects are to be seen, attributed to three different causes; bandy legs³ (fr. *jambes cambrées*); disagreeable thickness⁴; and the chinks and fissures in which they are said frequently to open⁵. The crookedness appears to be due principally from the posture in which the infants whilst sucking are obliged to hold tight by the knees to the mother's back⁶. Some deformities of this kind may also be traced to morbid causes⁷. The thickness of the feet (unless this too is to be referred to pathological causes) is most probably brought about by severe and continuous labour. Finally, there is scarcely any reason to doubt but what the fissures into which the thick epidermis of the Ethiopians is liable to break out, especially in the sole of the foot, are due to their sandy soil⁸.

70. *Feet and hands*. Lastly, good observers have remarked that the hands and feet of some nations are of singularly small proportions. This is said of the Indians⁹, the Chinese¹⁰, the Kamtschadales¹¹, the Esquimaux¹², the Peruvians¹³, New Hollanders¹⁴ and Hottentots¹⁵. That artifice has a good deal to do

¹ Virgil, *Moretum*, 35. Comp. Heyne's *Notes*, T. IV. Op. Virgil.

² Petronii *Satyricon*, c. 102.

³ Sömmerring, *Ueber die Körperliche Verschiedenheit des Negers*, &c. p. 40. Chanvalon, *Voyage à la Martinique*, p. 58. "That form of the legs is sufficiently common also among the Americans, but sometimes less observable than amongst the negroes."

⁴ Alb. Dürer, *Von Menschlicher Proportion*, fol. T. III. ed. 1528.

Ramsay, *On the Treatment and Conversion of African Slaves*, p. 217.

⁵ I received in Jan. 1789 the fresh right leg, perfectly sound in other respects, of an Ethiopian who had just died at Cassel, part of which I still have in my anatomical collection: the epidermis of the sole of the foot is wonderfully thick, wrinkled, and gaping in many divided flakes.

⁶ Chanvalon, *l.c.*

⁷ Fr. Allamand in *Nova Acta Academiae Naturae Curiosorum*, T. IV. p. 89.

⁸ See Hier. Mercurialis, *De decoratione*, p. m. 103.

⁹ "It has been observed of the arms of the Hindoos frequently brought to England, that the gripe of the sabre is too small for most European hands." Hodges, *Travels in India*, p. 3.

¹⁰ Dampier, *Suite de Voyage autour du Monde*, p. 100. De la Barbinais, *Voyage autour du Monde*, T. II. p. 62. Osbeck's *Ostindisk Resa*, p. 171.

¹¹ Steller, *l.c.*

¹² H. Ellis, Cranz, &c. and lately the famous astronomer Wales, in *Philosoph. Trans.* Vol. LX. p. 109, and Curtis, *Ib.* Vol. LXIV. p. 383.

¹³ De Ulloa, *Nachrichten*, &c. T. II. p. 92.

¹⁴ Watkin Tench's *Account of the Settlement at Port Jackson*, p. 179.

¹⁵ Sparrmann, *l.c.* p. 172.

with this we know from the ostrich feet of the Chinese women. But it seems very likely that the mode of life¹ and poor sort of diet² may also be to blame.

71. *Racial varieties in respect of stature.* Having now despatched what seems most worthy of remark about the relative proportion and conformation of particular parts, it seems proper to investigate briefly the varieties of the entire stature. This chapter of anthropological discussion has been handed down to us deformed almost entirely by fables, hyperbolic over-layers, and misinterpretation. These have, however, in our day been in a great part so refuted and explained, and reduced to their genuine sources, that it is scarcely necessary to mention them further, much less discuss them over again with fresh attention.

Thus it has been shown that under the Ethiopian pigmies of the ancients nothing else was intended but a symbolical signification of the degrees in the Nilometer. Thus the enormous bones dug up everywhere in our own country, which prejudiced opinion formerly attributed to giants, have been restored to the beasts by a more careful osteological study³. On the contrary, all the relics which have survived to our day, and the ancient furniture from which we may estimate the stature of ancient races, as mummies, bones, and especially the human

¹ "An (American) Indian man is small in the hand and wrist, for the same reason for which a sailor is large and strong in the arms and shoulders, and a porter in the legs and thighs." Jefferson in Morse's *American Universal Geography*, Vol. 1. p. 87.

² See Tench, from the observations of the Governor of the Cape: "Colonel Gordon told me that it indicated poverty and inadequacy of living. He instanced to me the Hottentots and Caffres; the former fare poorly, and have small hands and feet; the Caffres, their neighbours, live plenteously, and have very large ones."

³ It is strange that in late times Buffon could have attributed many fossil bones of this kind, dug up at different times and places, to giants, in the 5th Vol. of the supplement of his classical work: such as those which in 1577 were dug up near Lucerne and preserved up to the present day in the court-house of that city, where I have seen them myself, and recognised them at the first glance to belong to an elephant. That most deserving physician, and even learned anatomist, Felix Plater, at the time when those gognostic monuments were dug up, measured them and examined them most carefully, and declared with the utmost confidence that they belonged to a human giant 17 feet in length, and had made a wonderful colossal picture of a human skeleton of that magnitude, which is still to be seen in the Jesuit's College at Lucerne; a memorable example of the power of prejudice against the very evidence of the senses, when once it has struck root in the mind.

teeth found in urns and sepulchres¹, armour, &c., tend to the conviction that those nations by no means surpassed men of the present day in stature. Amongst these also there is an indisputable racial diversity. Amongst European races the Scandinavians and some of the Swiss, as the Suitens, are tall: the Lapps short. In the new world the Abipones are large in size, the Esquimaux shorter: but neither more than moderately so. Altogether there is no variety in respect of stature so great amongst nations of the present day, but what may be easily explained by the common modes of degeneration, and the analogous phenomena which may be observed in other mammals. There are, however, two varieties of this kind which must be treated separately, of which it is said that even in these present times one differs greatly in excess, and the other by defect, from the common stature of mankind.

72. *Patagonians.* There is at the extremity of the continent of South America, towards the north-east, a nation, which from the time of Magellan's voyage has been known to Europeans, who invented for them the composite name of Patagonians, because they thought them related to their neighbours the *Choni*, and that their feet, which they used to wrap in the skins of the guanaco, were like the shaggy feet of brutes, called in Spanish *patas*. Their proper and indigenous name, however, is *Tehueletæ*. These people, then commonly called Patagonians, Anton. Pigafetta, the companion of Magellan in his voyage, was the first in his account to pretend were giants double the size of Europeans². From that time on for two centuries and a half the stories about the expeditions undertaken by the Europeans in that part of the new world are so repugnant to each other, and so contradictory and so wonderfully inconsistent as far as their notices of the Patagonians, that, once for all, they may serve as a warning to us to be

¹ I owe to the liberality of Bozenhard, imperial consul-general in Denmark, the calvaria and other bones of a man of advanced age found not long ago in a very ancient Cimbrian tomb, in proportions and size yielding nothing to the common stature of our countrymen.

² See his *Viaggio attorno il mondo*, in Ramusio, T. I. ed. 4, p. 353.

cautious and diffident in trusting the accounts of travellers. I give in a note a decade of authors¹, for the benefit of those who are interested in examining and comparing these different accounts, and the opinions of anthropologists about them. It will be sufficient for us at present to put forth those results which seem most like the truth, after weighing and duly criticising everything.

It is then a race of men by no means of gigantic height, but conspicuous for tall bodies and a very muscular and knotty habit². To define their exact stature amidst such a quantity of ambiguous stories would be impossible. From the evidence of the best witnesses, however, it seems scarcely to exceed six feet and a half of English measure; and this is the less to be thought prodigious, since it has long been known that other indigenous races of America (especially in the South) are very tall. It is very probably the case with them what Tacitus tells us about the ancient Germans, that they never mix with any other nation in marriage, and preserve their race peculiar, unadulterated, and always like itself. They are Nomads, like the people of Tierra del Fuego, and the other wandering nations of South America; and thence it is not surprising if they have not always appeared to be men of the same lofty stature to the Europeans who have approached the same coasts indeed of that country, but at different times.

It is not difficult, on the other hand, to understand how the story of the Patagonian giants arose. First, that old tradition about the giants of the old world preoccupied all minds, and so those travellers in the new world who were on the look out for

¹ Buffon, *Histoire Naturelle*, T. III. and *Suppl.* T. v. De Broses, *Histoire des Navigations aux terres Australes*, T. I. De Pauw, *Recherches sur les Americains*, T. I. Ortega, *Viage del Comand. Byron al rededor del mundo*, traduc. del Ingles. Robertson's *History of America*, Vol. I. Zimmermann, *Geographische Geschichte des Menschen*, T. I. J. R. Foster, *Bemerkungen*. Comp. Carli Rubbi, *Lettere Americane*, T. I. Pennant, *Of the Patagonians*. *Relacion del ultimo viage al Estrecho de Magallanes en 1785*, p 86.

² Such they are unanimously described by the most credible eye-witnesses. Such too were those who towards the end of the sixteenth century were brought to Spain; the sole and only Patagonians, as far as I know, whom Europe has ever seen. Van Linschoten, a great and truly classical traveller, saw these very ones at Seville, and says of them: "they were of good stature and with large muscles," &c.

prodigies, reverted to that when they found men who were in reality tall and muscular, and tombs of wonderful length¹, and every where in them bones of a large size². The Spaniards too might also have had the design of deterring the other nations of Europe from navigating the Straits of Magellan by stories of this kind³. And in others blind fear, and the desire of boasting, such as even in the present century has induced the author of a Dutch account of the voyage of Roggewein, to give out the inhabitants of Easter Island in the Pacific Ocean as giants of twelve feet high⁴.

73. *Quimos*. There was an old story which even in the last century was exposed by the classical writer Stephen Flacourt as a fictitious invention, that there existed in the inner mountains of the Island of Madagascar a nation, pigmy in stature, but of a very warlike spirit, and which afflicted the other inhabitants by its sudden invasions. They were called Quimos or Kimos.

This story has lately found defenders in our time, in the pilot Modave, and the famous botanist Commerson. But if you take away all that is mere hearsay in their accounts, and their discrepancies, which are not few, all that remains will be that the pilot bought a certain small servant maid, who was sold to him

¹ Comp. Ed. Brown's *Travels*, p. m. 50. "Mr Wood, who has made very accurate maps of the Straits of Magellan, &c. told me, that he had seen divers graves in the southern parts of America near four yards long, which surprised him the more, because he had never seen any American that was two yards high, and therefore he opened one of these long sepulchres from one end to the other, and found in it a man and a woman, so placed, that the woman's head lay at the man's feet, and so might reasonably require a tomb of near that length."

² Of horses in fact, whose skeletons they place near the tombs of their relations. See Falkner, *Beschreibung von Patagonien*, p. m. 149. A most ancient custom everywhere, and which has prevailed amongst the most different nations, of entombing the horses of warriors together with them, gave afterwards a handle to the idea that the horses' bones were those of giants. Thus horses' bones are found in the oldest sepulchres of Siberia: see J. Gmelin, *Reisen*, T. III. p. 313. Even in the sarcophagi of Christian knights, buried in churches, during what are called the middle ages, besides their own arms and bones, those of horses also are found. See Dorville, *Sicula*, p. 148.

³ See John Winter in Hakluyt's *Collection*, Vol. III. p. 751. Sir J. Narborough's *Voyage to the Straits of Magellan*, p. m. 90.

⁴ See Anon, *Tweejaarige Reyz rondom de wereld*. Dordr. 1728, 4to. Much more trustworthy and accurate, on the other hand, is Behrens (by profession a confectioner), who was in the same voyage, in *Reise durch die Süd-Länder und um die Welt*, Francof. 1737, 8vo, where, p. 87, he calls the inhabitants of Easter Island, then first discovered, only "well-built, with strong limbs."

for a Quimo, pale in colour, with pendulous breasts, and remarkable for the length of her arms, which reached nearly to the knees. Baron de Clugny, moreover, who spent nearly one whole month in the same ship with this identical pigmy, clearly showed that she was only a dwarf of bad conformation and diseased constitution, macrocephalous, stupid, and an utterer of confused sounds; from all which circumstances I am persuaded that her malady should be referred to Cretinism, since these symptoms occur in Cretins; and the length of the arms has been noticed in many of them, and particularly in those of Salzburg, in express words, by observers. On the other hand Sonnerat has ingeniously explained the whole tradition as if it was to be understood about the *Zaphe-Racquimusi*, that is, the six chiefs of the race who inhabit Manatana, a province of that Island, which chiefs are descended from an ancestor who was very small; a fact expressed by that barbarous word¹.

74. *Causes of Racial Stature.* We must allow then that there is no entire nation of giants or pigmies. But the racial variety of stature which we touched upon above (s. 71) seems to be confined within smaller limits in proportion than those which have been everywhere observed in the case of other domestic animals (s. 29); and this will easily be understood by a consideration of what has been said about the causes of degeneration. That climate has something to do with it, besides many other proofs, is seen from a comparison of the Laplanders with the Hungarians, who are two colonies from one race, but have reached a very different stature under a different climate. Physiology also clearly shows the great influence of diet in augmenting or diminishing the stature. Hence the tall bodies of the nobles of Otaheite is ascribed to the more generous diet they indulge in².

¹ Pallas seems to have deduced the origin of the Quimos from some hybrid generation. See his *Observations sur la formation des montagnes*, p. 14, where on the origin of the Ethiopians he says:—"We need not have recourse in this case to any improper connection of the human species, which seems to have been the case in the production of the long-armed mountaineers or Quimos of Madagascar."

² See J. R. Forster, *Bemerkungen*, p. m. 236.

On the other hand we are told that the stature of some barbarous nations has diminished sensibly for a series of generations after they have accustomed themselves to the abuse of aquavitæ and ardent spirits¹.

Here also mention ought to be made of the period of puberty, which differs in different nations, and has a good deal to do with the racial stature, since those who remain longest before arriving at puberty, by this constancy (as Cæsar long since observed of the ancient Germans) increase their stature: whereas the best authors have with one voice observed that under every sort of climate and place premature venery is injurious to procerity of body². Nations preserve their peculiar stature when they mingle least with the immigrants and strangers of other races: as on the other hand racial stature is altered after a series of generations when they have been mingled in union with other nations of a different size³. Lastly, we learn from indisputable instances of families remarkable for height or shortness that the influence of the ancestral constitution is great as to the stature of the offspring.

75. *Fabulous varieties of mankind.* Infinite in number are the stories we have received from the time of Herodotus downwards, from all sorts of sources, principally from Aristæus, Ctesias, and Megasthenes, and which the Cosmographers have told us about nations of monstrous appearance, such as the Arimaspi, with only one eye; the Cynamolgi, with dogs' heads; the Monosceles, with only one leg; the wild men of the Imaus, with their feet fronting the back part of the legs, &c.⁴ It is not my business to spend any time upon these things here; though the investigation of these matters brings both pleasure and profit; for that is equally true of anthropology which prevails in

¹ On the barbarians of Hudson's Bay see H. Ellis, *Reise nach Hudson's Meerbusen*, p. 201. Umfreville, *Ueber den gegenwartigen zustand der Hudsonsbay*, p. 21.

² Comp. besides others on the Kamtschadales, Behm in Cook's *Voyage to the Northern Hemisphere*, Vol. III. p. 372. On the Otaheitans, Cook in Hawkesworth's *Collection*, Vol. II. p. m. 187. On the Sumatrans, Marsden, p. 41.

³ Maupertuis, *Venus Physique*, p. m. 131.

⁴ Comp. J. A. Fabricius, *Diss. de hominibus orbis nostri incolis*, &c. Hamb. 1721, 4to.

every other department of natural history, that scarcely any story, however absurd and foolish, has ever been told in it, which does not contain some foundation of truth, but perverted by hyperbolic exaggeration or misinterpretation¹. I mean to touch here upon only one instance out of this crowd of prodigies, that is, the often repeated story of nations with tails, as being one which we have been told of again and again by all sorts of authors of all sorts of times².

76. *Reports of nations with tails.* First Pliny, then Pausanias, make mention of the tailed men of India: then in the middle ages their existence was asserted by the Nubian Geographer, the Venetian Marco Polo, and others; lastly, in more recent times many writers of travels have brought back similar reports about the various tailed islanders of the Indian Archipelago³; others about people of the same kind in some province of Russia⁴; and others other stories⁵.

Proper consideration however will easily show that very little weight is to be attached to these assertions. Many authors have derived their information entirely from hearsay. Then again it cannot be denied that many of their witnesses who boast of having seen the thing themselves are undoubtedly very dubious repute⁶. Moreover the stories themselves on this point differ very suspiciously from each other⁷. On the other

¹ Thus Heyne has traced the fabulous stories about the hermaphrodites of Florida to their genuine sources in *Comment. Soc. Reg. Scient. Göttingens.* T. I. p. 39.

² The most recent patron and asserter of men with tails is Monboddo, in both his works, *The Origin and Progress of Language*, Vol. I. p. 324, and *Ancient Metaphysics*, Vol. III. p. 250.

³ Besides the authors cited by and by, see Harvey, *De Generatione Animalium*, p. m. 10, about the inhabitants of Borneo.

⁴ Rytschkow, *Orenburgische Topographie*, T. II. p. 34. Falk, *Beyträge zur Kenntniss des Russischen Reichs*, T. III. p. 525.

⁵ On the island of Tierra del Fuego see the geographical tables in Alons. d'Ovaglio, *Relazione del Regno di Chile*, Rom. 1646, fol.

⁶ On the Nicobars see, full of the most foolish stories, *Beskrifning om en Resa genom Asia, Africa, &c.* af N. Matthss. Köping (*Skeps-Lieut.*), p. m. 131: which however Linnæus calls a most trustworthy account in his letters to Monboddo, *Of the Origin of Language*, l. c. Dav. Tappe, *15-Jährige ostindische Reisebeschreibung*, p. 49, on the Sumatrans.

⁷ Comp. about the tailed Formosans a triad of witnesses who call themselves eye-witnesses: J. Strauss, J. O. Helbig, and El. Hesse. The first says, *Reisen*, p. m. 32, "A Formosan from the south side of the Island with a tail a good foot

hand the boldest and most careful explorers of those countries are either silent about that monstrous prodigy; or relying on the authority of the inhabitants plainly declare it a lying fiction¹. And finally, some expressly tell us what it is that has given rise to this erroneous report; viz.: either a pendulous addition to the clothes of the back²; or some tailed anthropomorphous apes³. So that not one single instance of a tailed race can be proved by the consent of any number of trustworthy eye-witnesses, nay, not even of a single family remarkable for such a monstrous anomaly; whilst instances of monstrosities in families, in which, for example, six fingers have been hereditary for generations, are very well known. As to individuals, who are here and there to be seen amongst Europeans, remarkable for a monstrous excrescence of the os coccygis, it is at once understood that we do not mean to say anything of them here, any more than of numberless other monstrous productions.

77. *Racial variety from morbid affection.* I have spoken above on the subject of the morbid disorders which so change the appearance and even the colour of animals, that when that is propagated by hereditary causes for a long series of generations it shades sensibly away into a sort of second nature, and in some species of animals gives rise to peculiar and constant varieties. We have cited the well-known examples of the white variety of the domestic mouse and the rabbit, whose snowy fur and rosy pupils are most certainly due to a morbid affection, in fact to leucæthiopia. The same kind of affection is frequently seen in mankind. Still only sporadically, certainly nowhere is it so frequent and so constant as in the brute animals just spoken of; for in them it degenerates into a particular and copious variety. Still, even human leucæthiopia must be spoken of,

long, and all covered with rough hair." The second in *Ephem. Naturæ Curiosor.* Dec. I. ann. IX. p. 456, "bare tails like those of pigs." The third, *Ostindisch, Reisebeschreibung*, p. m. 216: "Among our other slaves at the mine we had also a female slave who like a brute beast was disfigured behind with a short stump or goat's tail."

¹ Thus about the Philippines, Le Gentil, *Voy. dans les mers de l'Inde.* T. II. p. 52.

² Nic. Fontana *On the Nicobar Isles*, in *Asiatic Researches*, Vol. III. p. 151.

³ [I have omitted here a long note which repeats what was said before (p. 142) about the figure represented in Pl. 2. ED.]

though briefly. Briefly, I say, both because in man it can scarcely be said to constitute a particular variety, and also because it would be tedious to repeat those things which I have in another place said about this remarkable disorder¹.

78. *Human leucæthiopia.* The affection must be considered cachectic, which is plain from two pathological and constant symptoms. One of these consists in a singular colour of the skin, a sickly white partly shading into an unnatural redness, very often presenting the appearance of a slight leprosy²; and also in an anomalous whiteness of the hair and groin, not silver white as in old men, nor nicely yellowish, verging to cinerical, as may be seen in many of our own countrymen, who are therefore called yellow (fr. *blondins*), but rather straw-coloured, or cream-coloured. The other affects the organs of sight, and deprives them of their dark pigment which in sound eyes lines some of the internal membranes, and is destined for the absorption of the excess of light, a thing of the utmost importance for good and clear vision. Hence the iris of the eye of a leucæthiopia is of a pale rose, and half transparent: the pupil is bright and of a more intense red, like a sardonyx or carbuncle of a pale colour.

These two symptoms occur united with a singular constancy, so that, as far as I know, that peculiar redness of the eye is never seen alone, or without that false whiteness of the hair on the head and elsewhere. It is not, however, to be wondered at if the redness of the pupils has not always been noticed by observers, since the other symptoms we have spoken of strike the eye more, and the leucæthiopiae not being able to endure the light have a habit of constantly winking the eyelids.

The disease is always congenital; never, so far as I know, being contracted after birth. Always incurable; for there is no single known instance of the black pigment being ever added to the eyes after birth. It is very often hereditary; for

¹ *Commentat. Soc. Reg. Scientiar. Gottingens.* T. VII. p. 29, and *Medicinische Bibliothek*, T. II. p. 537.

² *Comp. Hawkesworth's Collection*, Vol. II. p. m. 188.

it is false what has been said by some that leucæthiopians are sterile or incapable of generating or conceiving. Generally, all the accounts we have of this remarkable disorder are wonderfully deformed with errors of all sorts. Thus some have doubted whether leucæthiopia ought to be considered as a true morbid affection; others have foolishly confounded it with cretinism, others with the history of the *Simia satyrus*; others have rashly asserted that this affection is only to be seen within the tropics. For although it was no doubt first observed amongst the Ethiopians, for the reason that in a black nation this whiteness of the skin and hair would necessarily strike most every one's eye, and hence the name of leucæthiopians (fr. *négres blancs*) was given to those suffering under that malady (who are called in the East Indies contemptuously by the Batavians *Kackerlacken*, after a light-shunning insect, by the Spaniards *Albinos*, the French *Blafards*, &c.); it is so far from being the case that it occurs only amongst the negroes, or even only in the torrid zone, that on the contrary nothing is more certain than that there is no variety of mankind, no part of the world which is unfit for the manifestation of that disease.

Sixteen examples of leucæthiopians have already come under my notice born in different provinces of Germany¹. Then in the rest of Europe some among the Danes², the English³, the Irish⁴, the French⁵, the Swiss⁶, the Italians⁷, the islanders of the Archipelago⁸, the Hungarians⁹. Then out of Europe amongst

¹ An account of many is given in *Medicinische Bibliothek*, T. III. p. 161.

² *Ib.* p. 170.

³ Benj. Duddell's *Supplement to his Treatise on the Diseases of the Horny-coat*, Lond. 1736, 8vo, p. 19; and Jo. Hunter, *On certain Parts of the Animal Economy*, p. 206.

⁴ C. Perceval in *Transactions of the Irish Academy*, Vol. IV. p. 97.

⁵ Le Cat, *De la Couleur de la peau Humaine*, p. 103.

⁶ *Medicinische Bibliothek*, T. I. p. 545.

⁷ About the Savoyards whom I have described myself, see Saussure, *Voyages dans les Alpes*, T. IV. p. m. 303. Bourguet makes mention of a Venetian in *Lettres Philosophiques sur la formation des sels*, p. 163. Buzzi dissected a Milanese, see his *Dissertazione sopra una Varieta Particolare d'Uomini Bianchi Eliofobi*, Mediol. 1784, 4to. Jo. Hawkins informed me that he saw a similar girl at Rome.

⁸ From the account of the same John Hawkins, my friend whom I have just quoted, who saw two twin-brothers, leucæthiopians, about twelve years old in his first journey to the Archipelago and the seas in the island of Cyprus, natives of Larnica.

⁹ Mich. Klein, *Natur. seltenheiten von Ungarn*. Presb. 1778, 8vo, p. 15.

the Arabians¹, the Malabars², Madagascans³, Caffres⁴, Negroes⁵ (as well those born in Africa itself as amongst the Ethiopian creoles of the new world). Then amongst the Americans of the Isthmus of Darien⁶, and Brazil⁷. Finally, amongst the barbarous islanders of the Indian and Pacific Oceans; as in Sumatra⁸, Bali⁹, Amboyna¹⁰, Manilla¹¹, New Guinea¹², the Friendly¹³ and Society Islands¹⁴.

Moreover, this affection of which we are speaking is by no means peculiar to mankind, but has been observed in many other warm-blooded animals of both classes. Of the mammals, besides the common instances of the rabbits, the mice, the weasels and horses (in which four kinds of animals this affection in process of time seems to have become a sort of second nature), instances of apes¹⁵ have been reported to me, squirrels¹⁶, rats¹⁷, hamsters¹⁸, guinea-pigs¹⁹, moles²⁰, opossums²¹, martins²², weasels²³, and goats²⁴. Amongst birds, crows²⁵, thrushes²⁶, canary-birds, partridges²⁷, hens and peacocks. It is remarkable that

¹ Ledyard in *Proceedings of the African Association*, p. 45.

² *Tranquebarische Missions-berichte, Contin.* XLVI. p. 1239.

³ Cossigny in *Histoire de l'Acad. des Sc. de Paris*, a. 1744, p. 13.

⁴ De la Nux, *Ib.* a. 1760, p. 17.

⁵ Out of the crowd of eye-witnesses it will be enough to quote three: Oliv. Goldsmith, *History of the Earth*, Vol. II. p. 240. Buffon, *Supplement à l'Histoire Naturelle*, T. IV. p. 559, and Arthand in *Journal de Physique*, Oct. 1789.

⁶ Wafer's *Description of the Isthmus of America*, ed. 2, p. 107.

⁷ De Pinto in Robertson, *History of America*, Vol. II. p. 405.

⁸ Van Speren in *Verhandelingen van het Bataviaasch Genootschap*, T. I. p. 314.

⁹ *Id. l. c.* with a plate.

¹⁰ Valentyn, *Beschryving van Amboina*, T. II. p. 146.

¹¹ Camelli in *Philosophical Transactions*, Vol. XXV. p. 2268.

¹² Argensola, *Conquista de las islas Malucas*, p. 71.

¹³ Cook's *Voyages to the Northern Hemisphere*, Vol. I. p. 381.

¹⁴ Hawkesworth's *Collection*, Vol. II. p. 99 and 188.

¹⁵ Sir R. Clayton in *Memoirs of the Soc. of Manchester*, Vol. III. p. 270.

¹⁶ Wagner, *Histor. Natur. Helvetiae*, p. 185. Gunner on Leem, *De Lappo-nibus Finmarchiae*, p. 207.

¹⁷ Gesner, *De quadrupedibus*, p. 829.

¹⁸ The author (Sulzer) of the Classical Monograph on the hamster gave me one of this kind.

¹⁹ Boddaert, *Natuurkundige Beschouwing der Dieren*, T. I. p. 210.

²⁰ *Ib.* ²¹ *Ib.*

²² Kramer, *Elench. Animalium Austr.* p. 312.

²³ Boddaert, *l. c.*

²⁴ Themel in *Obererzgebürgisches Journal*, Freyberg, 1748, 8vo, P. I. p. 47.

²⁵ From the account of my friend Sulzer.

²⁶ Jo. Hunter, *On certain Parts of the Animal Economy*, p. 204.

²⁷ Buffon, *Histoire Naturelle des Oiseaux*, T. II. p. 146.

not a single example, so far as I know, of this affection has been observed in any cold-blooded animal.

79. *Epilogue to this section.* Let so much suffice about the causes and ways in which mankind degenerates into varieties in respect of colour, structure, proportion, and stature. In this enumeration I have left untouched no point that I know of which can in any way help to unravel the famous question about the unity or plurality of the species of man. We shall see in the following section, after this general discussion, how that species is in reality composed according to nature.