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# OBSERVATIONS

ON THE

PSYCHOLOGICAL DIFFERENCES WHICH EXIST

AMONG THE TYPICAL RACES OF MAN.

BY

ROBERT DUNN, Esq., F.R.C.S.ENG.

(READ BEFORE THE ETHNOLOGICAL SOCIETY OF LONDON, FEBRUARY 3RD, 1863 ;

AND AT THE MEETING OF THE BRITISH ASSOCIATION

AT CAMBRIDGE, 1862.)

*Reprinted from the Transactions of the Ethnological Society.*

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II. — *Some Observations on the Psychological Differences which exist among the Typical Races of Man.* By ROBERT DUNN, Esq., F.R.C.S.Eng.

(Read February 3, 1863; and at the Meeting of the British Association at Cambridge, 1862.)

PAPERS of a physiological and psychological character have so rarely been read at the meetings of this Society, and in the printed volumes of its *Transactions* are so few and far between, that I make no apology, nor do I feel any hesitation, in asking your attention, on the present occasion, to some observations bearing upon these departments of Ethnology; satisfied as I am, that, if there be one branch of our science more interesting and important than another, it is that which relates to the psychological differences which exist among and characterise the different varieties of the human species. There is great truth in the dictum of the Pagan philosopher Favorinus :

“ On earth there is nothing great but *man* ;  
In man there is nothing great but *mind* ! ”

That the *genus homo* is one, is, I believe and maintain to be, a



truth indisputably established, for in man's moral and religious attributes the inferior animals do not participate, and it is this which constitutes an immutable distinction between him and them. The barrier is thus impassable which separates him from the chimpanzee and the gorilla. Whenever and wherever, indeed, two-handed and two-footed man in his attitude erect is seen, and his voice in articulate speech or utterances is heard, his claims to our common humanity are immediately recognised; for they are irresistible, however debased the type may be, and mean the garb in which that humanity is clothed.

In my last communication to this Society, on the "Physiological and Psychological Evidence in support of the Unity of the Human Species", I have avowed my conviction that all the races of the great family of man are endowed with the same instinctive intuitions—sensational, perceptive, and intellectual—the same mental activities, however they may differ in degree; in other words, that they all have, as constituent elements, the germs or original principles *in common*, of a moral, religious, and intellectual nature; so that, however great and striking the psychological differences may be which exist among and characterise them, they are nevertheless differences in degree, and not of kind.

Now, in offering some observations on these differences, I shall waive the *questio vexata* as to whether there has been more creations than one of the same genus, more Adams and Eves than a single pair, not only as being a question that is foreign to my present object, but also as being one which can never be determined by practical observation. For it cannot for one moment be denied that permanent, and, in their external forms, well marked varieties of man have existed from all historic times, and do still exist at the present day, on the face of the earth, readily to be distinguished from each other by well marked physical and important psychical characters, claiming to be designated *aboriginal and typical races*. Such are the black Negroes of Africa, the red Indians of North America, the yellow Mongolians of Asia, and the white men of Europe.

But, at the same time, it must be admitted, before that all-important unity of the human species just indicated, which has its firm and solid basis on the participation of every race in the same intellectual, moral, and religious nature, and in the community of the same social and moral rights, alike the privilege of



all, the unity from the consanguinity of a common descent sinks into comparative insignificance. Now, having said so much, need I add that, with recognition of the right of the most debased and degraded races to our common humanity, come most assuredly, as a necessary consequence, the claims upon us of the duties of brotherhood towards them. For, as God made of one blood all the nations of the earth, and endowed them all with the same animal, intellectual, moral, and religious nature, so has He bound them all together, in accordance with the high behest that they should increase and multiply, and replenish the earth, *in one common bond of universal brotherhood.*

It has, indeed, been fairly argued, that all the races of the human family are but different forms of the same species, from the physiological fact that they are all capable of fruitful union, and are propagated by generation; and that they are not therefore different species of one genus; for, if that were the case, then it is argued their hybrids would be unfruitful.

My immediate object, however, at this time, as it was at the late meeting of the British Association at Cambridge, is to indicate to physiological ethnologists a field of investigation and inquiry, which, if thoroughly explored, cannot fail of yielding a rich harvest, and of throwing, unless I am greatly mistaken, a flood of light upon the causes of the psychical differences which exist among the typical races of man.

Believing, as I do, that the brain or encephalon is the material organ of the mind, where the ultimate molecular changes precede the mental states, and from whence the mandates of the will issue, whether for the production of voluntary motion, or for other acts of volition, I am impressed with the paramount importance of assiduously studying and carefully comparing and contrasting the cerebral organisations of the typical races, with the view, and as the most efficient means, to the better understanding and elucidation of the psychological differences which exist among and characterise them. It must, however, be confessed, that the cerebral physiology of the typical races remains to be wrought out, and that ethnic psychology is still a *desideratum*. No doubt in former times, and even in the age of the venerable Blumenbach, the prosecution of this subject was beset with insuperable difficulties, but these can in truth no longer be said to exist. Still (and to our shame be it spoken), notwithstanding our extensive and daily spreading intercourse with all the nations and races of the earth, little or next to nothing has been done in the furtherance of the investigation of a subject so fraught with interest, and pregnant with consequences of such deep importance. Since the enunciation, indeed, of Gall, that the convolutions of the brain are the seat of the faculties of the mind, their development and classi-



fication have become invested with peculiar interest. Gall was the first to classify the convolutions. One of the most remarkable men of the age in which he lived, he was alike distinguished for originality and independence of thought, for powers of observation, untiring industry, and indomitable perseverance. To him and his able coadjutor, Dr. Spurzheim, physiology and psychology are under great obligations. No one has studied the varying forms of the human cranium, with a view to their psychical significance, with greater care and attention, and on a more extended scale, than the illustrious Gall. It was the labour of his life; and, so far as outward and visible signs are concerned, he, Spurzheim, Combe, and Carus, from multiplied observations, have established certain cranial landmarks, which are highly important in the study of the typical races. But the time has now come, and the opportunities are neither few nor far between, for us not to be content with a mere external survey. We are called upon to remove the bony covering, and, under the guidance of the chart provided for us by the indefatigable Gratiolet, assiduously to study and carefully to contrast and compare the sizes of the lobes, and the complexity of the developments of the cerebral convolutions in all the different races. At the same time, I am free to confess my abiding conviction that the development of the convolutions of the brain, with some well understood limitations, moulds and fashions, giving configuration, form or shape, and volume, to their bony envelope—the *skull*; and, accordingly, the study of the varying forms of the cranium has led to some important generalisations. Thus, from a comprehensive survey of the great family of man, as scattered over the whole surface of the globe, it is maintained by Dr. Prichard and other eminent and distinguished ethnologists, that there are three typical forms of the skull, from which all the existing varieties are derived and may be traced; viz., the *prognathic* or Ethiopian, as seen in the African Negro; the *pyramidal* or Mongolian, as seen in the Calmuc and Tartar; and the *oval* or Caucasian, as seen in the European; and that these three typical forms prevail concomitantly, and characterise respectively three well marked stages or conditions of human existence, the *savage*, the *nomadic*, and the *civilised*. Neither can the fact be gainsaid or denied, that the outward aspect is not more striking between the narrow, low, and receding forehead in the skull of the poor idiot or degraded Bushman, and that of its full, expansive, and lofty development in the skull of the man of acknowledged intellectual power and greatness, than is the difference, marked and striking, which is revealed to us when their bony coverings have been removed, and their cerebral hemispheres are viewed in contrast.

The late Professor Retzius, of Stockholm, divided the whole



human family into *dolicho-cephalic* and *brachy-cephalic*—into long heads and short heads, in proportion to their breadth ; and, again, availing himself of the facial angle of the far-seeing Camper as a measure of intelligence, he subdivided these two great classes, according to the upright or projecting character of the jaws, into *orthognathous* and *prognathous*, as characterising and indicating elevation and degradation of type. Thus, among the Indo-European races, the Saxons, Celts, and Scandinavians, etc., the face scarcely projects beyond the level of the forehead ; while in the African Negro, the Bushman, and the Australian savage, the face, nose and jaws, ape-like, are all protuberant and projecting.

Now, it is indisputable that the *dolicho-cephalic*, with their upright, and the *brachy-cephalic*, with their projecting faces and jaws, are respectively the representatives of the highest and the lowest types of humanity. But to this the African Negroes may seem to present an exception ; for, although their skulls are remarkably narrow, and their foreheads low and receding, they assuredly are *dolicho-cephalic*—a long headed race ; and it must be admitted that it is by lengthening the brain among the inferior animals, as shewn by the transverse foldings of the convolutions, that we meet with the greatest advance from the lower to the higher forms of the brain. But in the brain of the African Negro, as I shall hereafter have occasion to notice, there are many good points, although a manifest deficiency, when compared with the European, in its anterior and lateral cerebral developments ; and, as to their mental capabilities and moral qualities, what was the conviction of the great and good Dr. Channing of America, after much observation on the race ? “ I would expect,” says he, “ from the African race, when civilised, less energy, less courage, less intellectual originality, than in ours ; but more amiableness, tranquillity, gentleness, and content. They might not rise to an equality of outward condition, but would probably be a much happier race.” How truly has this appreciation of their character by the philanthropic Channing been verified in the dis-United States of America up to the present time, amidst all the horrors of the fratricidal and intestine civil war now raging in their midst !

The influence of organic size on the energy of function is an established physiological fact ; nor need I repeat the trite observation, that all men of great intellectual power have had large heads, and that all have been imbecile or idiotic whose heads fall below a certain definite measure. For it has invariably been found, among all the existing races of mankind, and in every country of the world, that the individual was idiotic, the circumference of whose head, taken a little above the orbits, did not exceed thirteen inches, while at the same time the distance was less than nine inches from the tip of the nose backwards over the top of



the head to the occipital bone. But the size of the brain is not a mere question of long heads and short heads, nor simply one in reference to the length, breadth, and height of the entire cranium; for the problem with which craniotomy has really to deal, is to determine the comparative and relative development of the three great divisions of the brain—the anterior, middle, and posterior lobes. In the appendix to Dr. Morton's *Crania Americana*, Mr. George Combe has furnished some valuable instructions as to the ascertaining and determining of these important points. So, too, have Drs. Thurnam and Davies, in their admirable work *The Crania Britannica*; and still more recently, in the last volume of the *Transactions* of this Society, is a truly valuable contribution from Mr. George Busk, "On a Systematic Mode of Craniotomy, as propounded by Professor von Baer of St. Petersburg."

But we must pass from the varying forms of the skull, the bony coverings of the brain, significant as they may be, to those of the cerebrum, or great hemispherical ganglia of the brain itself—the sole and exclusive seat of all intellectual action and volitional power—the material substratum, through which are manifested, in this life, all the mental phenomena of all the different races of man. For, if there be one point in the physiology of the brain more unequivocally demonstrated than another, it is this, that these great hemispherical ganglia are the instruments of the mind, where sensations are converted into perceptions, giving rise to ideas, and becoming the pabulum of thought. Now it is worthy of remark that, throughout the whole of the vertebrate series of animals, including man himself, the type of the brain is the same, and these hemispherical ganglia, from their first appearance as mere laminae or crusts in the brain of the fish, gradually increase in size and in the number and complexity of their lobes and convolutions as the animal rises in the scale of intelligence, until they reach their culminating predominancy in man; and then it is that they completely overlap and crown all the other encephalic ganglia. Each family of animals, as Leuret has demonstrated, has a brain formed in a determinate manner, and the number, form, arrangement and relations of its convolutions, are not formed at hazard, but are in strict accordance with the intelligence displayed by the animal. The distinctive differences, indeed, between the brain of man and that of the higher anthropoid apes, the orang outang, chimpanzee, and gorilla, have of late been the subject of much discussion. Believing, as I have already said, that the *genus homo* is one, and that in man's moral and religious attributes the inferior animals do not participate, I cordially agree with Professor Owen in the propriety of his sub-class, Archencephala, for the *genus homo*, but I must confess I do not in the soundness of his dicta as to its distinguishing structural peculiarities. For, among



those which he has enunciated, the possession of a posterior lobe, a posterior cornu, and a hippocampus minor, are not distinctive criteria of the *genus homo*, for they have been shewn to exist in the brains of all the true apes, and, so far from being in a rudimentary condition, are often *in them* more largely developed, in proportion to other parts of the brain, than even in man himself. We must give honour to whom honour is due; and it is to Gratiolet that we are indebted for a far more correct knowledge of the distinctive differences which exist in the brain of man and the highest anthropoid apes.

These differences were well pointed out in an admirable lecture, delivered at the Royal Institution on January 24th, 1862, by Dr. Rolleston, F.S.L., senior professor of anatomy in the University of Oxford, and published in the *Medical Times and Gazette*. In the opinion of Dr. Rolleston, what Max Müller has done for language, and Adams for astronomy, that Gratiolet has done for the anatomy of the brain. He says truly, "it would be an affront to the understanding and information of any scientific audience to address them upon the subject of the brain, and to ignore the labours of Gratiolet. But here I would remark, that what Leuret has so appositely said in reference to the convolutions in the brain of the Indian elephant, and in ruminants, applies with much force, and finds a fitting parallel, in the case of man and the highest anthropoid apes; bearing in mind this difference, that while the anterior lobe of the brain in the ape is pointed and taper, because it is narrow, that in man is blunt and round, because it is broad.

"Let us suppose," says he, "that in the brain of the Indian elephant all the superior convolutions, and the prolongations of the great internal convolution which was united to them, to be obliterated, then the fourth anterior convolution might be united to the fourth posterior, the third to the third, and we should have one of the groups of the convolutions of the brain of the ruminants and solipedes; in other words, those of the brain of an animal of an inferior grade."

The anthropoid quadrumana are destitute of the highest plane of cerebral development; and the contrast is indeed striking, when the high altitude of the brain in man, and its voluminous and expansive anterior and coronal regions, are compared with what is seen in the highest of the anthropoid apes. The fact that the highest of the apes differs more widely from the lowest of mankind in the dimension of altitude than in either that of breadth or length, whilst the lowest of mankind differs less from the highest in the selfsame dimension of altitude than in any other, is a matter of striking significance. The cranial capacity of the gorilla is found to range from only twenty-eight to thirty-four cubic inches, whilst that of the African Negro frequently exceeds seventy-five. The



capacity of the smallest human cranium measured by Dr. Morton was sixty-three cubic inches; that of the Caucasian race ranges from ninety-two to one hundred and fourteen cubic inches. The brain of an average European child of four years old is twice as large as that of an adult gorilla. But, when we bear in mind that the difference between man and the inferior animals rests specifically and fundamentally on the greater number and higher order of his psychical activities—his intellectual, moral, and religious endowments—his reasoning and reflecting powers—it can be no longer a matter of surprise that we should find wanting, in the highest of the quadrumana, the cerebral development or nervous apparatus of the perceptive and intellectual consciousness of man; those frontal, towering, and backwardly extending convolutions, the seat of the moral and religious intuitions—*the sole prerogative of man*, and the characteristically large and deep, but unsymmetrical convolutions on the surface of the hemispheres, “adorning the human brow as with a diadem”, administering to his highest psychical activities, and the seat of the faculties of imitation, imagination, ratiocination, and reflection—in fine, of the faculties of calculation, of order or arrangement, of comparison and causality, of ideality and wonder, “through the instrumentality of which he can number the stars, and, with instruments furnished by the higher mathematics, can weigh and measure the planets, assign their courses and times, mark out the path and anticipate the coming of comets, calculate the distances of the most distant nebulae, and only terminate his investigations in the inaccessible depths of infinitude. Through them he arranges every object that comes within his cognisance, whether material or mental; he perceives resemblances and differences, abstracts and generalises, analyses and combines, compares and infers, and ascends ‘from nature up to nature’s God.’ From *ideality*, the imaginative faculty, the vivifying soul of music, poetry, and eloquence, refining, exalting, and dignifying every object susceptible of improvement, springs his sense of the *beautiful*; and from *wonder*, that of the *sublime*.”

Again, I would remark, that the differences are not less characteristic and striking which we find in the development of the great internal convolutions in man and the quadrumana. These convolutions of the band—the *ourlet* of Foville—are, as I have elsewhere said, the primitive basement convolutions of the cerebrum, forming the broad lines of demarcation between the sensory and perceptive ganglia, between the centres of sensation and perception, are the central organs of the perceptive consciousness, and the common portals to intellectual action and volitional power. Their development and relations are in accordance with the extent and range of the perceptive faculties of the animal,



and may be fairly taken as a criterion or measure in fixing its place in the scale of intelligence. It is only in man that they exist in their highest state of development, and that their relations and connections with the primitive convolutions in the anterior, middle, and posterior lobes of the brain are so multitudinous, commensurate with the importance of their office, as the central organs through which the other perceptive organs—intellectual, moral, and religious—are reached and associated. Compared with what we meet with in the brain of the monkey and other anthropoid animals, the contrast is not more striking than it is psychologically significant.\* For while man, in the perception proper of outward existences, stands on the same platform with the lower animals, the process being alike *intuitive* in all, nature is not to him a mere system of *shapes, shades, and resistences*, but, by virtue of his more highly attuned organisation—the vast and varied range of his perceptive activities,—it speaks to him in a *higher language*, embodies *loftier ideas*, and breathes into the soul *diviner sentiments*.

Moreover, among the organs of sense, I would adduce the distribution of the optic nerve, and the ramifications of its cerebral roots, as a proof of the distinctive differences in the brain of man and the quadrumana. "Sight," as I have elsewhere observed, "it must be acknowledged, is the highest, most refined, and objective of all the special senses; *for sight is knowledge*, and the visual impressions on the retina pass direct to the seat of the perceptive faculties in the cerebrum. Now, Gratiolet has demonstrated that, as the animal rises in the scale of intelligence, as the range of its perceptive activities is enlarged and widened, so are the *cerebral connections* of the optic nerves extended and multiplied, and that in man they radiate to every part of the convoluted vesicular surface of the hemispheres. He has shown that in the quadrumana, as in man, a large tract of fibres,—quite independently of any connection with the special centres of sight, the *corpora quadrigemina*, and those of sensorial feeling, the *thalami optici*,—passes at once from the optic nerves to every part of the ganglionic tissue of the hemispheres; its fanlike expansion extending not only to the superior and posterior borders of the hemispheres, but also to their frontal extremities, making a special termination near that band of convolutions which extends along the superior border, and of which the high development is so peculiarly characteristic of the human brain. In marsupial animals the cerebral ramifications are altogether wanting, and in the monkey, where the optic nerves are large, the cerebral distribution is small, when compared

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\* Vide Essay on Physiological Psychology, by Robt. Dunn, F.R.C.S., etc., p. 53. London: John Churchill. 1858.



to what passes to the corpora quadragemina, and strikingly so when contrasted with the cerebral terminations of the nerve in the brain of man.”\*

Lastly, my friends Dr. Beale and Mr. Lockhart Clarke have proved to demonstration, that *perceptible structural differences* exist in the minute anatomy—the ultimate structure of the vesicular substance, or gray matter of the convolutions in the brain of man, and that of the monkey and the highest anthropoid apes.

But to proceed. It is much to be regretted that the brains of the lowest and most degraded of the human races have been so little examined ; but it is at least to be hoped, that, in respect to the aboriginal races “at the Cape of Good Hope, in Australia, and within reach of the Hill Men of India,” as well as elsewhere, medical men will not long be found wanting to supply this desideratum of ethnic psychology. When the cerebral convolutions of the brain in the typical races have been thoroughly examined, and carefully contrasted and compared with each other, then, but not till then, in my opinion, shall we have a clue likely to unravel and elucidate many of the existing obscurities appertaining to their psychical differences. The little which has already been done is not without significance. From comparisons of this kind, Gratiolet has established the important general fact, that among the convolutions, simplicity of structure, and perfect symmetry of shape and arrangement, in both of the hemispheres, are sure marks of degradation of function. He has demonstrated, that, in the three stages of frontal cerebral development—the superciliary or inferior, the middle, and the superior or frontal, in other words, the intellectual regions of the brain—there exist among the lowest and highest types of humanity differences in size and complexity of structure, in the convolutions, and in the relations of the second or middle, both with the inferior and superior stages, which accord with and, indeed, are found to indicate and correlate corresponding differences in the psychical activities of the races. Nor has the observation escaped him of the striking contrast which is presented between the simple, smooth, and symmetrical convolutions, in both of the hemispheres, on the superior frontal region of the brain in the inferior races, and that of the unsymmetrical character, and of the great and intricate complexity of the same convolutions, among those of the highest. He has dwelt on the importance of studying, with scrupulous care and attention, the complexities, relations, and arrangements of these convolutions, in the superior frontal and coronal stage, in all the different races, with a view to their psychical signifi-

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\* Medical Psychology, by Robt. Dunn, F.R.C.S., pp. 32, 33. London : John Churchill. 1863.



cance. Indeed, for the advancement of ethnic psychology, I cannot too strongly impress upon physiological ethnologists, my own conviction of the necessity and importance of a more exact knowledge than that to which we have attained of the cerebral structural differences which exist among the typical races.

When such knowledge has been gained, we may cease to wonder how it happens that the North American Indians, on the very confines of civilisation, should remain uncivilised—the same wandering, lawless savages which they were when Columbus first set his foot among them; how the wigwams and the miserable bark huts of the aborigines of New Holland should have been swept away before the flood-tide of European civilisation, those homeless savages themselves seeking refuge in the desert and the mountain. And, again, among the Mongolian nations of Asia, we may be better enabled to comprehend how it is that their civilisation, so early attained, has not progressed but remained stationary; China, for instance, with its monosyllabic language, boasting of a civilisation nearly as old as that of Egypt, has remained stationary for thirty centuries; and, lastly, even among the European nations, the distinctive characters of the Saxon and the Celt, I am inclined to believe, will be found to be engraven on their brains: for, where the blood has remained pure and unmixed, the psychological differences are the same, and as characteristic and striking, even at the present day, as they were in bygone ages when Tacitus so graphically portrayed them.

Among the typical races, there has often been noticed a marked superiority on the part of the savage over the civilised in the force of their instincts, and in the acuteness of the organs of sense. But it is in their intellectual manifestations that the widest and most striking differences are seen. So striking and so great, indeed, is the intellectual inferiority of the Bushman, the Australian, and the Negro to that of the Indo-European, that their claims even to our common humanity have been denied to them, and they have been considered and treated as “wild fowl and cattle.” Now, how important is the inquiry and incumbent the duty upon the physiological ethnologist, to examine, compare, and contrast, in all the different races, the nervous apparatus, or organic instrumentality, through which such varying psychical phenomena are manifested. Let us, then, as examples from savage life, view in contrast the aboriginal races of Africa and North America,—the Negro and the Red Indian,—and see, so far as the subject has hitherto been investigated, what light the differences in their cerebral organisation can throw upon their respective characters, mental manifestations, and destinies.

Among the Negro tribes there is a great variety, and much difference in their mental endowments. Some have become ex-



cellent mechanics, others clerks and accountants, while others have remained mere labourers, incapable of any intellectual attainments, and characterised by low and receding foreheads. When free from pain and hunger, the life of the Negro is naturally a state of enjoyment. As soon as his toils are for a moment suspended, he sings, he seizes fiddle, he dances; easily excitable, and in the highest degree susceptible of all the passions, he is more especially so of the mild and gentle affections. The American Indians, on the contrary, are averse to civilisation, and slow in acquiring knowledge. They are restless, stern, silent, and moody, and to them a ruminating existence is a burden; revengeful and fond of war, but wholly destitute of maritime adventure. Now, their cranial differences are marked, and so are their cerebral. The Negro is *dolichocephalic*, the Indian *brachycephalic*, and both are *prognathous*. The skull of the Negro is long but narrow, and the forehead low, but it rises higher and is more amply developed in the intellectual and moral regions than that of the Indian; the occiput is large. In the Red Indian the skull is small and short from front to back; wide at the top, between the parietal protuberances; prominent at the vertex, and flat behind at the occiput. Its marked deficiency lies in the superior and lateral parts of the forehead. The brow is low; and, contrasted with the European skull, there is a striking difference not only in its length, but both in its anterior and posterior developments. Dr. Caldwell, of America, who had ample opportunities of studying, examining, and measuring the heads of many of the tribes of the Red American Indians, says, "that the average size of the head is less than that of the white man, and that its chief deficiency," to use his own words, "lies in the superior and lateral parts of the forehead, where are situated the organs of comparison, causality, wit, ideality, and benevolence. The defect in causality, wit, and ideality is most striking. In the organs of combativeness, destructiveness, caution, and firmness, the functions of which constitute the dominant elements of the Indian character, the development is bold. The proportion of brain behind the ears is considerably larger than in the white man, but adhesiveness is small. This analysis," he adds, "brief and imperfect as it is, unfolds to us much of the philosophy of the Indian character, and enables us, in a particular manner, to understand the cause of the peculiar inaptitude of that race of men for civil life: for when the wolf, the buffalo, and the panther shall have been completely domesticated, like the dog, the cow, and the household cat, then, but not before, may we expect to see the full-blooded Indian civilised like the white man. Of the mixed blood, which is very numerous, the cerebral development and the general character approach those of the white man, in proportion



to the degree of white blood which individuals possess ; and, on account of the marked superiority of his intellect, a half-bred seldom fails to become a chief among them. Of the full-blooded Indians generally, such is their entire unfitness for civilisation, that every successive effort to mould them to that condition of life, more and more deteriorates their character ; but of the mixed bloods this is not true. Hence, the only efficient scheme to civilise the Indians is *to cross the breed* ; attempt any other, and you *will extinguish the race*. To the truth of this the experience of every day bears ample testimony. The real aboriginal Indian is retreating before civilisation, and disappearing with the buffalo and the elk, the panther and the grisly bear. Let the benevolent and enthusiastic missionary say what he may, the forest is the natural home of the Indian. Remove him from it, and, like the imprisoned elephant, he loses the strength and loftiness of his character ; he becomes like a hot-house plant, and dwindles in all his native efficiencies."

Now the brains of the American Indian and the African Negro have been compared and contrasted with each other, and with that of the European, but not after the manner of Gratiolet ; this remains to be done : still the following important differences have been noted. The anterior lobe of the brain in the Negro and Indian is *small*, but in the European it is large, in proportion to the middle lobe. The posterior lobe of the Indian is *small*, but at the vertex the middle lobe is prominent, and the brain is wide between the parietal protuberances. In the Negro, the posterior lobe is more amply developed, but not so fully as it is in the European brain, where it reaches its maximum of development. Both in the Negro and in the Indian, the cerebral hemispheres are pointed and narrow in front ; and their transverse convolutions on the frontal lobes are remarkably conspicuous for the simplicity and regularity of their arrangement, and for the perfect symmetry which they exhibit on both of the hemispheres when contrasted with the complexity, irregularity, and unsymmetrical character which is presented on the brain of the European. Such cerebral differences, in my opinion, warrant, as a legitimate inference, that, alike in the Negro and the Indian, the nervous apparatus of the perceptive and intellectual consciousness falls far short of that fulness, elaboration, and complexity of development which characterise the Caucasian or European brain ; and hence the reason why the large-brained European differs from, and so far surpasses the small-brained savage in the complexity of his manifestations, both intellectual and moral.

The size, indeed, of the brain of the Negro is large when compared with that of the Indian ; but, as Morton has shewn, it falls below the European standard. According to Agassiz, a peculiar



conformation characterises the brain of the adult Negro, and among other singularities, it bears in several particulars a marked resemblance to the brain of the orang outang, and its development never goes beyond that developed in the Caucasian in boyhood. The illustrious and philanthropic Tiedemann, the warm and zealous friend of the African Negro, is constrained to admit that in him the anterior part of the hemispheres of the brain is more pointed and narrower than it is in the European; and he makes this farther concession to its inferiority, that the gyri and sulci on both hemispheres are more symmetrical, than in the brain of the European, and that in this respect it resembles the brain of the orang outang. Tiedemann, however, dwells on the fact that, in the case of a certain Bosjesman woman, the *Hottentot Venus*, the narrowing of the anterior part of the hemispheres was still more remarkable than in the Negro. This allusion of Tiedemann to the *Hottentot Venus* brings vividly to my recollection the eager and intense curiosity and wonder with which, in the days of my boyhood, I gazed on this same *Hottentot Venus*, when she was publicly exhibited at Newcastle-upon-Tyne. She subsequently died at Paris, and had the honour of being anatomised by Cuvier. "Fortunately," says Professor Huxley, "Gratiolet has also particularly described and carefully figured her brain, and his remarks upon the subject are exceedingly important and instructive. The convolutions," says he, "of her brain are relatively little complicated. But what strikes one at once is the simplicity, the regular arrangement of the two convolutions, which compose the superior stage of the frontal lobe. These folds, if those of the two hemispheres be compared, present an almost perfect symmetry, *such as is never exhibited* by the normal brains of the Caucasian race. This regularity—this symmetry, involuntarily recal the regularity and symmetry of the cerebral convolutions of the lower species of animals. There is, in this respect, between the brain of the white man and of this Bosjesman woman, a difference such that it cannot be mistaken." After pointing out other differences, he concludes by saying, "the brain of the *Hottentot Venus* is thus in all respects inferior to that of the white men, arrived at the normal period of their development. It can only be compared with the brain of a white who is idiotic from an arrest of cerebral development."

Now, with respect to the Negro's brain, Tiedemann, as Dr. Andrew Combe has well pointed out, fell into the very serious error of taking the absolute size of the brain as the measure of intellectual power only, whereas it indicates, as might be expected, *à priori*, absolute mental power, but without determining whether that power lies in extent of intellect, in strength of moral feeling, or in the force of passion or affection. If, for



example, we compare the Carib with the Hindoo brain, we find the entire mass of the former considerably to outweigh the latter; and so, according to Tiedemann, we should find more intellectual talent in the Carib. The fact, however, is notoriously the reverse; and the explanation is very easy, when we distinguish the regions of the brain in which the size exists. In the Carib, the anterior lobe is very small, in perfect harmony with his poverty of intellect; but the posterior and basilar regions of the brain are very large, also in harmony with his ferocity and energy of passion. In the Hindoo, again, the reverse holds: the anterior lobe is well developed, and so is his intellect; but the basilar region, so large in the Carib, is small in him, and, consequently, in vehemence of passion, active courage, and general force of character the Hindoo is greatly inferior to the more savage Carib.

Now the fact is indisputable, as I have already observed, that the large-brained European differs from, and far surpasses the small-brained savage in the complexity of his manifestations, both intellectual and moral.

Mr. Herbert Spencer has well observed, "There is this distinct evidence, from various quarters, that the minds of the inferior human races cannot respond to the relations of even moderate complexity, much less to those highly complex relations with which advanced science deals. According to the traveller Lieut. Walpole, it is remarked of the Sandwich Islanders, by their teachers, that, in all the early part of their education, they are exceedingly quick, but not in the higher branches; that they have excellent memories, and learn by rote with wonderful rapidity, but will not exercise their thinking faculties; that is to say, they can readily receive simple ideas, but not complex ones. Again, it is asserted of the Australians, that some of them are very quick at acquiring knowledge, but they have no power of combination and concentration.

The reports of the Hindoo schools disclose, though in a less marked manner, the same fact. And, according to Mr. W. Chambers, one of the reasons assigned by the Americans for not educating Negro children along with white children is that, after a certain age, they do not correspondingly advance in learning, their intellect being apparently incapable of being cultivated beyond a particular point, an allegation which, though liable to the suspicion of partisan bias, so far accords with independent statements from other quarters as doubtless to have some basis in truth. In all these cases, as also in the minor cases continually occurring amongst ourselves, of inability to understand subjects and reasonings possessing a certain order of abstruseness, the true interpretation is, that the cognitive faculties have not reached a complexity equal to the complexity of the relations to



be perceived. Moreover, it is not only with purely intellectual cognitions that this holds, it holds also with what we distinguish as moral cognitions. In the Australian language there are no words answering to justice, sin, guilt. Among various of the lower races, acts of generosity or mercy are utterly incomprehensible; that is to say, the more complex relations of human action in its social bearings are not cognizable." But I would ask, is not all this in strict accordance with, and what, *à priori*, might be expected to result from, organic differences in the instruments of the higher psychical activities; in other words, in the nervous apparatus of the perceptive and intellectual consciousness?

It is maintained, indeed, that "the human brain in its development passes through the characters in which it appears in the Negro, Malay, American, and Mongolian nations, and finally becomes Caucasian, partaking of these alterations. And that the leading characters, in short, of the various races of mankind are simply representatives of particular stages in the development of the highest or Caucasian type. The Negro exhibits permanently the imperfect brain, projecting lower jaw, and slender bent limbs of a Caucasian child some considerable time before the period of its birth. The aboriginal American represents the same child nearer birth. The Mongolian is an arrested infant newly born."

I shall here close this communication with the following remarks of my friend the late Mr. George Combe on the character and destiny of the North American Indians and of the Negroes, and made after having carefully studied both their crania and living heads in various parts of the United States of America, during his visits in 1838-9-40. "The North American Indians have given battle to the whites, and perished before them, but have never been reduced either to national or to personal servitude. Their cerebral organization indicates a natural character that is proud, cautious, cunning, cruel, obstinate, vindictive, and little capable of reflection or combination. In the brain of the Negro, in general (for there are many varieties among the African race, and individual exceptions are pretty numerous), the animal propensities are proportionably less developed, and the moral and reflecting organs are of larger size, in proportion to those of the animal propensities, than they are in the brain of the American Indian. The Negro is naturally more submissive, docile, intelligent, patient, trustworthy, and susceptible of kindly emotions, less cruel and cunning than the Red Indian. These differences throw some light on the differences of their fates. The North American Indian has escaped the degradation of slavery, because he is a wild, vindictive, cunning, untameable savage, too dangerous to be trusted by the white men in social intercourse with



themselves, and, moreover, too obtuse and intractable to be worth coercing into servitude. The African has been deprived of freedom and rendered 'property' because he is by nature a *tame* man, submissive, affectionate, intelligent, and docile. He is so little cruel, cunning, fierce, and vindictive, that the white men can oppress him far beyond the limits of Indian endurance, and still trust their lives and property within his reach; while he is so intelligent, that his labour is worth acquiring.

"The native American is free, because he is too dangerous and too worthless a being to be valuable as a slave; the Negro is in bondage, because his native dispositions are essentially amiable. The one is like the wolf or the fox, the other like the dog. In both, the brain is inferior in size, particularly in the moral and intellectual regions, to that of the Anglo-Saxon race, and hence the foundation of the natural superiority of the latter over both. And my conviction is," adds Mr. Combe, "that the very qualities which render the Negro in slavery a safe companion to the white, will make him harmless when free. If he were by nature proud, irascible, cunning, and vindictive, he would not be a slave; and as he is not so, freedom will not generate these qualities in his mind. The fears, therefore, generally entertained of his commencing, if emancipated, a war of extermination or of supremacy over the whites, appear to me to be unfounded; unless, after his emancipation, the whites should commence a war of extermination against him. What we see in the British West India Islands fully bears out these views, and the future, I anticipate, will still further confirm them."\* I have only to add, we shall see; the ordeal—the test—is at hand.

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\* Notes on the United States of America during a Visit in 1838-9-40, by Geo. Combe, vol. ii, p. 77, etc.











