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ANNALS OF PHRENOLOGY.

Article I.

Discourse delivered at the Annual Meeting of the Phrenological Society of Paris, by Professor Andral, President.

[Translated from the Journal of the Phrenological Society of Paris, for April, 1835.]

Gentlemen,—It seems that one of the most important wants of men in all the different phases of civilization, and in all ages, has been to solve the great problem of his intellectual and moral nature. He has sought this solution in every way, as if it were as necessary to him as the satisfaction of his physical wants. He has sought it by turns in the systems of philosophers, in the inspiration of poets, in the recital of historians ; and, more recently, as the sciences have been developed, he has questioned these sciences respecting the wonderful secret of the formation of his thoughts, or the development of his passions. He has found, that, in order to penetrate the mysteries of mind, it was absolutely necessary to study physical organization, both in its natural state, and in the different alterations it undergoes. It is but a little while since, that man has thought of entering seriously upon this new method of investigation, and already he is indebted to it for valuable and incontestable discoveries. To what results it will lead, the future must teach us. But, whatever may be the riches that are in store for those who will enter on this pursuit, it is incontestable, that the study of the intellectual and moral nature of man, through his physical organization, must henceforth be an indispensable study,

not only to physiologists, but to all those who attend particularly to psychological questions. This study is already the object of numerous societies in Germany, England, and France, which, on account of the nature and aim of their labors, are called 'phrenological societies.' Their object is to ascertain to what degree the doctrines of Gall, upon the relation between the brain and the mind, is correct. These societies, gentlemen, and our own in particular, reserve for themselves the full right of examination. They do not consent to adopt any thing but by their own reason. The men who compose them, do not forget that phrenology, which counts but few years of existence, is far from being a perfect science; it solicits new observations, and seeks new methods of observation. Among the principles which it has laid down, many doubtless have need to be submitted to the rigorous test of experiment. This science, like every product of human intelligence, is subject to the law of progression, and, consequently, to that of examination; and if it neglects this double law, if it does not declare itself progressive and perfectible, its fate is sealed; it will have no future. For us, gentlemen, the science of phrenology exists then but in the state of infancy, so that it yet promises more than it has given. If we wish that it should prosper, let us beware, above all things, not to compromise its existence by demanding of it more than its yet favorable means will permit it to perform; 'let us leave to time, *the great teacher*,' as Montaigne said, 'the care of its development, and do not let us, by any false enthusiasm of our own, give probability to the opinion of those who think, that the science founded by Gall, has no solid base; that the facts on which it rests are not such as sound physiology will admit, and that nothing authorizes us to judge of the intellect, feelings, or passions of men, by the development of certain parts of the brain, and of the cranium, which encloses it. Permit me, gentlemen, to submit to you some reflections on this subject, which will tend to show, that the original ideas which directed Gall in his researches, are conformable to the principles which have always guided physiologists, when they have sought to penetrate the mysteries of the functions in general, or of the cerebral functions in particular.

There has been a period in the science, when the functions of the brain were completely unknown. A long time after Galen had located the reasoning mind in this viscus, as he expressed himself, there were physiologists, in whose opinion the brain had no other office, than that of increasing the weight of the head, and of secreting the white fluids. This profound ignorance of the functions of the brain could not long endure; and soon, either by aid of observations made upon the sick, or by experiments upon animals, it was discovered, that the brain was the seat of different operations, by which man enters into relation with his own species, or with the rest of the universe. This was doubtless a great step, and yet it was only the birth of science. These numerous and different acts of which the brain is the instrument, have they all the same seat? or, is not the brain a complex organ, formed by the union of several parts, upon each one of which depends the performance of particular acts? To this last question, and even before the attempt to discover these parts, observation had answered in the affirmative. Indeed, intellect may be impaired, while movement and feeling remain unaffected; and these in their turn may undergo various morbid changes, without mind being in the least affected. Examine the subject of comparative anatomy;—it furnishes an admirable proof of the multiplicity of cerebral organs, showing in the scale of being, certain parts of the brain, either well developed, or much diminished, according as such and such actions which the brain is destined to perform, are predominant or not, in the animal. There are, indeed, certain parts of the brain, which are only found in certain animals, and in these animals we observe certain actions, not observable in others. For example, according to the account of Desmouliens, those fish which can defend themselves, by discharging upon their enemies a stream of electricity, have in the brain a supernumerary lobe, the existence of which is as peculiar to the animal, as is the faculty which it performs.

Thus, the further we advance in the study of the numerous functions, which the nervous centers are destined to perform, the more we are inclined, and, as it were, irresistibly driven by all that we observe, to divide the nervous mass which fills the cranium into a

certain number of organs, each one of which is the instrument of a particular act.

But, gentlemen, this is not all ; each of these great cerebral actions, which are at first considered as simple, is in itself a complex act made up of several others, each one of which, it may be, has its seat in a particular part of the brain. Thus it is very probable, that each one of our numberless muscular movements, originates from a particular part of the brain, and the proof is, that any one of them can be separately impaired, or affected. Thus, the faculty of articulating sounds should have a particular seat ; for the speech may remain intactive during the most serious disturbance of the cerebral function ; or this faculty may be affected, while the rest of the cerebral functions are unaltered.

Contemplate now, gentlemen, the intellectual and moral nature of men : how complicated, but how differently complicated is its state ! What is intellect, if it is not the union of many faculties, which sometimes acting alone, sometimes combining together, now ceasing to act, and now developing themselves, form the infinite variety of minds ? Now, if all these faculties have one common seat, and are performed in the same parts, how can we conceive that they may be thus separated the one from the other ? Why are not men of genius superior in every department ? Why do we find men, who in respect to general intellect are not above mediocrity, who show an extraordinary fitness for certain things ? Such have been a great number of musicians, mathematicians, mechanics, &c. Why are there some men, who, as is commonly said, have no particular bent, possessing, differently from the preceding ones, an intellect so flexible, and so powerful, that they can pursue with equal ease, different branches of human knowledge, and distinguish themselves in all of them, without, nevertheless, manifesting the superiority of genius ?

If we examine more particularly the moral nature of men, what different individualities do we find ? See how such an one, notwithstanding the principles he may have received, either by education, or social institutions, is entirely the slave of a passion, which urges him on, in spite of himself, to heroic action, or atro-

cious crime? But, gentlemen, it is with the passions of man, as of his intellectual faculties: in the greater number there is a certain equilibrium, which prevents the predominance of any one faculty to the subordination of the rest. These are common men; these make up the crowd; their lot is to follow the lead of those superior geniuses, of those impassionate spirits, who govern the world; the world of which they are the glory or the shame, the blessing or the curse. If now, we would study as physiologists all those wonderful differences, which stamp upon man his intellectual and moral character, should we be content to take them as facts, beyond which we cannot penetrate? Or, ought we, on the other hand, to inquire into their cause? If we should so inquire, is it reasonable to seek for this cause in the difference of cerebral organization? Shall we endeavor to ascertain if there is in the brain a special organ or instrument for each intellectual faculty and which grows and increases with it? Such is the question laid down by Gall; and the considerations now to be urged, ought to induce us to answer it in the affirmative.

But this is not all. The great question once started, Gall was obliged to propose another; viz. is it possible to distinguish, in the mass of the brain, those parts destined to the performance of particular intellectual acts, to the development of particular passions? This is not possible, unless the size of each of these parts is relative to the predominance of the intellectual or moral action, which it is destined to perform. Now, by analogy, this question should be admitted every where: indeed, in the whole series of organized beings, and in man particularly, considered in the different periods of his existence, either in a state of sickness, or health, we see the organs increasing, or diminishing, in proportion to the different degree of activity of the function which belongs to them. The same is to be presumed, then, of the encephalic organ. This assumption of the theory is worth at least the labor of verification by observation. But, at present, we can say, that the presumption amounts almost to certainty; so powerful is the analogy, which can be urged in its favor.

I will take for granted, then, at present, the demonstration, that

the predominance of one cerebral faculty involves a predominance, in size, of that portion of the brain, which is its instrument; and this question then follows: Can we, during life, recognize the relative development of the organ, and its function? To this question the answer must be, that, as a general principle in healthy and diseased beings, the parts that are protected by envelope, more or less solid, regulate the development of their envelope; and it is wonderful to see, how in a multitude of cases, the most solid parts will change their shape, and increase or diminish in a very short space of time, according as the organs which they cover increase or diminish in size. Observe, for instance, how the sides fall in when the lungs are decayed; how a small brain requires a diminutive skull; how, when one side of the brain is formed smaller than the other; or, if it becomes smaller, this inequality of size is equally marked in the shape of the sides of the cranium. From these incontestable facts, who does not see, that there is a natural transition to those which have been demonstrated by Gall, and from which it follows, that each cerebral organ is marked by a development of the cranium in its corresponding point. We only, then, receive and follow the sequents of physiological laws, known for a long time, when we examine the development of the sides of the cranium, in order to discover the development of certain cerebral parts. It is understood, that we can have still greater faith in the result to which such examinations lead, since recent researches make it more and more probable, that different intellectual acts have their seat more particularly on the cerebral surface.

In all that I have said, gentlemen, I have had but one object,—to prove that the science of which Gall is the founder, and to which the name of phrenology has been given, ought henceforward to be considered an important part of the study of physiology. The question is not, whether Gall and his successors erred in the determination of the cerebral organs. Even if no one of these organs has been found, the basis of the science is still unaffected. The principles of it have been laid down by aid of induction, in itself most valuable; and, sooner, or later, the facts will be accumulated, then the science will be definitely formed, and if the great

majority of these facts favor the principle laid down, we must not be embarrassed by a few exceptions, for these will be only apparent. The learned colleague, to whom I have succeeded in this chair, Mr. Boulland, has said with much reason, in a work, where he has established, by observation, the multiplicity of the cerebral organs, 'that if any *theory which is contradictory to a well-observed fact must be false, so every fact contradictory to a rigorously demonstrated theory, must have been but imperfectly observed.*' Besides, if the science of phrenology has truth upon its side, fear not for its future; for there is not an instance of a truth, not making its way, when it has once been brought before the world. But it must pay its entrance money; some persons must be elbowed in order to make room for it, and this does not suit them. It has, besides, the great fault of being younger than those, whom it pretends to enlighten. But let it alone; it will find out how to overcome all obstacles. The earth has not become fixed like the sun, around which it turns, because Galileo was forbidden to proclaim that the earth turns upon its axis; the circulation of the blood has not ceased, because it was obstinately denied for a long time after its discovery; so obstinately, indeed, that when long after the labors of Harvey, Mr. Dodart returned to defend a thesis at Paris, upon the reality of the circulation of the blood, the old doctors [according to Fontenelle] '*thought that the young candidate managed his subject very well, considering the strangeness of the paradox!*'

Most of the great truths, indeed, which at different periods have burst upon the world, were at their birth considered as paradoxical, and, on this account, it is very natural that they were always slowly and unwillingly received.

Article II.

A Memoir upon the Connection between the Physical and Moral: read before the Academy of Moral and Political Sciences,— 16th and 23d Aug. 1834; by P. J. V. Broussais. [Translated from the Journal of the Phrenological Society of Paris for July, 1835.]

It is known how the Institute (Academy of Sciences) received the Memoir of Dr Gall, upon the functions of the nervous system in 1808.

The Academicians, so far from perceiving in it the elements of a happy revolution in the science of man, did not even recognize it as a doctrine, a system worthy of attention; and set it aside, as if no one was in future to pay attention to the new physiology of the brain.

It is with greater probability of success that a new appeal is made to the Institute: it is to the Academy of Moral and Political Sciences, that M. Broussais addresses himself, demanding, in the name of science, the attention of his colleagues. 'The Institute,' says he, 'should not, henceforward, be ignorant of the system of Gall; the subject must be brought before it; and it belongs, especially, to the Academy of Moral and Political Sciences to examine it, because its object is to change the methods which have been proposed for the analysis of the faculties of the mind. It merits this honor, by the influence it would exercise upon education, and upon the improvements in charitable institutions, should the facts upon which it rests be fully admitted.' Having thus, in the outset, insisted upon the importance and utility of phrenology, let us see how he expresses himself at the close, upon the same subject: 'Phrenology is not now based upon a superficial examination of heads, but upon collections of casts taken from the living and the dead. These collections present the advantage of re-

peated comparisons; they fix the facts in the memory by recurrence and observation; and they sternly correct hasty judgments, premature generalizations, and all the errors to which theory tends. Indeed, it must be, that we there meet with facts, for the collections are increasing every day more and more; and it is henceforward out of the power of any learned body, of any spirit of party, of any government, even, to stop the progress of phrenology, based, as it is, upon immense collections of this kind.

It will flourish until observation shall have reaped from the facts on which it is based, all the fruits they can produce, or shall have proved them to be entirely sterile and worthless. If it progresses, as we foresee it will, philosophy must, of course, be materially changed by it; legislation will be affected by it; manners and customs, and the relations of social life, will to a certain degree be modified by it.'

Such is the straight-forward course of M. Broussais; he fears not to proclaim in the very face of the psychologists some truths which displease them; for who does not know the profound contempt of those wiseacres for every thing thing like anatomy, physiology and the science of organization.

These *spiritualists** regard us, as so far below them, so buried up in matter, that it is beneath their dignity to stoop to commune with us. No matter—we will shoot up into the clouds in which they are enveloped; we will let them know that we can understand their vague and mysterious language, if we choose to examine it; that we can perceive how much it contains, and appreciate better than others its real value and importance; and that we attack the foundations—aim at the causes of things, while they waste their strength in an idle war of words. But we must know how to use their language, otherwise they would have a right to accuse us of not understanding them.

Such is the task which M. Broussais now assumes. He takes up the science of ethics and physics, where they were left by Cabanis.

* We coin the word, in mercy to the reader, to spare him the painful pronunciation of that uncouth sound psychologists. Tr.

Cabanis referred the phenomena of mind to the action of organized and living matter. Considering sensibility as simply a physiological phenomenon, he referred those feelings to the brain, which had been referred to the viscera, although he recognized the influence of these latter. It is especially the influence of age, sex, temperament, climate, diet, exercise, sleep, watching, of sensibility, taste, passion, judgment, &c. that he has shown with all the superiority of genius; but, disciple of Locke and Condillac, he has seen in the phenomena of the human mind, only sensation in another state. It is upon this point that the doctrine of the 18th century was open to the critic; phrenology has corrected this error by substituting observation for hypothesis. 'Until then,' says M. Broussais, 'knowledge of bodies and their attributes, the changes which they undergo, or events,—in one word, all notions of the external world had been considered by philosophers as the result of the action of external senses upon the brain. It was believed that the senses furnished distinct representations or images of objects, and the whole brain was supposed to be working up these images and converting them into ideas, (a word which still signifies images,) which serve as materials for all the intellectual phenomena of which this organ is the seat; and even for the relative phenomena, because, according to the philosophers, the tastes, propensities and passions were only the results of pleasure or pain, of desire or aversion, to which the sensations gave birth in the centre of perception, the *sensorium commune*.

'Some explain these operations by the intervention of a principle different from the nervous system; the faculty of abstraction especially seems to require a principle of this kind, which received the name of mind or spirit; but others thought they could do without these explanations. There were even some, who could discover no relation between the action of the nervous system and the principle in question: they saw only a simple coincidence; but all were agreed upon this point, that the external senses and the mass of the brain, that is, the whole brain, are either material instruments of intellectual phenomena, or, at least, conditions necessary to their manifestation.

'Phrenologists, gentlemen, have gone a step further in this doctrine. They point out inseparable relations between the principal series of intellectual, instructive, and affective phenomena, and the different regions of the nervous system, or the whole brain. For it is not a question of elevations, or bumps upon the surface of the brain, and which would be like little seats for the residence of our faculties; it relates to a division of a whole mass of the brain into different regions or secondary masses, of which each one would correspond to an intellectual, instinctive, or affective phenomenon. They pretend, then, to nothing less than to establish distinctions in our faculties, which shall not be arbitrary, but founded on positive observations, although they do not agree at all with those which have been proposed by the most renowned idealists and metaphysicians. They think it very important to determine the region of the brain, which corresponds with each faculty: this is their principal object. As to the explanations, they do not attempt them; they are satisfied with asserting that a certain part of the brain serves for the manifestation of a certain phenomenon, intellectual or instinctive, &c.; they follow, therefore, in this respect, the method of Bacon.'—P. 7, 9.

Nevertheless, this method, of which the natural sciences have taken so great advantage in the search of the laws, manifested by the actions of bodies upon each other, is now rejected by certain philosophers, for analysis and study of faculties, which can only be known by observation of one's self, by internal contemplation, of which the first condition must be entire isolation from the external world. Such is indeed the principal objection of spiritualists to phrenology. It was necessary then that phrenologists should discuss this question of *I*,—that it should analyze and reduce to its just value, the psychological doctrine of *entity*, and that they should compare their own doctrine with it. It is here that the critical acumen of M. Broussais is splendidly shown, and here his powerful logic is felt.

'Internal observation,' says he, 'or that of our phenomena of thought and feeling, is worth nothing, if it is not explained, determined and defined by that observation of the external world, which

our senses procure us. Our *I* is not felt, is not perceived, but in opposition to its negative *not I.** It is impossible that any physiologist should make us perceive entities separate from all external perception,—pure, simple *I.* It does not exist for any one, and the facts which observation of our own thought reveal to us, are as much the result of impressions made upon the senses, as the result of reproduction of thoughts from thought itself. Some thinkers suppose they can isolate themselves from the external world by listening to their thoughts; but they deceive themselves; they excite extraordinary sensations which others do not feel, but which are only not facts, except in so far as sentiments can be so called, and which, even, they could not feel, if they had not, for a standard of comparison, the impressions made upon the senses.

'In order, then, to facilitate the progress of philosophy, it is necessary that every philosopher should compare the observations made upon himself, a healthy, sane, educated adult; such, in one word, as he is himself, when he discusses these questions with observations of others of his species, made from the period of conception, up to the state of perfect development. He must, besides, take notice of all extraordinary cases, of all deformities, congenital or accidental, of the different conditions of all the different kinds of education and instruction, of which man, the principal object of his meditation, is susceptible. The philosopher may be said to dream, to rave, even, in his profound meditations or states of abstraction; for he thus excites feelings which have no models without, and which vary in every dreamer, and of which no words can convey an idea to him who has not felt them.

'It is necessary, then, that these discoveries, which the thinking man supposes he has made in himself, should be tested by other men, and so placed as to be judged of by all those who possess reason.'

What can be better calculated to humble the pretensions of the spiritualists than these most just observations? It is impossible not to understand them; it is impossible to withhold one's as-

* Our *entity* can be only apparent by contrast with *nonentity*. Tr.

sent to them. The spiritualists, then, must change their nature and become physiologists, before they can dare to discuss the question of *I*, or *entity*, with any view to a useful end. We see them, then, dragged out from the sanctuary of *conscience*, where they supposed themselves impregnable. This seems an important step. But this is not all. It was necessary to show to what these pretended discoveries, made within themselves, could be reduced. 'Some spiritualists have seemed to believe, that this internal observation or consciousness has the power of revealing to us, by means of the will, certain powers, of which, without this internal observation, we should have no idea.

'Of what powers do they speak? The most powerful of all moving forces, that of imponderable bodies, is revealed by the senses. The idea of a Supreme Cause, which created and mantains every thing, is a deduction, which we draw from a comparison of ourselves, with that which is not ourselves. M. Cousin remarks, that a God made by our conception, would fall short of the idea which we should have of a divinity. He refers this notion, with all others which concern external causes to the faculty of knowing, which we should not confound with personal feeling. Before we make known our opinion upon this astonishing faculty, we will add, that the idea of a God does not exist in those who are born deaf and blind, nor in the infant. We form it only from our knowledge of the external world; and the polytheisms and mythologies of the early ages, prove sufficiently that it required many observations and reasonings to bring men to the point at which they now are. Caspar Hauser, who had not received this idea in his infancy, could conceive it only after observations and reasonings, to which he was obliged for a long time to give attention. Many other proofs might be brought in, in support of this; for many savage tribes have not yet conceived the idea of one God only; but it is useless now to cite these proofs. Never was the idea of a supreme, infinite Power engendered by a brain which had not previously been acted upon by the senses; never did any one find a type of it in any internal feeling of his own; that is, any innate feeling unconnected with and not derived from external sensation, as some spiritualists have asserted.

'As for origin of actions, which some suppose to be derived immediately from an immaterial *I*, there is nothing to prove that the brain acts upon the muscles, unless it had been excited to such action, either by *stimuli* from the external or internal sensation, or by the action of the instinctive or intellectual faculties which have the same origin; or, in fine, by a diseased condition of its own substance, (madness, delirium, hypochondria, &c.) We can, indeed, in our ignorance, imagine that it is our will, independent of matter, that directs our thoughts and moves our muscles, but it is an error which observation corrects; if our organ of thought, our organ of will, is diseased, we then cease to think—to will.

'It is from ignorance, only, that we attempt to isolate ourselves (or that which each one calls *I*,) from our organs; and if, after a knowledge of these facts which philosophers cannot dispute, they still talk of *I*, as (manifesting itself without) separate from matter, they but play upon the word volition—will,—personifying it, and using it in a sense which it cannot have. Instead of progressing, they are retrograding towards the age of ignorance. To affect to despise the notions acquired through the senses—to give a preference to the evidence of conscience upon subjects where the senses dispute it and prove its falsity, would be to annihilate the immense amount of knowledge derived from them, especially in the physical sciences; it would be, in a word, to retrograde towards ignorance.'

Volition, directing attention, thought and muscular motion is a complex nervous phenomenon, which is referable to different functions of the brain and nerves; and the sensation of feeling, of entity, or *I*, which is generally associated with them, becomes separated, isolated in certain cases: whence it follows that it cannot be considered as the sentient principle *par excellence*, nor as the principle willing and executing certain series of actions, internal and external. This sensation of *I*, not only does not exist in the fœtus, and in many diseases; but when it does exist, it is liable to aberration: some insane, and sick persons imagine that they exist double, that their sex is changed, or they are converted into animals, or to inanimate substances; some do not know themselves,

and deny that they are the same person as was known by their name formerly, &c. &c.

It is insisted upon, that the whole individual consists of an *I*, or that which he calls *I*, the essential attributes of which are to be a free agent and master of thought and action ; but it is a strange doctrine which personifies the *I* of healthy sane adults, and takes it for a model of the *I* of all other men ! It is as if we should estimate the amount of health, strength, adult age, old age, and say that all men would enjoy it.

'As for the real existence of what is called by each one *I*, in those cases where it is not apparent, it is a senseless proposition : where is it in such cases ; what is its seat ; what is become of it ? If nothing attests its presence, how can you say it exists ?

'If you make of this *I* the sovereign arbiter of all our thoughts, desires and actions, solely, because through ignorance of what modifies it, you abstract it from those organs without whose action it is not perceptible, sometimes isolating it from them to prove its immateriality, and sometimes uniting it to them and making them act to show its power over them, you either personify a sign, a word, or you set up for supreme one of the modes in which the *nervo*-cerebral system manifests its existence, and make all the others secondary to it.

'On the other hand, as the principle of voluntary motion (which we have seen to be improperly confounded with the sentiment of *I*,) cannot be dependent upon external causes, according to some psychologists, let them show us how it can be felt without organization, in order that we may decide upon its pretensions to priority of existence : since it is set up as the sole cause of the intellectual personal phenomena, let it be shown independent of all physical connection. If neither the one nor the other can be shown, let it then be classed with the rest of the phenomena manifested by the action of the nervous system ; action which can well be stated, but not explained.

'As for the matter of beauty or deformity, of sublime or ridiculous, of good or evil, &c., they do not prove the independent existence of *I* ; for, in the first place, the sentient *I* is often separate

from them; in the next place, the sentiment, which these words express, varies according to the cerebral organization. Every one knows how much taste differs in all the arts; and although the principle of sound morality may be determinate when the silence of the passions will permit it to be heard, it is not less true, that these, which depend upon internal impulses, do modify that principle, and in some states of society seem to annul it. There prevail different feelings with regard to rapine and murder, spoil or vengeance, among savage and civilized nations. The most atrocious crimes find apologists among the convicts in our prisons. Oftentimes we find the victors despoiling the vanquished without any scruple; we see that a general will reduce a place by starvation, or, unhesitatingly give up troops to be massacred. The morality of princes is displayed by Machiavel: the interests of hereditary descent, and even of public good, authorize all kinds of injustice; neither crimes, or apologists for them, are ever wanting. Every kind of false and pernicious doctrine sometimes triumph in the name of morality or even of virtue.'

It is the same in the judgment which we pass upon actions, or the opinions we form in literature, and which vary almost to infinity: the *I* cannot explain all these differences; the organization gives the tendency, and this organization acts only by virtue of sensations derived from the external world which puts it in action.

It is in vain that man concentrates all his reflective power upon himself, in order to study the difference of character, and the force of passions in others—he can only have an idea of himself. The cold phlegmatic thinker cannot conceive the feelings of the active, impetuous temperament; the miser cannot conceive how one can be prodigal.

The speculative man, who indulges even in abstract conceptions, says, that they are natural to all men,—that exercise only is necessary to develop them: but he errs materially; never will the man whose organization fits him for observation of facts—never will he understand how another should prefer words to the things which they are meant to represent.

The observations on study of *I*, then on self, leads of course, to that of what is *not I*.

'It is, then, to compare himself with other men like him, adult, sane, and educated in civilized society, that he who would analyze the human mind should often observe and study himself; but let us add, that he will draw from that source only, the idea of models which he has observed. In order that he may know others thoroughly, he must call in the aid of history, anatomy, physiology, pathology, and even zoology, as we shall afterwards show.'

Maine de Biran maintains, 'that man has two natures—the one sensitive, the other intellectual; that the first has its seat in the nervous system, and its field of operation, the imagination; the second, acting upon the imagination *by signs*, which *it has at its disposal*, and hence by reaction upon the nervous system. But what is the meaning of images collected, nobody knows where—not in the brain, but in the imagination? What are these signs proceeding from the mind, and acting upon the state of the brain? What does all this mean? Is it reality, or only wordy nothing?

'Thus much is certain, the existence of a nervous system and phenomena of which it is the seat; the consciousness expressed by the term *I*, the perception of bodies, the impulses which follow within ourselves, the actions which result from them, facts which are modifications of our nervous system; phenomena which should be studied long before we classify them, but which cannot be done advantageously, but according to the phrenological method.'

Such is an outline of the powerful arguments by which M. Broussais entirely overthrows that psychological doctrine of *I* or *entity*, in which certain philosophers have endeavored recently to concentrate all the philosophy of the human mind. Let us see, now, how he treats this same subject of *I*, upon phrenological principles.

'The consciousness of *I*, depends upon the existence of a certain portion of the brain, (the anterior-superior part) and upon relations with the external world; it is the result of the action of several organs, and the proof of it is found in the different degrees of idiocy, corresponding with different degrees of development of the

anterior part of the brain. The same debasement of intellect, and of the feeling of *I*, is found to have place in the well-formed man, when the brain is diseased.'

'What more then is necessary to subject this *I* to the dominion of matter? By what subtilties, by what perversion of words, or of science, can we evade this evidence of facts? I say, further, what becomes, in face of these facts, of the internal world of the psychologists?

'Since, then, weakness of intellect exists in all degrees, from the man who dislikes to occupy himself with abstract ideas, down to the idiot, it would be an error to suppose, that because one is not an idiot, he possesses, in reality, judgment and reason in a high degree. This is, nevertheless, the supposition which philosophers seem to make when they consider the whole brain, whether it is large or small, predominant in the anterior, or posterior, on the top, or on the sides, as the instrument of the mind, of reason, of *I*. This entity once placed within us, they make it the sovereign arbiter of our thoughts and our actions, of which the senses, and the senses only, furnish the materials ready formed; they do not graduate this entity—still less do they divide it; they place it upon a throne, where it receives, hears, and judges the reports of the senses; then they make it determine the action according to its education, its habits, or even its caprice. They are satisfied with allowing it to deliberate when it is properly instructed in the consequences of that which it is about to do; but it is in it, and it only, that they locate the feeling of pleasure or pain, which it weighs against the probable consequences of its actions. This is evidently placing one man within another man, and it is not distinguishing and comparing the instinctive, affective and intellectual phenomena, as they manifest themselves to the senses of the observer.

'We have remarked, that those physiologists, who call themselves phrenologists, maintain, on the contrary, that the notions of what is called the external world; the perception of the physical qualities or attributes of bodies; their forms, dimensions, consistencies, color; their respective positions, or their arrangements; the sounds which they emit; their existence, even as things distinct one from the other; their history, or the changes to which they are sub-

ject, suppose the existence of various organs, different from that of *I*. Indeed, these faculties correspond with the inferior part of the forehead, while the *I*, and the higher intellectual faculties, are connected with the superior part, &c.'

It is thus that the author is led from the question of *I* to an *expose* of the doctrine of Gall and Spurzheim. If we have examined this part of his memoir at great length, it is because it appears to us to be treated in a new and original manner. There is no work within our knowledge, which shows this connection of phrenology with philosophy; and this effort of M. Broussais is no less remarkable for the clearness of its exposition, than for the rigorous connection of proofs. We regret, indeed, that we cannot publish it entire; for it loses much by this method of exposition, and we refer the attentive reader to the work itself.

We will not follow the professor in his detailed exposition of the system of phrenology; it is generally conformable to that of Spurzheim: we shall notice only certain peculiar views of M. Broussais. For instance, he shows that the perceptive faculties, the reflective faculties, and even the instincts, destined for the preservation of the species, and of the individual, and the moral and social feelings, are not modifications of the *I*, but the result of the action of different organs of the brain.

The predominance of the size of the parts destined to the instincts over those of the intellect, enables him to explain why the multitude obey rather the instincts and the feeling, than the reason.*

M. Broussais is convinced, by experience, of the reality of the existence of most of the organs pointed out by Gall and Spurzheim. Nevertheless, he doubts sometimes, waiting for the result of more extensive observation, and confessing, that, in some respects, the classification adopted by phrenologists does not appear satisfactory to him.

He suggests some ideas respecting the organ of benevolence,

* The editor does injustice to others, by giving M. Broussais the credit of originality in these views.—Tr.

which we must detail, because they appear to us original, and well founded.

'Every one is surprised, on first examining phrenology, at the relative situation of the organs of mimicry and benevolence, and not less surprised at the distance between benevolence and attachment, which phrenologists place at the posterior part of the head. Phrenologists do not explain it, but are satisfied with referring it to the fact. Perhaps I have not made sufficient observation to demand for my opinion much weight in this question; but it appears to me, that the affective feeling, which corresponds with the posterior part, has reference particularly to the human race, while that of the anterior part includes animals, and all living beings, and that it gives a repugnance for destruction of any kind. In one word, it is benevolence, the repugnance to do evil; and if this sentiment coincides with that of association, it is compassion for every thing which suffers; a mixed feeling which we can very well understand, to be different from that which leads us to live in society with our fellows, and which is particularized for some, and becomes friendship.'

M. Broussais farther remarks, with respect to the organ of hope, that it is depressed in those young soldiers, who suffer from home-sickness, while the organ of friendship and love of home are very prominent. He adds, at the same time, in regard to the organ, that it is wanting in those who, by other peculiarities of organization, as, by excess of caution, are led to suicide.

'When joined to the sentiment of the marvellous,' says he, 'that of hope inspires a taste for extraordinary projects, for castles in the air, for brilliant speculations, and dreams of happiness, which is thus enjoyed in anticipation. If acquisitiveness gives to it a different direction, and it is not corrected by the other faculties, the organ of hope creates the passion for gambling, when circumstances favor this direction; as for myself, I have always found it in professed gamblers; and, if not always united with acquisitiveness, it is, at least, so with a taste for the marvellous.'

The following reflections of our author upon the organs of self-esteem and love of approbation, will be read with interest.

'It appears to me,' says he, 'if self-esteem is not well developed, love of approbation makes us very timid, and prevents the action of our powers when we are called upon to display them before men for whom we have great respect, and whom we regard as superior to ourselves. To produce this, the feeling of shame, so powerful in certain organizations, should be connected with it. In order to be a bold speaker, enterprising, hardy and immovable in our projects, it is necessary to be impelled by great self-esteem and firmness; and to be but feebly restrained by love of approbation. J. J. Rousseau gives us an example of a different organization. He could not make use of his great powers, except in his study and in solitude. The fear of appearing ridiculous, made him embarrassed, timid, and almost a nullity in society. He never could have become a distinguished professor or orator. His bust, by Houdon, corresponds perfectly with these moral qualities. The organ of the love of approbation, is predominant in a most remarkable degree, and far greater than that of self-esteem.'

We will give a few more extracts from M. Broussais' remarks on veneration and marvellousness. 'The notion of a God, accompanied by a conviction of his existence, is the *chef-d'œuvre* of our intellectual faculties, first of observation, and subsequently of reflection. History shows the difficulties of extending and making it popular. There are minds who cannot seize upon it, or who cannot retain it sufficiently to influence their actions. But respect for God, and the continual tendency to veneration, are different. This tendency is derived from an instinctive impulse to veneration, which is one of the sublimest attributes of the human race. This tendency, which is called the religious sentiment, is not exercised towards God alone; it directs itself particularly toward every thing which appears to us great or majestic in nature, as well as among our fellow-men. It refers to our parents, princes, masters, to great men, to natural scenery; in a word, the religious impulse of veneration is better or worse directed, according to our education, habits, example, and particularly according to the degree of intellect or judgment with which we are endowed.

'The sentiment of veneration is on the top and middle part of the

head. This sentiment ought not to be confounded with that which makes us delight in the marvellous, and which makes us believe in miracles. This depends upon the organ of illusion, or marvellousness, according to the phrenologist, and causes a protuberance in the superior-anterior sides of the head, between the organs of ideality and imitation. Perhaps it is complex, and consequently susceptible of subdivision ; but it is certain that it exists, and that we owe to it the inclination for brilliant spectacles, imposing ceremonies, for that susceptibility and excitability, which makes the charm of our early years. Some phrenologists refer also to it that peculiarity of our nature which is called wonder, and which certainly is not the result of intellect. The feeling of marvellousness is prevalent in youth, and especially in females ; it is favored by ignorance, and enfeebled by age, which gives more preponderance to judgment, according as we exercise it upon that which we learn, while growing old.

'When joined with veneration in a head where reason is weak, and education imperfect or bad, this tendency explains the visions of ascetics and enthusiasts of all religious sects. Add to this, the effects of the propensities to rage and destructiveness, the organs of which are placed around and above the ears, and you have explained all the cruelties and horrors of fanaticism, say the phrenologists. But let us take care, (I say it emphatically,) not to confound this melancholy aberration, on the one hand, with the sublime idea of a creating and preserving Power ; or, on the other hand, with the beautiful sentiment, which leads us to veneration, and which is, unquestionably, one of the distinguishing characteristics of the human race.'

Before finishing this chapter on the *expose* of the phrenological system, M. Broussais again observes, that the faculties called *moral sentiments*, are, like our instincts, blind impulses ; that they arise from organic impulses in the same manner as our natural wants ; that they originate like these impressions in the cerebral organ ; and that they are subject to the same laws ; and he calls them *moral instincts*.

He dedicates the next chapter to explaining the advantages and

necessity of comparative phrenology, in questions of mind and matter ;—for animals have, also, not only instincts analogous to ours, but also, sometimes wonderful intelligence.

Finally, he closes with some reflections upon sleep, dreams, somnambulism, the last resource of the spiritualist, and refutes the explanation of M. Maine de Biran ; an explanation, which supposes man to possess two natures ; the one active, which presides over his thoughts and actions when awake; the other passive, which takes the place of the first when it is absent. It is not difficult to prove that there is, in incomplete sleep or somnambulism, impressions, sensations and movements, and consequently continuance of activity in certain senses or cerebral organs ; of course, then, the passive nature of M. Maine de Biran becomes only a vain hypothesis contradicted by observation.

'The brain,' says M. Broussais, 'enjoys comparative repose during sleep, as it acts less ; but it is always acting, and even strongly upon the viscera. The portion of this organ, which loses most of its activity, is that which corresponds to the senses ; it is therefore this which suffers most excitement during wakefulness. Those portions which regulate the internal impulses and the thought, have less repose ; and when they are in activity, they have as much more energy, as the sensations have less.'

Such is an outline, which M. Broussais has just read to the Institute, and which will form an important epoch in science. The gauntlet is thrown down; the spiritualists must take it up. It has been proved that their science is necessarily incomplete, because it has not the materials requisite for its formation; that it is often hypothetical, partaking more of romance, than of science ; and that the only means of giving it a solid foundation, and of securing the superstructure, is to call in the aid of phrenological observation. The attack is a vigorous one ; we shall see what the defence will be.

Article II.

Physiologie des Temperamens on Constitutions, &c. Par F. Thomas, D. M. P. *Paris*, 1826.

In all ages, mankind have been struck by the diversities of character and of activity that accompanied, and were by many supposed to depend on, differences of temperament or natural constitution of the body. So far back as the time of Hippocrates, we find a classification of temperaments into four great divisions, which, more or less modified, have since been often set aside and often reproduced; but, up to the present day, notwithstanding the most laborious inquiries of physicians, physiologists, and philosophers, we remain almost as ignorant as ever of the physical causes on which these varieties depend, of the phenomena by which they may be accurately distinguished, and of the circumstances by which they may be modified and controlled; and thus it may be truly said, that a rational, useful, and consistent theory of the temperaments is yet only in expectation.

An approach to a better system has, however, been lately made by a French physician, Dr F. Thomas; and, whether he be correct or not in all his facts and conclusions, it is impossible, we think, to read the exposition contained in the work now before us without admitting, that in principle, in simplicity, and in practical usefulness, his doctrine excels all that have preceded it; and that, whatever may be its ultimate fate, Dr T. has succeeded in making at least one step in advance in a difficult and intricate path; and that on that account he deserves the thanks and the candid attention of the public.

On looking at the animal system, says Dr. T., we find it to consist of three great groups of organs, each group performing distinct

functions, but all the parts of each so far analogous as to contribute to one general end. The first group is that contained in the cavity of the cranium, and the general function which it performs is to carry on, or rather to manifest, all the operations of the mind, to constitute the seat of sensation, and to supply nervous energy to, and to direct the movements of, all parts of the body. It is composed of many distinct parts, performing as many distinct functions; but all these, from a general similarity, may be regarded as belonging to the same genus, and may therefore be classed together. The second group is that contained in the cavity of the thorax, and it includes chiefly the lungs and the heart, having for their functions the processes of sanguification and circulation, which have also a general resemblance in their object. The third group is that contained in the cavity of the abdomen, including the stomach, liver, spleen, bowels, &c., each also differing from the other, but all concurring to effect the conversion of food into chyle, and the separation and excretion of the superfluous or injurious particles from the system.

All other parts of the body, the limbs, the parietes of the head, thorax, and abdomen, are evidently the mere passive instruments or defences of these more important animal functions. The head, thorax, and abdomen, form, in fact, what is properly called the animal, while the extremities may be wanting without diminishing the Individuality of a living being. From this we come to the natural conclusion, that whatever a temperament or constitution may be in itself, the causes which give rise to it must exist in one or other or all of these three great groups of organs. And, accordingly, this inference of reason is amply borne out by observation in a way that we shall now try to explain.

When an important natural truth is brought fully to light, it is astonishing how many, how easy, and how fruitful are the applications of which it is susceptible. In our last Number, we were at some pains to show that the phrenological principle of organic size being, *ceteris paribus*, a measure of functional power, so far from being either a fancy of a heated imagination, or peculiar to the brain alone, was, on the contrary, a universal law, extending over

every created object, animate or inanimate. And now Dr Thomas comes before the public with a new and distinct application of this very principle, and not only demonstrates its universal prevalence, but, by its means, elicits many other important truths, and shows that differences of constitution or temperament depend on the predominance in development of one or more of the three great cavities relatively to the others, and on the consequent predominance of the class of functions which its organs perform.

By phrenological readers, Dr Thomas's fundamental principle of size being an element of power, will be readily received; but as this extended application of it is new, and as, on account of its favoring 'the fantastical nonsense, of Gall and Spurzheim,' it is not in general repute among professors and established teachers, Dr T. wisely sets about proving it, as if it had never been heard of before. Nevertheless, he is actually praised by our most inveterate (we are sorry that we cannot say most able) medical opponent, for not lending *any countenance* to the phrenological doctrines. Of the simplicity of this opponent, our readers will judge when they are informed, that Dr Thomas begins by expressing *his astonishment* that any one should still be required to *prove* so self-evident and so palpable a proposition, as that size in an organ is a measure of power in its functions, and particularly that, now when it is plainly stated, any one should be found ignorant enough seriously to contest its truth. In endeavoring to find out why so plain a truth should have remained so long unknown, Dr T. states, that, perhaps, the most powerful reason was the false idea entertained of the force or energy of an organ.

'*Promptitude and facility of action*,' says he, '*were generally confounded with force and energy*, without attending to the fact that, most generally, these two dispositions are not even indications of force; for it is not, for example, those in whom the pulsations of the heart *are most frequent*, and the motions of the limbs *most prompt and easy*, who have the heart and muscles *most robust and powerful;* the contrary is even observed on comparing the child and the female with adult man; and the observation is, besides, applicable to all the organs, to the brain, to the stomach, &c. But it is *the degree of complement of the function* which constitutes *the degree of energy of the organ*

which executes it; and to understand *this degree of complement* of action, we must bear in mind, that every organ has its own particular and distinct mode of energy, according to its structure and relations with other organs; that the brain is energetic when it perceives, remembers, compares, and wills strongly, or when the intelligence is powerfully developed, and the passions strong; the lungs, when they are the seat of a complete and abundant sanguification; the heart, when it precipitates with force a large quantity of blood into all the vessels which issue from it; and the digestive organs, when they form and separate much chyle.' P. 86.

This, we think, is a pretty clear exposition of the distinction between power and activity, to come from one who is praised and esteemed by those who continue to confound them together.

Having established the general truth, that the relative size of an organ indicates the relative energy of its functions, Dr Thomas begins with its particular applications, and, first, to the brain, in which he shows (as we did in our last Number) that all the methods hitherto tried for discovering the functions of the brain, take for granted, that size is, *ceteris paribus*, an accurate measure of energy of function. But here we need not follow him, except to subjoin a very important observation, which is not always kept in view as it ought to be. In answering some objections, he says,

'Although the structure and complication of the brain be variable in individuals of very different species, the mode of application of our principle is not at all affected, because it is applied only to the same individual, to individuals of the same species, and to those of species so little different, that the structure and complication of the organs are almost the same.

'Thus, for example, if certain animals, monkeys, little birds, and mice, have a cerebral predominance equally marked with that of man,* the great differences in the organization of their brains give to that predominance very different effects. The ganglions of intellect and of the passions, so developed and so predominant in man, have either no, or very small, convolutions in these animals; they are only slightly

* 'The cerebral organs, which in animals are an assemblage of a great number of separate and very distinct ganglions, appear in man to be formed only of two, (the brain and cerebellum,) which envelop the ganglia of the senses so much as scarcely to allow them to be seen.'

developed, and their anterior, superior, and lateral regions seem to be entirely wanting; while, on the other hand, the ganglions which correspond to the nerves of the senses, and of all the body, are very voluminous; the eminences, nates and testes, which are the principal ganglions of the optic nerves, form the greatest part of the brain in birds, and the olfactory and auditory ganglions form the greatest part of that of the smaller mammalia. It results from these organic dispositions, that animals experience certain sensations more energetically than man, but that their sensations are fugitive, and can neither be combined nor enlarged as in man; so that we may conceive how much the effects of cerebral predominance ought to vary in the different species of animals; since, in some, it indicates only extreme general sensibility; in others, the great delicacy of one or several senses; and in others, again, the great energy of several faculties or passions. Let us add, that, in individuals of the same species, where the structure and complication of the brain are always the same, those in whom that organ is predominant have more intellect and passions than others. So that our principles are rigorously applicable to the brain, and we can establish, without fear of being refuted by observation, that, in the same individual, the more the brain predominates by its volume over the other organs, the more will the faculties and passions be energetic relatively to the other functions.' P. 93.

The differences here noticed in the constituent parts of the brains of animals of different species explain many things to which we cannot now allude, but which often present themselves to our observation. Let it still be remembered, that the author from whom we quote is praised by our most inveterate medical adversary for his talent and accuracy.

Dr Thomas proceeds to examine the thoracic organs, &c. and states, that when the lungs are relatively large and spacious, the numerous cells of which they are composed place a large quantity of air in contact with a great quantity of blood, from which results a complete and abundant sanguification; and that, in like manner, when the heart is voluminous and robust, the circulation is active in all its parts. And from these united, great animal heat, spread equally over the body, is the consequence; and *vice versa*.

In infancy and in females, the thoracic organs are little developed relatively to those of the head and abdomen; in them, also, the blood is more serous, the pulse softer, and the animal heat less

high than in the adult, and especially the athletic, in whom the blood is fibrinous and abundant, the pulse full and strong, and the animal heat considerable.

In equal accordance we find the thoracic organs in the lowest state of perfection in cold-blooded animals; while in birds we find the lungs and heart most amply developed, and the cells of the former extending to, or rather communicating with, the interior of the bones; and this formation is in many accompanied by a higher temperature than is to be found in any other animal. Hence Dr T. regards it as established, that the more voluminous and the more developed the thorax relatively to the rest of the body, the functions of the heart and lungs are more energetic relatively to other functions.

The same thing happens with the abdomen. In the lowest animals, as worms and the zoophytes, the abdomen constitutes the whole animal. In insects, a nervous centre and a respiratory and circulating apparatus are added, but the abdomen still greatly preponderates. In reptiles and fishes the proportion becomes smaller; and in birds and the mammalia the abdomen becomes relatively still smaller, and its functions less important.

The energy of the digestive organs must be measured by the extent to which they perform their real function. We must calculate how much *they digest and convert into chyle*, and not how much is eaten. This distinction is particularly necessary, because we often see persons eat a great deal who form little chyle, and others eat little, and form much chyle.

Herbivorous animals eat little, but often, and their abdominal organs are large and greatly developed, and in a continual state of activity. They form chyle in abundance, and hence their natural fatness. Carnivorous animals, again, which are forced to seek their food, eat rarely and in larger quantity, and exercise their thoracic organs much more than their abdominal. Hence their capacious chests and small bellies, and hence their vigor, and hence their comparative leanness. Men in whom the abdomen is predominant, or feeble, approach to the two extremes. Abdominal men eat little at a time, but often; they digest continually,

and sleep much, and their life is soft and tranquil like that of the herbivorous ; while, on the contrary, those in whom the abdominal organs are moderately developed, relative to those of the head and thorax, eat with avidity, and appear, like the carnivorous animals, to *devour* their food ; but their digestion is imperfect, and they remain dry and thin, in spite of the aliment which they consume.

Having established the influence of organic size on energy of function, and pointed out the respective uses of the three great classes of organs, Dr Thomas next shows, that, during life, the size and configuration of the parietes, or walls of the three great cavities, afford an accurate index of the size and form of the contained organs. He devotes some pages to prove, that, generally speaking, the skull takes its form from, and indicates the shape and size of the brain, and he refers to anatomical inspection for the evidence. He mentions some sources of mistake, and adds,

'3*dly*, That the skull in children is thinner than in old age, as, generally, it then becomes thicker from the diminution of the size of the brain. 4*th*, The thickness of the bones of the skull is also variable in every individual without regard to the age; but in general it bears a relation to the other bones ; so that the volume of those of the limbs or of the face being given, we know the thickness of those of the skull: of this I have satisfied myself by a great number of dissections of subjects differing in the degree of development of the osseous system. 5*th*, The *development of the frontal sinuses and of the orbitar cavities is never sufficiently great to cause errors of any magnitude.*'

These observations are also pretty phrenological, to come from a writer who has received the praises of our medical opponents.

That the form and size of the thorax and abdomen indicate with equal certainty the form and dimensions of their contained organs, is abundantly well established by Dr Thomas ; but want of room obliges us to take this part for granted, and to hasten to the application of these preliminary and fundamental truths to the elucidation of temperaments.

From what precedes, our readers will easily perceive that temperaments are considered by Dr Thomas as 'varieties in man and animals resulting from different proportions of three great

visceral cavities.' He divides them into seven kinds; 1. The mixed, in which the cavities bear an exact proportion to each other; 2. The cranial, or rather we should say, the encephalic; 3. The thoracic; 4. The abdominal; 5. The encephalo-thoracic; 6. The encephalo-abdominal; and, 7. The thoracico-abdominal. In describing each of these, Dr Thomas takes of course a broadly-marked type.

1. The mixed temperament. Every body can tell in a moment whether the head, the chest, and the abdomen, are well-proportioned. In this division, individuals apparently very dissimilar are classed. They may be tall or short, stout or thin, beautiful or ugly; but they all agree in having a just proportion in the volume and energy of the encephalic, thoracic, and abdominal organs. This is the essential character of this temperament.

'The Apollo Belvidere,' says Dr Thomas, 'the immortal work of the Greek chisel, is a beautiful variety of the mixed constitution; for not only do none of the three cavities predominate, but there is a just proportion in the limbs as compared with the rest of the body and with each other; and the bones, muscles, blood-vessels, nerves, cellular tissue, and all the secondary parts, are also in beautiful proportion. This *chef d'œuvre* of art represents man in his most perfect type; there is nothing too strong and nothing too weak; nothing in excess and nothing deficient. Phidias, inspired, has created something celestial!—that brain cannot be the seat of too violent or too impetuous passions, although it can experience them all. The intellectual faculties, sufficiently developed, do not hurry him on to the vagueness of hypotheses and conjectures; his blood is neither too fibrinous nor too much animalized; his abdominal functions are performed with facility; the chyle is separated and absorbed in sufficient quantity for the nutrition of his beautiful body; the limbs have all that is required for exercising with the greatest facility all the movements necessary to the whole; and the physiognomy represents in all its features that perfect equality of the whole body.'

Some modern painters, continues Dr Thomas, have given to their Apollo the attitude, the majesty, and the beautiful proportions

of the limbs of the Apollo Belvidere ; but they have diminished the abdomen a little, and enlarged the head and thorax, which represents a higher moral and physical force than the original possessed, but without its harmony, health, and beauty.

The mixed temperament is common in France, and is often met with from twenty to forty-five years of age. It is attended with an enjoyment of existence, and with general good health ; and it is, up to a certain limit, fit for every kind of exercise.

2. The cranial or encephalic temperament is distinguished by the relatively large head, open facial angle, moderately-developed thorax and abdomen, and spare form, denoting great energy of passion, sentiment, and intellect, with less thoracic and abdominal activity. This variety, according to Dr Thomas, is found highly developed in those great men who have rendered themselves illustrious either by their talents, their virtues, or their vices ; viz. in the cruellest tyrants, chiefs of sects, great authors, Cataline, Tiberius, Brutus, Cicero, Pascal, Pope, Tasso, Molière, Voltaire, Rousseau, &c., all of whom, according to their historians, were meagre and spare, and all remarkable by the predominance of the encephalic over the thoracic and abdominal organs.

When this temperament is strongly marked, it is rare that the thorax and abdomen are also much developed ; for then it would require a truly enormous encephalon to predominate. Accordingly, the decidedly encephalic are rarely robust and vigorous, or their digestion good. This constitution of body is most frequent between seven years of age and thirty. In Pericles it was so strongly marked, that Plutarch says, 'sometimes he was to be seen sitting in the street, *fatigued by the weight of his head*, and not knowing what part to take in the disorders of the state ; and at other times thunder and lightning issued from his monstrous head with a tremendous noise.' It is known that his head was, in fact, so much out of proportion to an otherwise handsome body, that the sculptors always represented it covered with a casque.

It is in this class of constitutions that we find men fitted for great deeds, and who raise themselves to eminence and renown in spite of every disadvantage. But, says Dr T., we must not con-

found the essential with the occasional, and suppose that the encephalic are always remarkable for great or noble pursuits. They may predominate either in intellect, in propensity, or in sentiment; but although the particular character will then be different, the essential always remains, that mental energy of some kind will show itself. Thus, one individual with a very powerful cerebral organization will pass his days and nights, and employ all his faculties and passions on things of little importance; he will reason continually, cry, agitate, and write against his brethren; while another engaged in commerce will expend all his energy on details; but both will be remarkable for energy, and the difference will be merely, that it is energy directed to different objects. If Dr Thomas had been a Phrenologist, he would have added, that the direction of the mental energy would depend on the part of the brain that was most predominant in relation to the other parts.

The encephalic temperament is much more frequent in the male than in the female; it is more common in free countries, and in those long agitated by political dissension, in England, Germany, Switzerland, France, and Spain, than in those long bent under the yoke of despotism. It is more common in large towns than in the country; among artists, and among the scientific and educated, than among the idle and the laborer.

3. The thoracic temperament is characterized by a small head and a limited abdomen, contrasting with a voluminous and powerful chest. The Farnese Hercules is the beau ideal of this class, and it is not indifferently represented in porters, bakers, ploughmen, and other men employed in the severer kinds of bodily labor. It is about puberty that the thoracic organs begin to increase considerably. The thoracic constitution fits a man for fatigue and labor, and is seen in boxers in great perfection. Health with this temperament is robust, and diseases inflammatory.

4. The abdominal is easily recognized by the large protuberant abdomen, broad pelvis, and abundant development of the cellular substance over the whole body and limbs. Chyle is formed in large quantity, and transformed into fat. The individual is slow in his movements, and his strength and mind are concentrated in his

abdomen ; *latamque trahens inglorius alvum*, he eats, drinks, and sleeps alternately.

When an individual originally encephalic passes into the abdominal, he preserves something of his original state. This variety is more frequent in large towns than in the country, and in Germany, Holland, and England, than in France.

5. Or cranio-thoracic, is known by the head and chest being relatively much larger than the abdomen, and by its powerful dense muscles, and moral and physical force.

6. The cranio-abdominal presents the head and abdomen largely developed, and a chest small and contracted. The muscles are moderate in size, and plentifully interspersed with cellular substance, whence arise the rounded form and softness of the female.

7. Or thoracico-abdominal, presents the small head and ample thorax and abdomen, with large muscles, bones, and cellular membrane. It is well fitted for patient endurance of fatigue. It is more frequent in Asia and Africa than in America or Europe.

Such are the chief varieties of the temperaments, and such the physical marks by which they may be distinguished ; but in many cases, says Dr Thomas, we require to look only at the face to discover the constitution. The forehead indicates the proportion of the encephalon ; the part between the forehead and mouth is in general in harmony with the development of the thorax; and the lower part, including the mouth, chin, and inferior portion of the cheeks, is in relation with that of the abdominal organs ; and hence the relative proportion of these parts to each other serves as an index to the particular temperament.

Having now pointed out the chief differences of natural constitution, let us inquire how far the classification at which we have arrived coincides with the phenomena.

In infancy and childhood we observe a manifest predominance of the encephalon and abdomen, with a small and narrow thorax. In accordance with this, we observe the healthy child display, relatively speaking, astonishing energy of passion, and greater power of seeking and acquiring knowledge, than is found at any other period of life. We find it also restless and mobile, and in constant

pursuit of variety to gratify a number of faculties. Looking next to the abdominal development, we find the child not only eating often and much, but digesting vigorously, and deriving strength and nourishment from its food. Hence the diseases of infancy are almost peculiar to these two groups of organs, viz. convulsions and inflammation of the brain or its membranes, epilepsy, affections of the bowels, worms, diarrhœa, tympanites, &c.

In youth general growth takes place, and shortly the thorax begins to enlarge, the physical powers to unfold themselves, and the voice to change, but the head still retains its supremacy. From the age of twenty to that of thirty the cranio-thoracic is in its fullest sway; the moral and physical energy is then great, and a man shows what he is afterwards to become. It is then that genius forces its way against all obstacles. After thirty, a kind of maturity or equalization begins to take place between the three great cavities, and from the gradual development of the abdomen, the temperament changes to the mixed, and in old age becomes chiefly abdominal. Of course, there are numerous individual exceptions, but this is the general order.

In men, the cranio-thoracic, and in women the cranio-abdominal is more frequent. In women, the head and the thorax are generally small relatively to the abdomen. But it is not only to different ages and sexes, but even to different species of animals, that the preceding rules are applicable. We may compare the large head of the shepherd's dog with the smaller head, but enormous thorax and small abdomen, of the greyhound; or the relative proportions of the three great cavities in the Flanders horse, and in the race-horse, and the striking differences in the size of the organs will be not less apparent than the differences of function or constitution. If we compare, in the same way, the same cavities in the ox or in the sheep, the same coincidence will arrest the attention in a moment.

Different temperaments enjoy very different degrees of health, and are subject to different kinds of disease. The marked encephalic is very prone to over exercise the brain, and to give rise to convulsive and nervous diseases, hypochondriasis, and mania. From

leaving the thorax and abdomen, naturally feeble, unexcited by sufficient supply of nervous energy, the encephalic is subject also to asthma, bad digestion, and its numerous train of concomitant evils. The marked thoracic, on the other hand, is subject to all the diseases of excited circulation, such as inflammation and rheumatism. The abdominal enjoys, on the whole, good health and vegetative existence, and his diseases are slow and of long duration.

A knowledge of the constitutions or temperaments of individuals is exceedingly advantageous in regulating the choice of their profession, manner of living, and general conduct. A due degree of exercise favors the nutrition of an organ, increases its power and facility of function, while deficient exercise leads to imperfect nutrition and debility of function, and too much leads to an irritable and unsteady action, speedily degenerating into disease. To preserve the advantages conferred by a mixed temperament, therefore, a due balance must be preserved in the exercise and repose of all parts of the system, and none must be left to languish in inaction.

The cranial or encephalic temperament is one of the most disposed to excess and to disease; and when very marked, it is almost always accompanied by discontent, melancholy, and sleeplessness. To obviate those inconveniences, we must moderate the exercise of the brain, in never allowing study or thinking to continue to fatigue; in removing all the exciting causes of great passions, and in employing, on the other hand, the muscles in walking, running, mechanics, hunting, gardening, &c. A cheerful residence in a pleasant country, avoiding solitude, heat, and cold, are very effectual with the same view. The tepid bath is most useful in moderating the dryness and inaction of the skin, and thus diminishing cerebral excitement. Vegetables, fruits, animal jellies, eggs, and all easily-digestible substances which furnish much chyle, and develop the abdominal organs, are advantageous; and tea, coffee, and stimulants, are hurtful. Wine ought to be sparingly used, and always diluted. The meals ought to be small and frequent, and followed by repose and rest, as thinking in the encephalic impedes digestion. Sleep is of great consequence to preserve the health of the encephalic.

The thoracic temperament, although less liable to diseases, requires to avoid excesses as well as the encephalic; for, although the individual can undergo great physical labor, yet, if he goes beyond his strength, the effects are proportionally severe and speedy in their progress. He thinks with difficulty, and when circumstances excite and keep up in him strong and violent passions, his brain is very apt to become affected. The thoracic development ought in general to be encouraged by a proper attention to exercise and diet; when in excess, it may be gradually moderated by repose, by forcing study for a short time, and gradually extending it; by exciting the brain and abdomen, in short, at the expense of the thorax. It is the thoracic constitution that is peculiarly subject to inflammation, to rheumatism, &c., and that bears blood-letting without injury.

The abdominal temperament is the most unfavorable, and its subjects are generally inactive and feeble-minded. When it is perceived in early life, it may be diminished or remedied by removing abdominal, and employing thoracic and cerebral stimuli. Frugality, slender repasts, fibrinous meats, drinks which excite the brain, especially active physical exercises, short sleep, and forced study, properly managed, produce the best effects. Every disease in this temperament is complicated with abdominal disturbance. The other compound temperaments may be estimated and regulated from the preceding observations.

The length to which this article has already extended, prevents us from saying more than that it is an incalculable advantage to arrive at the causes on which temperaments and their varieties depend, as it is only then, for the first time, that we can adopt rational measures for securing the advantages and modifying the imperfections attendant upon each. Our own experience is strongly in favor of Dr Thomas's accuracy; and already we can perceive innumerable applications to be made of his principles to the purposes of education, medicine, and philosophy; and without quarrelling at all with him for not being a Phrenologist, in the widest sense of that word, we cannot but express our obligations to him for much useful knowledge, and, in terminating our analysis, trans-

fer to our pages the following practical remarks on the mode of changing one temperament into another. They rest entirely on the principle of *exciting* the *weaker* organs which we wish to predominate, and on condemning to *repose* those which are already too strong.

1. The change of temperament is most easily obtained at the time when the period of life naturally modifies it. In man, the cranio-abdominal child easily becomes cranial between 7 and 14, or cranio-thoracic between 15 and 25, or mixed or thoracic between 25 and 35, or thoracico-abdominal between 35 and 45.

2. The development of a particular temperament is obtained with a facility proportioned to the natural proximity of the one sought for to that already existing. It is difficult for us to make an abdominal become encephalic; but it is not so difficult to convert a mixed into a decidedly thoracic.

3. The organs to be developed must be exercised gradually and in proportion to their natural force. If too little or too much exercised, they become diseased, languid, or exhausted.

4. That one organ may be developed by exercise, all the rest must be as much as possible in a state of repose. There are even some organs that cannot be exercised freely if the others are not in repose; the activity of the encephalon, for instance, deranges very speedily and powerfully the digestive organs, when both are exercised at the same time, and, if persevered in, soon induces disease.

5. The more numerous and powerful the causes which favor or determine the exercise or repose of an organ, the more will that organ be disposed to exertion or repose, and consequently to develop itself or to diminish.

Dr Thomas's theory, it will be observed, explains very easily the changes that take place in the temperaments at different periods of life. Thus the infant is said to be lymphatic. This arises from the predominance of the abdominal organs, and the consequent activity of nutrition producing a deposition of fat and cellular membrane. The temperament of the same individual may at 18 be no longer lymphatic, but what is called sanguine. This would arise from the thoracic organs having become relatively more developed

than the abdominal, and in the same way all the other changes may be perfectly accounted for, and connected with their physical causes; whereas, on the old system, we often have a person lymphatic in infancy, sanguine in youth, and melancholic in mature age, and yet no one could tell how or why all these metamorphoses have happened.

Article III.

Theory of the Temperaments.

[From the Edinburgh Phrenological Journal.]

We stated in our last number, that, by a new application of the universal principle, of size in an organ being a measure of its energy of function, Dr Thomas, of Paris, had succeeded in developing a rational, and, as to us it seemed, most important theory of the temperaments; thereby solving, in a clear and consistent manner, what had been so long felt as a hiatus in medicine and in philosophy, and what had been so long a stumbling-block to the most zealous cultivators of mental and moral as well of physiological as medical science.

Since that time, we have very often tried Dr Thomas's views by the test of experience, and have not hitherto met with any exception, but, on the contrary, have found them singularly felicitous in throwing light upon some previously obscure cases, and of great value in estimating the relative activity of the nervous system in different constitutions; and it is the conviction of their great practical importance that leads us to press them again on the attention of the reader. That they have been partially appreciated, is evident from some of our best newspapers,—such as the Scotsman,

the Morning Chronicle, and the Englishman,—having copied them from our pages ; but that they are not yet sufficiently known is obvious, from their still remaining unnoticed in most of the medical and literary journals of the kingdom.

Dr Thomas's principle is, simply, that as size is a measure of power, and as the whole system is made up of the nervous, the sanguineous, and the digestive apparatuses, contained respectively in the head, the thorax, and the abdomen, so will the natural constitution differ in proportion to the relative equality or predominance of all or any of these three great divisions. Thus, a great size of brain and head, with small thorax and abdomen, will give a constitution characterized by a necessary predominance of the cerebral over the thoracic and abdominal functions ; viz. great nervous energy, activity, and force of mind, with little aptitude for muscular efforts, and rather weak digestion ; and a large and capacious thorax, with small head and small abdomen, will give a constitution characterized by abundant sanguification, powerful respiration, and vigorous propulsion of the blood to the extreme points, and, consequently, by an aptitude for muscular efforts and active exercise, much more than for mental activity or active digestion. And, again, a capacious abdomen, with small head and narrow thorax, will give a constitution characterized by great powers of nutrition, plumpness, and sloth, much more than by mental or bodily energy, or vivacity of motion. And the other compound combinations of them will produce constitutions participating in the qualities of their constituent elements,—such as the cranio-thoracic, with large head and thorax, and small abdomen ; the thoracico-abdominal, with large thorax and abdomen, and small head ; and the cranio-abdominal, with large head and abdomen, and small thorax, &c., as already fully explained in our last number.

Hitherto we have been greatly at a loss how to estimate the degree of activity of the brain, except by observing the manifestations ; but we are inclined to think, that Dr Thomas has provided us with the means of approximating, at least, if not of positively deciding. Supposing the health to be good, if the head and brain be large, and the thorax and abdomen relatively small, we

shall find not only predominance of cerebral power, but also, so far as our observation goes, cerebral activity. Or, if the head and thorax are both large, with a small abdomen, we shall find mental power and muscular energy combined; but, as part of the nervous energy will necessarily be expended in supporting the greater demand of the muscular system, the mental power will be less purely intellectual in its manifestations, and less capable of long-continued efforts of thought, and, consequently, the individual will make a less permanent impression of intellectuality; and, in our conceptions of his character, the thorax and locomotive manifestations will also be felt, as constituting no small portion of the man. A big thorax cannot brook confinement and sedentary occupations, and is, consequently, not favorable to long-continued mental efforts.

A large brain, again, with a large abdomen, and strong powers of nutrition, will constitute another modification of temperament, in which the vivacity and permanence of the mental functions will be subdued still more than by a large thorax; and although the cerebral energy will still be felt, it will appear much more in fits of exertion, than as a durable state; and, in our conceptions of the man, the abdomen will constitute a large proportion of the figure, and the animal appetites will be felt to consume, at least, as much of the nervous energy as the purely human or intellectual powers.

The practical uses of these views are numerous and invaluable. Let us suppose that we want a man fitted to make a good general. If we choose a decidedly encephalic candidate, with small thorax and abdomen, we may find in him every intellectual and moral qualification tat heart could desire; but how would he withstand the bodily fatigues of an active campaign? The feebleness of the thoracic functions, and the consequent inaptitude for active muscular exercise, would induce a drain upon his nervous energy, to carry his body through space, that would deprive him, on emergencies, of half of his mental activity and superiority;—whereas, if we select a man, like the Duke of Wellington, with an ample thorax added to a large brain, we have at the same time the power to endure fatigue without detracting too much from the nervous energy; and, consequently, we have the power of rapid mental

combinations, undiminished, ready to take advantage of every opportunity. Or, if we select a man with a small head, joined to a large thorax and big abdomen, then we have the mere animal force, with only a glimmering of mind to guide and direct it.

In choosing a profession, also, and we know not a more important question, Dr Thomas's theory is admirably useful. If the youth is remarkable for a fine broad chest, a moderately sized head, and full abdomen, no phrenologist would ever recommend to him a sedentary profession requiring much confinement, whatever might be, in other respects, his cerebral qualifications ; because he would see in this configuration the indelible stamp of nature, pointing out to him a *more active* field of usefulness, and threatening him with disgust and restlessness if he ventured on a sedentary course of life, so much at variance with his natural constitution.

If, again, the youth is remarkable for predominance of the cerebral over the thoracic and abdominal functions, the phrenologist acquainted with the temperaments would never recommend a profession requiring much bodily activity and strength, in addition to much intellectual superiority, because he would at once foresee the inability of such a frame, to cope with the demands to be made upon it, and the miseries to which it would lead. As an advocate, solicitor, or banker, such a person might be happy and successful ; whereas, as an engineer, or any other profession requiring both mental and bodily vigor, he would be miserable.

In education, the use of Dr Thomas's theory is equally obvious. In early life the temperaments may be modified more easily than at any future period, and hence the importance of attending to them in the young. A boy of a thoracic temperament will be prone to violent exercises, and comparatively averse to mental occupation ; but, by a judicious and persevering superintendence, and by gradually and proportionally extending the latter, and withdrawing the incentives to the former, a very beneficial change may, there is every reason to believe, be ultimately accomplished. And, again, the encephalic boy, with weak chest and muscles, may in time, by withdrawing the incentives to, and opportunities of, too much mental exercise, and by a properly-regulated gymnastic

training, and muscular exertion in the open air, be greatly improved in bodily vigor, and yet retain his mental powers, undiminished. And, lastly, the abdominal boy, whose belly is his god, may, by proper regulation of diet, and mental and bodily exercise, be brought within the pale of humanity; whereas, if left to himself, animal indulgence and mental sloth would be his portion for life.

In fact, while we write, examples of the applicability of this theory to education, to professional purposes, to morals, and to medicine, crowd in upon us; and, if we refrain for the present from proceeding further, it is with the view of securing the groundwork, by earnestly recommending our readers to go back to the analysis of Dr Thomas's book, given in our last number, and not to leave it till they thoroughly understand it. We shall speedily return to the subject.

Article IV.

The Case of Major Mitchell.

[Published in the New England Galaxy—By John Neal.]

This case, which should have received an earlier notice at our hands, is full of interest to the student of phrenology, and we congratulate ourself and readers, that it has been recorded by one so competent for the purpose, as Mr Neal. It adds another to the mass of evidence that is daily accumulating in favor of our science, and though there is nothing in it particularly new or remarkable to the well-informed phrenologist, yet as it is a striking one to common observers, and will affect their views more than a hundred of a similar nature, found in books, it may be worth while to give its leading particulars. The facts which gave rise to the prosecution,

are, in the main, faithfully and thoroughly related (excepting the account of the emasculation of Crawford, which he actually performed on one side with a piece of tin,) in the following confession of Mitchell, to Dr. Mighles and others, before trial.

Confession of the Boy, Mitchell, to Dr Jesse W. Mighles and others, before trial.

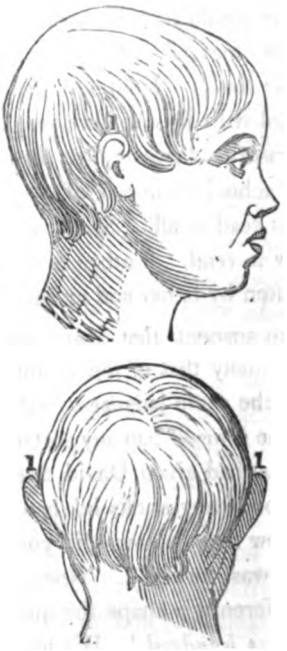
'Boy by the name of Major Mitchell, of Durham, (*about twenty-three miles from the city of Portland,*) aged nine years (*nine, March* 19, 1834,) the natural child of a (*widow*) woman by the name of Plummer. Some time in June last, met a little boy eight years, (*seven he says now,*) by the name of David Crawford, of Durham, at the school-house on Monday morning. There being no school, he persuaded David to go into a pasture near, where he intended to whip and kill him—on what account he cannot tell. (*School ma'am was ill, and there was no school. She told them to bow when they went out; the others would not bow, and when he did, they made fun of him, laughed at him, and struck him. He never had a quarrel with David nor with any body else; never stole any thing; never killed any thing—had a dog once, which father would hang on account of his old age, though he, the boy, did not want to have him put to death for what he could not help.*) Feeling no particular animosity excited, he at first concluded to let him go home without whipping him; but soon vexed David somehow, so that he, David, called him names. Says, 'he called me a hog, a fool, and a stealer." He now began whipping David with his fists; intended to kill him, and should have done it had he not been prevented by Jacob Macintosh (*Zeke Macintosh*) a man who interfered and detained him awhile, and sent David home by another way. Says he was soon set at liberty, and overtook David in the road, and prevailed on him (*by threats to lick him if he did not go, and by promises that he should not be hurt, if he would go*) to go two or three rods into the woods, where, he says (*I put him into the water with his clothes on, and kept him there ten minutes, trying to drown him,*) I filled his mouth with leaves and brakes, (*mud and brakes and ivory leaves and birch leaves;*) I then pulled

his clothes all off. I tied his hands to the trees with withes, and tied his legs with his suspenders. * * * * * * I then beat him with sticks on his naked body for five hours, (*from morning, till four, P. M.*) I struck him five hundred times—frequently brought blood. He appeared quite weak. I then untied him, and held him under water, (*face down,*) as near as I could judge, eight minutes, (*and finding the water too shallow, only ancle deep, I built a dam.*) It was some time after I took him out of the water, before he could speak. I did not dare to kill him, because I was afraid Jacob Mackintosh (*Zeke*) would find me out. (*I told him he might go ; and he went toward his clothes, and I thought he got them.*) He was three hours getting home. He went home naked. I supposed he would find his clothes. He was confined two days, and had the doctor. (*I felt sorry, and do now—I thought of God all the time.*) I did not pity him till I was taken up ; I had often played with David, but never quarrelled with him. (*I saw him once afterwards, three or four days before I was taken up.*) I have been to school some part of the time for three years ; I began at six ; cannot read at all. (*Spells in one syllable.*) Mother does not know how to read. Father died *three* years ago. I have been whipped often by father and mother.' * * * *

Mr Neal was led to suspect that Major was telling the whole story (which was essentially that of the confession) by *rote ;* 'for he told it in precisely the same language, and more as if it concerned another, than as if he himself had any sort of interest in the affair. Hearing him say that he had given David five hundred blows, I was led to ask him how many sticks he had. The answer was, *five hundred.* And how many blows did you give him with each stick ? Five hundred was the reply. Nor could I make him understand or answer differently ; shape the question as I would, the answer was always, *Five hundred.*' His idea of five hundred was probably as definite as that of five million, for it appears from the evidence, that he could not count beyond thirty-eight, and that he gave no more than thirty blows, after he had inflicted thirty-eight. By five hundred, it is obvious he meant only an indefinite number, beyond his power of counting. His ideas of *time* seem to have

been as imperfect as those of number. He says 'he beat him with sticks on his naked body for five hours, (*from morning, till four P. M. !*) though one of the witnesses testifies that David got home about half-past two o'clock.

After the most liberal allowances on the score of imperfect education and provocation, it was still a most cruel, heart-sickening act, and was of that wanton, cold-blooded, motiveless kind that springs only from a large development of Destructiveness. The following outlines of Mitchell's head were drawn by Mr E. Seager, an English artist, who has a correct eye, and may be relied upon, and we subjoin the measurements of the head, taken by Mr. Neal.



The following developments of Mitchell's head were given by a Lecturer on Phrenology.

'*Self-Esteem*—moderately prominent.

Love of Approbation—deficient.

Reverence, *Benevolence*, and *Conscientiousness*—remarkably deficient.

Perceptive region—well developed.

Some of the intellectual organs astonishingly developed for a child.

Destructiveness and *Cautiousness*—uncommonly large.

Firmness—full.

Temperament—sanguine and nervous.'

Mr Neal dissents from some of these statements, however; Benevolence and Conscientiousness, he considers *moderate*, if not in fact, *rather full*. We saw Mitchell in the Portland jail a few months before his trial, and then, certainly, his organ of Benevolence struck us as far from being '*remarkably deficient.*' Neither did any of the intellectual organs appear to us 'astonishingly developed,' as both the Lecturer and Mr Neal represent, though they were, indeed, well developed. Mr Neal considers Approbativeness as *rather small* or *moderate*—an estimate much nearer the truth. Firmness is set down as '*full*,' the cut represents it as enormously large; and here, judging from our recollection of a few minutes' notice of the head, the cut is in fault. Cautiousness, Mr N. thinks, is, at most, but *rather large*. In the above note of the developments, Secretiveness is not mentioned at all. though in another place it is very justly noticed as being very large. Mitchell, certainly, presented the most striking instance of the cat-like pathognomy that we ever met with. Combativeness *appears* to be far from *quite small* on the cut, as they both considered it.

From such an organization, it needs no uncommon experience in Phrenology to infer the character of a cowardly, bloody-minded, able villain, distinguished by superior tact shrewdness. The history of Mitchell's life, thus far, fully acco the developments of his organization; but it is to be borne in mind, that a whole life is necessary for the free and perfect play of all the organs. Destructiveness was held in check by Cautiousness and defective Combativeness, yet it occasionally manifested itself, and always in harmony with the rest of his character. It was testified that he would fight with smaller boys—pull and haul them about;

that he would quarrel with the girls, and pull them down; and that when he caught a fish, 'he would *slat* it away 'cross the brook; he would'nt let it die as others did—*he would kill it with stones.*' His excessive Cautiousness was strikingly displayed in his intercourse with his playmates, one of whom testified, that, 'he was afraid of all the boys. One little fellow, so high, (indicating the height of a boy much smaller than himself,) skeered him eena'most to death, once—he said he was going to throw a fish at him, and Major was so frightened, he ran and jumped into the brook.' Another witness said, that 'little boys would scare him; he was afraid of all the little boys.' The general good-nature of his disposition (Benevolence,) was spoken of by all. His intellectual attainments were nothing, for he had had but little education, yet his capacity seems to have been generally recognized. His school-master says, that when he first came to school, he made considerable improvement; that he was not so bright as some, but very far from being a fool, or incapable of learning; and that the reason of his little progress, was his non-attendance. The improvement of children in their early studies depends less, it is to be recollected, on a favorable development of the reflective organs, than on that of the perceptive, which, in Mitchell, was not so large as the former. His progress in learning was just what might have been reasonably expected from his character and circumstances,—the untutored, illegitimate child of a weak, ignorant, poor and degraded woman; sent to school only in the winter for three or four years, and not regularly then; and the rest of the time, running wild, with associates, scarcely better than himself. He was found guilty, and sentenced to nine year's imprisonment in the state-prison, at Thomaston, Me.

While we cannot too highly admire the zeal and exertions of Mr Neal, as counsel for this friendless boy, and the skill and scientific knowledge that directed his defence, yet we could have wished a better case for the introduction of the light of Phrenology, into the dark passages of our Criminal Law. One ground of his defence was, that the prisoner had received an injury of the head, in consequence of a fall while quite young, whereby the portion of the brain, called, by Phrenologists, the organ of Destructiveness, was

preternaturally enlarged and a destructive disposition excited. It will be readily seen—and, probably, Mr Neal did so see it—that the question of such an effect was one entirely of fact, and independent of phrenology. It was necessary for him to establish, that falls on that part of the head were in the habit of producing a corresponding change on the character, which he not only could not do of course, but was unable to show the occurrence of any such change. He was anxious to ask one of the witnesses, whether, as a phrenologist, he considered that such an enlargement would be followed by the change in question, while the Court permitted his opinion to be asked only as a medical man. With this, Mr N. declares he was not satisfied, because, 'though he was questioned as a *medical* man, the moment he was called upon for his *reasons*, they would turn out to be *phrenological* reasons.' His reasons, or, more properly speaking, grounds of this opinion, must have been *certain facts*, without which, his evidence would have been utterly valueless, and we apprehend that the facts would have been received as sufficient authority for the opinion, whether related in the character of a physician, or a phrenologist. We could have wished that the first case for the introduction of phrenology into a court of justice, might be a strong one and prove successful; then would have been afforded an opportunity for a triumphant vindication of its utility, and an augury of its future stupendous influence. In justice to Mr N., however, it should be added, that he considered one of his chief purposes accomplished. 'Phrenology has been mentioned seriously in a court of justice without provoking laughter. Two most respectable physicians have acknowledged their belief in phrenology, as a science, *upon oath*; and there were many others here ready, whenever a case might require their help, to submit themselves to further interrogation.'

Article V.

Mask of Napoleon.

The following is the Report of the Committee made to the Boston Prenological Society, at a meeting held the 20th Oct. 1835.

The Committee to whom was referred the two masks of Napoleon, copies of that taken by Dr Antommarchi, and received from New Orleans and London, respectfully report, that these copies, proceeding from the hands of different artists, vary a little in some of their proportions, but not so much so, as to affect the general character of the head. This mask possesses unusual interest, because the anti-phrenologists have considered it a complete refutation of our science, or at least of that principle of it, which considers size as an index of power, when the temperament and other circumstances are similar. As nearly as I recollect the history of this cast and of the use thus made of it, it is this. After Napoleon's decease, Dr A. who I believe is not unfriendly to phrenology, himself took a cast of as much of the head as he could conveniently get it. He then published what he considered a phrenological account of the developments. This account and the cast were snatched up by the anti-phrenologists of Paris, and conclusions were drawn adverse to phrenology, and circulated with an avidity which betrayed the hunger of our enemies, and their joy at such a rare mouthful of comfort. The little anties of this continent picked up a few of the crumbs, that fell from the Parisian banquet, and phrenologists were advised, in a friendly manner, to abandon their nonsense, and become reasonable beings. All we could do was to maintain that, either there must be some fault in the execution of the cast, or in Dr A's description of it; and that if this was a single exception to what we considered a general law, it ought to make us more careful, but not altogether

unbelieving. Thus the matter rested, until a competent committee of the Paris Phrenological Society looked into the facts, and published a report upon the subject. Of this report I had the honor to read you an analysis some months ago, and I then expressed my belief that it was a complete refutation of the slanders of the anti-phrenologists. As this report is on your files, and has been printed in a late number of the Annals, it is hardly necessary for me to repeat any of its positions, but it may be well to say, that they go to establish three points; 1st, that Dr. A. took the cast in an unskilful manner, especially in so far as the ear was put on where it would look best, and not where nature placed it. This was a fatal error; for, from the orifice of the ear all the important measurements are made; 2dly, that Dr A. was ignorant of our science, not knowing the location and function of several of the organs; and 3dly, even allowing that the cast was correctly taken, it is contended that the head was a large one, and adapted to the kind of greatness for which Napoleon was distinguished.

It has long been my opinion that but little aid can be drawn from the comparative measurement of heads, for I have at different times made tables of comparison which led to no satisfactory conclusions. The question before us, is one of this unsatisfactory kind, and the point in dispute is not whether the brain of Napoleon was active, but whether it was large compared with the brain of other men. The mask, although extending far back, does not enable us to ascertain the circumference of the whole head, but our opponents have allowed that it must have been between 23 and 24 of our inches. This, you all know, is more than the average measure of heads. But there are some points less uncertain than this. The head of Spurzheim is a very large one, and the intellectual portion well developed, but from the orifice of the ear to individuality, (at the top of the nose,) it measures one-sixteenth of an inch less than this cast of Napoleon. Dr Gall measures only one-sixteenth more, and no other head that I can find in our collection, exceeds the mask in question. So much for the *depth* of the forehead. As to its breadth, it may be sufficient to say, that it is as wide as the foreheads of Gall and Spurzheim, meas-

uring from order to order. It is wider and deeper than the heads of many highly intellectual men in our collection, and narrower than none that I have found. Again, it was said by our opponents, that a man who had caused so much slaughter must have had the organ of Destructiveness large, whereas they aver that on this mask Destructiveness is very small. I have measured with calipers the heads of the most distinguished murderers, with a view to this point, and find that of thirteen heads in our cabinet, the average width of Destructiveness is six and two-eighths inches, and this is the exact width of Napoleon's cast. The largest measurement of the thirteen is only 6 5-8,—3-8 more than Napoleon's, and the smallest is 5 1-8, which is 1 1-8 inches less. Certainly here was an organ capable of mischief.

Napoleon measures from the orifices to the top of the head, exactly six inches. This is less than the average of thirteen miscellaneous heads, not criminals, that I measured in our cabinet. It is the same as three of the murderers I have alluded to, more than six of them, and a trifle less than the remaining four. Although this measurement gives Napoleon less moral power than the casts I measured, which were not selected for their size, but taken as they stood on the shelf, still it does not fall below the average which M. Combe rates at 5 9-10, 1-10 less than Napoleon's. You will understand that I am not pronouncing upon the organs of Napoleon's brain, but merely upon these comparative measurements, on which I should not depend to any great degree, if I were estimating the intellectual or moral powers of Napoleon's mind.

Another mode of measurement, by a string, gave similar results. This cast measures 14 1-8 inches from orifice to orifice over the anterior edge of Firmness. Few heads of great men in our collection measure less. Dr Gall measures an inch and a half more. But then Firmness and Conscientiousness may be smaller in Napoleon, or, what is more probable, the artist may have placed the ear too high, not being aware that it was a matter of any importance.

A string carried across the eyebrow from orifice to orifice measures 14 inches. Dr Gall's cast measures the same, and I believe no other in our collection measures as much. This speaks well for

the practical character of Napoleon's mind, and accounts for the retreating forehead and apparent lack of intellectual development.

I think these comparative measurements must set at rest the objection against phrenology, which has been drawn from this cast. In conclusion, I would observe, that I consider the mask as chiefly valuable, because it probably gives us the *features* of the Disposer of Thrones, after misfortune had shrunk them, and death had set his stamp upon them. Phrenologically, the cast has no value except as the monument of a fruitless attempt to check a science which is destined to advance, although little minds, assuming a power never delegated to them by the Parent Spirit, may continue to say 'hitherto mayest thou come, and no farther.'

Respectfully,

WM. B. FOWLE, *Committee.*

ARTICLE VI.

On the Character of the North American Indians.

[Read before the Boston Phrenological Society—by E. L. Frothingham.]

THE different races of men may be divided into two great classes—each class differing in many respects, but possessing in common these peculiarities. In one class, is observed a tendency to *combine* and *associate* together—to acknowledge obedience to a regular system of laws—to accumulate property—to cultivate the arts and sciences—to follow some regular pursuit or occupation—to fix on some permanent place of abode—and manifesting strongly that sentiment so *essential* to civilized man, but so universally deficient in the savage, *Benevolence.* While the other class are characterized by a *deficiency* in all these peculiarities—having a tendency to *separate* and to *scatter*—refusing obedience to human

laws—desiring no permanent home—and with no systematic occupation or pursuit, except such as has been absolutely necessary for the preservation of their existence.

The design of the Creator in causing this difference, is apparent; and the fate of these inferior races is clearly pointed out. They have been fulfilling, and some have already *fulfilled*, the destiny appointed for them in the order of created things. As the races who are adapted to civilization and the arts increase, so will these races recede and disappear—until the *whole earth* is peopled with intelligent, moral, *social* man.

The question, to which of these classes belong the Indians of North America, will be readily answered by any one having the least acquaintance with their history. But as representations of the character of this race have been so contradictory, imperfect, and unsatisfactory, and as nothing like a full Phrenological account of it has ever been published, I will endeavor to describe it.

I do this principally, for the purpose of illustrating a theory of my own, which supposes the existence in the mind of three propensities or desires, which excite and control all operations of the perceptive and reflective intellect—the desires to observe, to reflect and to associate ideas,—the particular nature of these feelings and the situation of their organs will be described at some future time. This theory, I am confident, will furnish to phrenologists a *key*, with which they will be able to unlock, what has as yet been to them a *hidden mystery*, and give to them, what they have not yet possessed, *practical* rules for studying intellectual manifestation.

In the first place, the Indian is eminently *unsocial*. An intelligent writer says—'they converse a very little even among themselves. They seem to possess an instinctive determination to be wholly independent even of their own savage society, and wish to have *as few relations as may be* with any thing external to themselves.' They associate with others only so far as self-preservation requires, except it may be occasionally, for the purpose of gratifying some strong propensities of their nature, such as destructiveness or approbativeness, to a greater extent than could otherwise be done.

The tendency in him *to remain*, appears to be remarkably deficient. He is *literally* a wanderer upon the earth, without possessing the least desire to confine himself to any particular spot upon its surface. Indeed, he cannot confine himself to any *one place*, any more than he can to any *regular pursuit*,—and to see an Indian permanently engaged in a regular business, would seem to be the result of nothing less than a miracle. His feelings are equally evanescent. They are like moving shadows in the sun, which vanish with the objects that produce them, and leave no trace behind.

So it is with his *thoughts*. Although not very deficient in the reflective organs, they are almost *useless* to him. He has little desire or power to think, and when he does, his thoughts are *detached* efforts of the mind, which he is unable to *sustain* or to *connect* in any regular order, and of course we find him in speaking remarkably *sententious*. The speeches of the most gifted of this race are but a collection of short sentences, put together without connection, order, or arrangement—and relating principally to mere *matters of fact*, tinted, indeed, by the colors of Ideality. His *actions* are characterized by the same want of *system*. He never conceives a regular *plan* of operations, which he *steadily pursues*, although his perseverance, arising from large *Firmness*, is uncommonly great.

Gov. Cass, who has had uncommon opportunities for studying the character of the Indian, remarks—'The *range of thought* in our Indian neighbors is extremely limited—of *abstract ideas*, they are almost wholly destitute—they soon forget the past, improvidently disregard the future, and waste their thoughts, when they do think, upon the present.'

Although often manifesting strong *attachment to particular places*, the Indian has no *permanent home*. The only home he knows, is where his rude tent is pitched for a short season, on the wide prairie, or in the boundless forest—where, with no society but the wild deer and buffalo, he pursues his lonely occupation. There is, in short, nothing *stationary* about him, except the *peculiarity of character* which was originally given to him—this has

resisted, and will probably *continue* to resist, all the efforts of philanthropists to change.

Thus much has been said, to show the absence in the Indian, of all the results of abstract intellectual operation. It cannot be said to result from a deficiency in the intellectual organization ;—for the organs of the perceptive and reflective intellect are *nearly equally* developed ; and while the one manifests an activity, perception and memory which seems almost *miraculous*, the others are nearly *powerless*. His thoughts seem to flit over the surface of his mind like reflections on a mirror, or like the dim, disjointed visions of the sleeper's brain, over which he has no power and which has in his mind no lasting remembrance. *Something* there needs must be to explain this mystery, which nothing at present found in our science *can* do—and well might we say, there are more things in *mental science*, than are *yet dreamed of* in our philosophy.

The propensity to *destroy life*, seems to be one of the most craving in the nature of the Indian, and it is continually stimulated to the destruction of animal life by his appetite for animal food, which is enormous—so great, that an *entire deer* is said to be an ordinary daily allowance for an Indian family. *Combativeness*, which is the other great exciter of Destructiveness, appears to be rather *small* in the Indian, as we believe it generally is in those savages who seem to have been destined to subsist upon animal food, and in whom, for this reason, *Destructiveness* is found to be largely developed—indeed, Combativeness and Destructiveness are seldom found to be *largely* developed in any individual, as if it were incompatible with the safety of man to combine largely these fierce desires. As an intimation of the danger of this, we find that the all-wise Architect has placed as a faithful centinel, just over the spot where the organs of these two propensities unite, and in fact *communicating* with them at this point, the organ of Cautiousness —intended, evidently, to prevent man from *rashly* yielding to their destructive tendency. From these considerations we should not look for a large development of courage in the Indian. We believe that most writers concur in giving him the character of a coward, and the facts which we are acquainted with seem to lead

to the same conclusion. He never willingly engages in battle, except the odds is *greatly* on his own side—and he is never known to fight for the *pleasure* of it, which we conceive to be characteristic of large Combativeness. If skulking behind bushes to shoot unarmed men, women and children, or stealing at midnight upon their slumbers to tomahawk and scalp them, are indications of bravery, then the Indian is brave. Houses have been successfully defended by single individuals, and sometimes by *women* against the attacks of a swarm of these cowardly murderers; and we remember one account, where an old woman, with a *broomstick* presented for a gun, put to flight a troop of them.

From the fact, that although the stimulus communicated to Destructiveness by Combativeness in the Indian is not great, he will, and sometimes without provocation, yield to its impulse, when a *moment's* reflection would be sufficient to convince him that the forfeit of his own life must be the inevitable consequence,—we should be led to the conclusion that Caution is not so large in him as it has generally been represented. Its manifestation may be peculiar, owing to his almost entire want of reflection,—but, in analyzing his motives, it does not appear to me that Caution is a very large ingredient.

But he possesses a *watchfulness*, which never slumbers, except, under the influence of intoxication. He is in sleep like the cat, roused by the least unusual noise, and at once alive to the nature of his situation in relation to the objects which surround him. You will perceive how necessary to the safety of the Indian, is such a faithful guardian of his slumbers, as a protection against the nightly and noiseless attack of the beasts of prey which surround him. When awake, nothing escapes the notice of his vigilant eye. The unnatural stirring of a leaf, or the least unusual appearance, excites his *attention*. This nice observation, will sometimes detect even in the foot-prints on the grass, indications of the vicinity of some enemy of his tribe. He will then *conceal* himself, and *watch* for his prey. So great is his perseverance, that he will watch for days from some secret hiding-place, in the expectation of at last gratifying his inordinate thirst for blood. And here you perceive in ac-

tion the impulses most powerfully exhibited in the Indian — *Destructiveness*, *Secretiveness*, *Watchfulness*, and *Firmness*. Pity is a stranger to his breast—he delights in cruelty, and revenge is sweeter to him than his life.

His great deficiency of *Acquisitiveness* cannot be doubted—it is *always* a characteristic of the savage. He never accumulates property of any kind. He will not provide, in anticipation of his wants, even those supplies which are necessary for his sustenance, but endures much suffering from absolute want of food, which the least forethought would have provided. This deficiency is probably *one* cause of his excessive indolence—for we consider the desire to accumulate property, as the most powerful motive for exertion in civilized communities,—and that the Indian is lazy, is proverbial.

His *hospitality*, too, for which he is certainly *remarkable*, arises as much from the absence of this, as it does from his great love of approbation, and is probably the *result* of this combination. It certainly cannot spring from pity, or generosity, for these are attributes of *Benevolence*, which cannot for a moment be attributed to him, although it *has* sometimes been claimed for him from this circumstance. This, however, must be entirely insufficient to establish his claim to that distinguishing characteristic of civilized man, and in which his whole history shows him to be deficient. Besides, even in our own civilized and benevolent community, we conceive *Hospitality* to be *more* the result *of Approbativeness* than *Benevolence*, and the reason why we manifest *less than the savage* is because our *Acquisitiveness* is greater. But, although not desiring property, the Indian is a notorious *thief*. Stealing is not considered to be disgraceful among them, but would rather seem to be an *accomplishment*, and it is difficult to *make him understand* the difference between *mine* and *thine*. From this we should infer, that he did not possess a *large* development of *Conscientiousness*.

His *Secretiveness* is exhibited, too, in his cunning and duplicity. His emotions are concealed from the most searching eye—his designs, whenever he forms any, which is not often, are past finding out, and no reliance can be placed upon his representations. It is owing probably to this, principally, that so little has been certainly

known of his character. People have been deceived and misled by them,—and having no correct philosophy of the mind, the application of which could be practically useful, the accumulated observations and inquiries of travellers have been, to *themselves* at least, unprofitable. Gov. Cass, who endeavored with much zeal and perseverance, to obtain a correct knowledge of their character, says, 'of the external habits of the Indians, if I may so speak, we have the most ample details. Their wars, their amusements, their hunting, and the most prominent facts connected with their occupation and condition, have been described with great prolixity, and doubtless with much fidelity. But of their *moral character* and feelings, of their *mental discipline*, and *of all that is most valuable to man in the history of man*, we are about as ignorant, as when Jaques Cartier first ascended the St Lawrence. However much phrenologists may wonder at the ignorance acknowledged by his Excellency on a subject where the materials for information were so copious, it clearly proves how difficult it is, without the aid of phrenology, to *study character*, and especially that of the Indian—and explains how it has happened that so many individuals, who have had abundant opportunities to study this character by a long residence among them, eating at the same board, sleeping under the same roof, and in fact of observing them in every situation and under all circumstances, have given such contradictory and unsatisfactory accounts.

Although so *crafty*, the Indian is extremely *credulous*—he believes in sorcery, in the influence of dreams, in the reality of apparitions or ghosts of departed spirits, and even in the transmigration of souls. Indeed, almost every sort of superstition is credited among them. Their faith in the power of their sorcerers is so great, that if one of them dooms an individual to death, which they sometimes do, he will actually pine away and die. Hope seems to desert him entirely, and he resigns himself to his fate.

It is, we presume, the large development of *Marvellousness*, indicated by this, that operates in exciting so powerfully both the *fears* and the *hopes* of the savage. Although deficient in *Hope*, and not very *abundant* in *Caution*, this principle acts as a powerful stimulus to both these feelings by the ready credence it gives to

their slightest suggestions, however visionary or improbable. It will at times inspire him with a courage which appears almost miraculous, when excited in a way that is well understood by their prophets, and men of magic; and at other times, as we have already stated, overwhelms him with despair and death. *Many* reasons lead us to the conclusion, that *Hope* is *deficient* in the Indian. We know that he is subject to deep despondency, and is often driven by despair to commit suicide. It is not uncommon for individuals among them, meeting with severe disappointment, or having incurred disgrace, to throw their lives away, by joining some war party, and presenting their bodies to the arrows of the enemy. Thus manifesting the ruling passion, Glory, strong in death.

He is filthy in the extreme, but as fond of *dress* as a Bond-street beau—is pleased with trinkets and finery of every sort, and with bright and gaudy colors. This indicates very deficient *Order*, small *Color*, considerable *Ideality*, and large *Approbativeness*. Indeed, his love of admiration is excessive. He is a great braggart, and boasts alike of the number of scalps he has taken, and the number of horses he has stolen, and in these recitals will always magnify his own prowess.

The *Firmness* of the Indian is beyond a question. *Yet* the difference in this feeling between the savage and civilized man, is not so great as it *appears* to be. The great apparent fortitude manifested by them, in the endurance of suffering, and even *torture at the stake*, without betraying any emotion, results from a variety of causes. Their great *Secretiveness*, stimulated by a powerful *Approbativeness*, and an indomitable pride, enables them in a great degree to *conceal* the sufferings they endure. Besides, these sufferings are much less than they are imagined to be. Their *susceptibility* to bodily pain is extremely small. Inheriting an iron frame, which is made almost *callous* by exposure,—placing little value on life, and inured from infancy to scenes of violence and blood, what we, with an *equal* development of *firmness*, would regard with the most *exquisite terror*, he looks upon as an ordinary inevitable circumstance, and meets it with *apparent* composure, or braves it with savage ferocity.

Constructiveness cannot, we think, be large in the Indian.

He never shows the least *invention* in mechanics which *belongs to this intellectual faculty*; and as for *building*, his ideas of *architecture*, are certainly not very *extensive*. The few simple articles which they indeed manufacture with much neatness, cannot establish their claim to it; for the great *intensity*, we will not say *size*, of their perceptive organs would be sufficient to account for all this. Indeed, we know that *great mechanical skill* is not inconsistent with *small Constructiveness*, an instance of which has recently been reported to the society. We believe that *Constructiveness* manifests itself in the application of the *principles of mechanics*, and in perceiving the relations of cause and effect, in *matter*, as *Causality* perceives *abstract* relations of cause and effect, and applies principles of thought—and that they act entirely *independent* of each other. In support of this opinion, *we* should think it sufficient, to refer to the examples in Mr Combe's 'System of Phrenology,' p. 212, 213, 214,—which are there offered to prove that *Constructiveness* gives the *desire* only to construct, while the *intellect* furnishes a *plan* of the work to be constructed.

The Indian is entirely destitute of mathematical skill, or *number;* and in *music*, especially as far as relates to *melody*, is exceedingly deficient. *The love of children* seems to be with him a *strong* feeling, and the *sexual* passion *weak*. He is said to be a fond and indulgent father—and we know that when deprived of their children, it is a common practice with them, to adopt the children of *strangers*, that their place may be supplied, and that they extend towards these the greatest care and kindness. Some writers have represented the Indian as possessing in a *remarkable* degree the sentiment of *Friendship*. Instances of strong *Adhesiveness* we believe are *common* among them, and we must acknowledge that they have presented to the world examples of a devoted attachment which have rarely been surpassed. We must therefore conclude, that *Adhesiveness* is generally well developed in them; and should this be true, it would be sufficient of itself to extinguish at once the theory, that the *social principle* in man is the result of a *modification* of this feeling—for the Indian is *anti*-social.

He is respectful and obedient to the authority of superior age or endowments, and by this principle is governed without the aid of

any other law. This is probably the '*unknown* principle' alluded to by Gov. Cass, when he says, 'the constitution of their society, and the ties by which they are kept together, furnish a *paradox*, which has never received the explanation it requires. We say they have no government. And they have none, whose operation is felt either in rewards or punishments. And yet their lives and property are protected, and their political relations among themselves and with other tribes are duly preserved. Have they then *no passions* to excite them to deeds of violence, or have they discovered and reduced to practice some *unknown principle* of action in human nature, equally efficacious with the two great motives of *hope*, and *fear*, upon which all other governments have heretofore rested?' Really, we think it is time that our *rulers* had become phrenologists. Another writer says, 'Although from disposition and habit they are independent of each other, yet they are *never wanting* in obedience to their chiefs and leaders.' Heckewelder describes them as remarkable for the particular veneration which they pay to old age: in their conduct towards them, they show the greatest kindness and attention, and, although proud and obstinate, receive their instructions and advice with much humility. Even the children, he says, manifest this feeling in an uncommon manner, always paying deference to the *oldest* of the party, and considering him for the time their leader. He *denies*, what some travellers have asserted, that old people are sometimes suffered to *perish* from neglect, when unable to provide for themselves, or that they are *ever* put to *death*. This, he says, would be considered by them as an *unpardonable* offence. In fine, age is so much honored by the Indians, *that, in their language, age and wisdom* are *synonymous terms*.

The opinions have been advanced, that the Indian enjoys no domestic happiness, and that the condition of woman among them is deplorably wretched. We think these opinions to be unfounded. Certainly if Adhesiveness and Philoprogenitiveness are active sentiments in the savage breast, (and we have sufficient evidence that they are so,) he cannot but enjoy a considerable share of domestic happiness. Although from its not being derived so much from the lower propensity of his nature, it is less

exciting, it is on that account, purer and more lasting, and we much *doubt* if his happiness or that of the female is for this reason less. With regard to the woman, we believe that her labors are as light, and her enjoyments quite as many, as those of her protector and companion,—and we believe that no complaint or dissatisfaction is expressed by her, in performing the part which is allotted by custom in the duties of the Indian wife. The drawing-room accomplishments, or enervating and frivolous occupations of the fine lady, are not consistent with the nature or happiness of the dusky fair one —and the attention required from her by the household duties of so rude a state of society is so small, that her health and happiness are both consulted by sharing with her husband the rough labors of life.

We have thus endeavored, with what small ability and information on the subject we have possessed, to present a faithful account of the Indian character. *Individual exceptions* to this character may be found—even its *prominent features* will be differently combined in individuals, and each tribe may be distinguished for some peculiarity. But still we believe that the leading characteristics of the *race*, will be found to be such as we have described them. Very little has been *written* on the subject, and still less *understood*. It has seemed to present so much contradiction in itself, and so many new *combinations* of character, that philosophers and statesmen have looked upon it as presenting a *paradox*, that was to them utterly confounding and unintelligible. But as the light, which has been shed by the science of *phrenology*, upon the chaotic mass of opinions, relating to what has been *called* mental Philosophy, increases,—as the veil is more and more removed, which conceals its *full* splendors from our wondering and delighted minds ;—so do the clouds of error disperse, order is produced out of confusion, and we trust, by its light, to be enabled to *reconcile* even *these* apparently discordant materials, and to present at last, a perfectly *harmonious* combination of mental phenomena. It would not, as it seems to us, have been in accordance with Infinite Wisdom, to have given to this race, created, among others, to be the *pioneers in the world's wilderness*, an organization suited to the peaceful, intellectual, and

moral enjoyments of *social life*,—but one in accordance with their situation and destiny. With a *world* to roam over, teeming with vegetable and animal existence, these original races of men, required an organization suited to a wandering hunter life,—and whose principal satisfactions should be derived from *destroying* and *subsisting* upon this wide bounty spread out before them. And we accordingly find the desires to *destroy life*, and to *feed largely* upon animal food, together with those propensities so necessary for the *accomplishment* of what has been made at once their chief *task* and *pastime*, the *strongest* in their nature; while the impulses which would lead them to remain in one spot, and to associate with each other, are the *weakest*. And how can we sufficiently estimate the kindness of the Creator, in giving to such a people, surrounded as they must be by dangers, not only from savage beasts, but of men savage like themselves, and subjected to so much exposure, hardship and suffering, a body, with little susceptibility to pain, with great firmness to endure, and with but little desire to live.

With so slight a hold upon life, and with such an occupation before them, what should they do with desires to accumulate property, or to build up *permanent* habitations—what with the arts or refinements of society, or even the desire of society itself? *Change and dissolution*, not combination or permanency, *are traced indelibly in their organization*. It is their inevitable lot. What should they do with *pity*, the *business of whose life* is to *violate its dictates*; and how would *mirth* or *music* harmonize at the banquet, where *death* is the chief guest? What with *literature*, when nature is the only book which they are permitted to read or have capacity to understand; and what need of *number*, but to count the short moments of their fleeting life? Still they have not been left without such sober satisfactions as have been consistent with their savage lot. Those arising from the love of children, and the love of friends, which are among the most enduring and satisfactory which belong to our nature, they are by no means deficient in, and you will not call the satisfactions of *religion* either *few* or *small* —for the Indian has not been left without this bond of connection

with another world, and its inhabitants. Although not capable of understanding or appreciating the religion of the *gospel*, they have a religion *better suited* to their rude nature, which has not been conveyed to them on perishable materials, or subjected to the mutations and imperfections of language; but engraved on the eternal rocks, and hills, and the blue heavens. It speaks to him its rebukes in the thunder, and in the sighs of the evening breeze, whispers *peace* to his fierce spirit.

NOTE BY THE EDITOR.

Since the foregoing paper was read before the Boston Phrenological Society; the author has prepared and read two papers in relation to the theories alluded to in this aritcle. These papers will probably appear in the next number of the Annals.

Article VII.

On Memory.—Functions of Upper and Lower Individuality.

[From the Edinburgh Phrenological Journal.]

Mr Combe, in his System of Phrenology, p. 393, gives the following account of memory. 'The mind,' says he, 'has no power of calling up into fresh existence the emotions experienced by means of the propensities and sentiments, by merely willing them to be felt, and hence we hold these faculties not to possess memory. The ideas, however, formed by the knowing and reflecting faculties can be recalled by an act of recollection, and they are therefore said to have memory. Memory is thus merely a degree of activity of the knowing and reflecting organs.'

At first view, this analysis of Memory appeared to us exceedingly simple and philosophical; but, upon closer examination, we are inclined to think that it is altogether hypothetical, and has been framed without attending to some of the most striking characteristics of this faculty.

The most important part of our knowledge consists in an acquaintance with the multifarious relations which we perceive to exist in nature, and the manner in which we recollect or recall these, remains quite unexplained by phrenologists. We are aware of the manner in which we recollect individual existences or events, without reference to the order in which they occur, or to any other relation in which they stand to each other; but it still remains a mystery by what power of the mind we are enabled to recall the relations which we trace or observe among the phenomena, either in the world without, or in that still more incomprehensible world within ourselves. This power of the mind comprehends a range of phenomena as extensive as nature itself. Without it, all the wisdom and knowledge of former ages would have been utterly lost to us. The discoveries of Newton could never have been unfolded;—nay, the simplest operations of the mind could not have been retained for one moment. It is by means of this faculty that we are regulated in our most ordinary as well as in our most difficult pursuits. We must possess the power of recollecting the relation in which we stand to external objects, otherwise all the feelings and sentiments with which we are endowed would be utterly useless.

Mr Combe states, that 'the mind has no power of calling up into fresh existence the emotions experienced by means of the propensities and sentiments by merely willing them to be felt, and hence we hold these faculties not to possess memory.'

But this statement we conceive to be a mere evasion of the difficulty. The mere feeling, it is admitted, cannot confer the power of recalling the relation in which we may have stood to some being. The feeling itself is a simple and single phenomenon, as is likewise the individual object by which it may have been excited; and it is therefore plain, that the same faculty of the mind remembers both. But no account is given of the faculty, by means of which

we are enabled to remember the relation in which the internal feeling stood to the external object. Without this faculty, the mind would have been made up of so many successive emotions, without any link by which to connect them with external nature. External circumstances might have excited our feelings, but without a faculty by which we are enabled to recollect the relation between the internal feeling and the external object, the external circumstances would no sooner cease to operate upon our feelings than every trace of these phenomena having existed in connection would be utterly obliterated. It would be needless to proceed to illustration to show how much of our knowledge depends upon this principle of the mind. We may generally refer to the amazing knowledge of life and character possessed by Shakspeare. His perceptions were not only quick and powerful, but, in addition, he possessed the faculty, by means of which he stored up his own rich speculations on life and manners. This power of the mind, therefore, is of the highest importance, whether we regard it simply by itself, or in reference to the influence which its comparative strength or weakness has over the individual character. As we are possessed of one faculty of mind, by which we recollect individual phenomena or events, so we are possessed of another, by which we recollect the relations which we trace or perceive among these phenomena, or events. To the former power a place is assigned by phrenologists; but the latter, according to their present views, is referable to a variety of faculties, varying in their functions, and attended with very different effects. Thus, the power which we possess of remembering relations is scattered over a variety of powers, and has no distinct or independent existence from these,—or, in the language of Mr Combe, 'The ideas formed by the reflecting faculties can be recalled by *an act of recollection, and they are therefore said to have memory.*' We are compelled to give this statement a positive denial, and shall now proceed to give our own views on the subject, and illustrate them by a reference to facts.

We are of opinion, that each of the Individualities is a faculty of the mind quite distinct from the other. To the lower we ascribe that function by which we are enabled to remember single

unconnected phenomena or events. To Upper Individuality belongs that function by which we remember relations of every description, whether these subsist between external phenomena, or between these phenomena and the mind itself. These positions, we maintain, are founded upon accurate observations. An individual who has Lower Individuality large, with the Upper small, will recollect phenomena or events which come under his notice very unconnectedly. He will be unable to remember the order in which they occurred, or, in other words, he will forget the relationship of one to another, though he may still recollect all the individual phenomena themselves. A person who has Upper Individuality very full, with the Lower moderate, will be unable to form a very vivid or clear conception of any individual object or phenomenon. These will be suggested to him in consequence of recollecting relations which he had previously traced or observed, or in consequence of recollecting the order in which such objects or phenomena were presented to his mind. A person who has both Lower and Upper large, will, on the contrary, manifest an uncommon facility in recollecting both individual phenomena or events, and the order in which such phenomena or events occurred or were presented to his mind. In illustration of our principles, we take the liberty of availing ourselves of the example which Mr Combe quotes from Shakspeare, in page 279 of his System. We allude to Mrs Quickly's speech to Falstaff. She is reminding him of his promise of marriage, and says,—'Thou didst swear to me on a parcel-gilt goblet, sitting in my dolphin-chamber at the round table, by a sea-coal fire, on Wednesday in Whitsun-week, when the Prince broke thy head for likening his father to a singing-man of Windsor; thou didst swear to me then, as I was washing thy wound, to marry me, and make me my lady thy wife. Canst thou deny it?—Did not goodwife Keech, the butcher's wife, come in then, and call me Gossip Quickly? coming in to borrow a mess of vinegar, telling us she had a good dish of prawns; whereby thou didst desire to eat some; whereby I told thee they were ill for a green wound; and didst not thou, when she was gone down stairs, desire me to be no more so familiarity with such poor people, saying that, ere long,

they should call me madam ? And didst not thou kiss me, and bid me fetch thee thirty shillings ? I put thee now to thy book-oath ; deny it if thou canst.' 'Here,' Mr Combe remarks, 'is a surprising variety of trivial circumstances connected by no link but that of the order of their occurrence.' But Mr Combe does not distinguish between the power of recollecting the individual events and that of recollecting their connection with each other. According to our views of the mind, we remember individual phenomena or events by a distinct power from that by which we remember their connection or order of occurrence. If a character such as Mrs Quickly had possessed Upper Individuality large, with the Lower moderate, these miuute circumstances would have been suggested to her rather by recollecting the order of their occurrence than by directly recollecting the circumstances themselves ; and, in consequence, there would have been awanting that vivid and distinct conception of each minute circumstance which so strikingly marks her character throughout.

We next proceed to show the connection which Upper Individuality has with the reflecting faculties, and shall simply state the abstract principle, and give a few examples by way of illustration. We maintain, then, that *Upper Individuality remembers the relations which the reflecting faculties trace or observe either in external nature, or between external nature and the mind itself.* When we speak of phenomena, we refer to those of mind as well as matter ; and our doctrine is this, that all unconnected phenomena are taken cognizance of by Lower Individuality,—that the reflecting faculties observe or trace relations between these phenomena, and that these relations are stored up by Upper Individuality.

Causality simply traces or perceives the relation of cause and effect between phenomena ; Comparison compares objects or phenomena ; Wit perceives the difference between phenomena or ideas ; and Upper Individuality remembers all the relations which these powers have traced or observed. An individual, therefore, who has all the reflecting organs large, if his Upper Individuality is small, however quickly he may trace relations between phenomena stored up in Lower Individuality, will be much

inferior in memory of relations to the man who has the reflecting powers only full, with Upper Individuality large, supposing the condition of *cæteris paribus* to hold in regard to the other powers of both. So much for the connection which Upper Individuality has with the reflecting faculties. We may here notice the manner of the operation of Upper Individuality in regard to Ideality, which seems to hold a place between our intellectual powers and sentiments. Mr Combe, in his chapter on Ideality, seems to be of opinion that this power confers the sentiment of beauty, and is accordingly necessary to the conception of the sublime. This view of Ideality we admit to accord strikingly with the fact,—When a person, with this organ large, looks on a beautiful landscape, he perceives nothing externally which a person with the organ small does not perceive, but he feels the emotion of beauty in his own mind with a degree of vividness which the other cannot feel. Every thing he looks on has a degree of exquisiteness and perfectibility about it, which a person with the organ small cannot experience. The individual object and the feeling, as separate and distinct phenomena, are remembered by Lower Individuality; but how do we remember the relationship between the object and the feeling? At the time when the external object is perceived and the sentiment of beauty is felt, it is Causality which perceives the relation of cause and effect, as between the external object and the sentiment of beauty, and it is Upper Individuality which remembers this relation. We may thus recollect both the object and the feeling or emotion separately by means of Lower Individuality, but we remember the relation in which they stood to each other by means of Upper Individuality,—or, in other words, we remember that the perception of the object excited the vivid emotion described. This influence of Upper Individuality in reference to Ideality is borne out by observation. We have visited Westminster Abbey, St Paul's, and many other public places in London, where busts of poets are to be found, but in vain, to discover one very deficient in Upper Individuality. Most of them have it very full, some only full, but none have it small.

After what we have stated in regard to the function of Upper

Individuality with reference to Ideality, it will not be necessary to go into detail in order to show its connection with the other sentiments and feelings. We may observe generally, that Upper Individuality gives the power of recollecting the relation in which we stand to external objects calculated to excite our sentiments or feelings; Causality perceives the relation of cause and effect as between these objects and our sentiments or feelings, and Upper Individuality retains the relation so perceived. If a single example is produced contradictory of these principles, we will readily abandon them; but we are certain, from the observations which we have made, that they accord with the laws of nature, and, without claiming the least indulgence, we freely submit them to the severest scrutiny.

In illustration of our principles, we beg leave first to refer to the cerebral development of the Right Hon. Richard Brinsley Sheridan, a cast of whose head is to be found in the collection of the Phrenological Society. That individual, without large reflecting powers, contrived, if not to outstrip, at least to equal the most remarkable of his contemporaries by the splendor of his eloquence and the brilliancy of his wit. Now, it will be observed, that the largest of his intellectual powers are the Individualities, both of which are in him decidedly large. If our opinions on the subject of the Individualities are correct, this celebrated person had a wonderful aptitude for storing up in his mind all the phenomena which came under his observation, and an equal aptitude for recollecting the order in which they occurred or were presented to his mind. Accordingly, with moderate powers of penetration, he possessed a minuteness and accuracy for detail which has seldom been equalled, and we may safely say never surpassed. His mind seldom led him to deep or intense reflection, but he was perpetually observing, and consequently acquiring knowledge. He surveyed only the surface of things, but his survey was comprehensive and accurate. Accordingly, his knowledge of men and manners, without being profound, is accurate, being drawn from the stores of a boundless memory. The reflecting powers of Sheridan were not, however, very deficient, and by means of them he traced relations for himself, and

compared and contrasted these relations with those which he had previously stored up in his mind. Hence it is, that with Wit, or the perception of difference moderate, by the aid of his Upper and Lower Individualities, he possessed a brilliancy and vividness of conception altogether peculiar to himself. Being largely endowed with that faculty by which he remembered accurately all the relations either of difference, or of any other kind which he had either traced or observed himself or derived from reading, or otherwise, he could avail himself of them when an occasion presented itself. Such too, we believe, is pretty nearly the character of Sheridan, as given by Mr Moore. But it is useless to dwell upon the character of an individual. Pope the poet, a bust of whom is to be seen in Mr O'Neil's, Canongate, has Upper Individuality very full, with the Lower moderate. His writings are remarkable for their abstract didactic character, and for nakedness in his illustrations drawn from phenomena. Dryden, a bust of whom is to be seen in Westminster Abbey, has, on the contrary, Lower Individuality very full, and Upper not so full, and his writings are characterized by a vivid conception of phenomena.

We are told by the biographers of Pope, that when an idea struck him he immediately committed it to paper. When he went upon a visit to any of his friends, 'it was punctually required that his writing-box should be set upon his bed before he rose; and Lord Orford's domestic related, that in the dreadful winter of Forty, she was called from her bed by him four times in one night to supply him with paper, lest he should lose a thought.'—*Johnson's Life of Pope.*

According to Pope's development, and to our principles, he remembered phenomena not directly, but by recollecting the relations which he had traced or observed among them; they were suggested to him through the medium of these relations, and not directly remembered. He accordingly found it necessary, when any phenomena were suggested to him illustrative of his subject, to jot them down, because he wanted a facility in recalling phenomena directly. Accordingly, Dr Johnson, in analyzing the characters of Pope and Dryden, very justly remarks, that 'in acquired knowledge

the superiority must be allowed to Dryden, whose education was more scholastic, and who, before he became an author, had been allowed more time for study, with better means of information. *His mind has a larger range, and he collects his images and illustrations from a more extensive circumference of science. Dryden knew more of man in his general nature, and Pope in his local manners. The notions of Dryden were formed by comprehensive speculation, and those of Pope by minute attention.* There is more dignity in the knowledge of Dryden, and more certainty in that of Pope.' In further illustration of their respective characters as poets, Dr Johnson remarks, that, 'Dryden's page is a natural field, rising into inequalities, and diversified by the varied exuberance of abundant vegetation; Pope's is a velvet lawn, shaven by the scythe, and levelled by the roller.' The sentiments of Dr Johnson, as to the respective merits of these two poets, entirely correspond with the principles which we have stated. Dryden was 'superior in acquired knowledge;' not, however, because he was more studious than Pope, but because 'his mind had a larger range, and he collected his images and illustrations from a more extensive circumference of science.' Pope was naturally more studious, and possessed greater powers of application than his contemporary; and, accordingly, his works are characterized by their remarkable correctness of style and arrangement. Notwithstanding this we are told, that 'Dryden knew more of man in his general character,' and Pope only 'in his local manners.'—In other words, and in application of our principles, Dryden caught the hues and impressions of surrounding objects directly from nature; they were transferred to his mind in all their living reality, and treasured up there without an effort, and thence embodied in his page in all their native beauty of dress and coloring. Pope, on the other hand, with equal powers of imagination or fancy, in consequence of being inferior to Dryden in conjuring up individual existences, or phenomena to illustrate his subject, is wanting in that vividness of conception so well described by Dr Johnson. He treasured up phenomena not directly, but by means of the minute relations which he had traced or observed among them, and hence it is that his knowl-

edge of man 'in his local manners' was more accurate than that of Dryden. Dryden, on the contrary, observed the actions and manners of men, and traced these directly to the feelings and sentiments from which they sprung; hence it is, that his knowledge of man was more comprehensive than that of Pope. The character of Pope's mind led him not merely to observe, but likewise to remember minute relations, and in this way he came to a knowledge of more general facts. His Lower Individuality being moderate, and his Upper very full, phenomena were suggested to him by means of the relations which he had traced or observed among them. Dryden, on the contrary, had Lower Individuality very full, with Upper not so full. He accordingly recollected phenomena directly; but relations were re-suggested to him rather by means of recollecting the phenomena themselves, than in consequence of the power of recollecting relations directly. Hence it is that the writings of Dryden are of a very unequal character.—Sometimes he is remarkable for the brilliancy of his conceptions, and at other times he sinks into the most profound carelessness, and writes verses that would disgrace an inferior poet. We are frequently struck with the brilliancy of his conceptions and the vividness of his descriptions, but we are as often disgusted at his inequality. Pope, on the contrary, is equal to a fault,—the same abstract metaphysical air reigns throughout. When he brings forward facts to illustrate his subject, he touches them lightly;—they are all of that faint shadowy character which impart but an imperfect conception of the originals. In a word, Pope and Dryden, in their mode of thinking, stand as completely opposed to each other as they do in their cerebral development.

We might give numerous other examples from the poets and historians of the last century illustrative of the truth of these principles; but as an analysis of the character of each would necessarily occupy more time than we can well spare at present, we shall defer this investigation till some future opportunity. We propose, in the first place, however, to analyze a few of the most famous men of the present day, and we shall endeavor to select such only as have obtained pretty general notoriety, to enable even

those who are least interested in the fate of the science to apply the principles which are here stated.

Article VIII.

On the application of Phrenology in the formation of Marriages. Being the substance of a Public Lecture delivered by Mr Alexander Smart, *Secretary of the Dundee Mechanics' Phrenological Society.*

[From the Edinburgh Phrenological Journal, No. XXXVIII.]

In treating of the application of the principles of Phrenology in the formation of marriages, it will be necessary to advert to the group of the social faculties, from which springs the impulse to the connubial union. The *first* of these is Amativeness. From this faculty the sexual feeling originates. The organ is generally larger in males than in females. Its size is known chiefly by the breadth of the neck from ear to ear: in new born children it is the least developed of all the cerebral parts. It attains its full maturity between eighteen and twenty-six years old, at which latter age it is equal to about one-seventh of the whole brain. When its development is very large, it leads to libertinism and conjugal infidelity; but when under the guidance of the moral and reflecting faculties, it excites to mutual kindness, and the exercise of all the milder amenities between the sexes. The *second* is Philoprogenitiveness, or love of offspring. This faculty is in general much stronger in the female than in the male, and more so in some females than in others. In society, great differences are observable among individuals, in the manifestation of this feeling: some cannot endure the incessant and teasing prattle of children (as they choose to call it;) while of others it is the highest delight to witness their

innocent gambols, soothe them under their pretty crosses, and caress them with the strongest demonstrations of affection. The feeling shews itself in the girl, in her early attachment to dolls: it continues to grow with her growth, and strengthen with her strength, long after she becomes

> 'A happy mother, mid the smiles
> Of ripened worth, and sunny beauty.'

The last faculty of the social group is Adhesiveness, from which springs the instinctive tendency to attachment. Like Philoprogenitiveness, the organ is generally larger in the female than in the male; and consequently, to use the words of a powerful phrenological writer, we find the feeling manifested 'with a constancy and fervor in woman, which it would be in vain to expect from man. It has been truly said, that the most generous and friendly man is selfish, in comparison with woman. There is no friend like a loving and affectionate wife. Man may love, but it is almost always with a view to his own gratification; but when a woman bestows her love, she does it with her heart and soul.'

These faculties minister highly to human happiness, when gratified in accordance with the dictates of the moral sentiments and intellect; but when not controlled by these higher powers, their gratification is pregnant with evil. If under the dictates of Amativeness and Adhesiveness, a partner be chosen of whom the other faculties do not approve, bitter days of repentance must arrive, as soon as the former feelings begin to languish, and the moral sentiments and intellect to receive offence from the qualities of the individual. On the other hand, if the domestic affections are guided by intellect to an object pleasing to itself and the moral faculties, these themselves will be gratified; they will double the delights afforded by the domestic affections, and render the enjoyment lasting. Another principle is, that the manifestation of any faculty in others, stimulates to action the same faculty in us. Thus, when any individual addresses us in the language of Self-Esteem and Destructiveness, the same faculties are awakened in us, and we are impelled to return a correspondingly bitter answer; but let us be ad-

dressed under the influence of Adhesiveness and Benevolence, and our answer will partake of the warmth and affection arising from these feelings. Again, when any faculty becomes spontaneously active by being presented with its appropriate object, it calls other faculties of a like class into activity. It seems to be upon this principle that lovers are more amiable in each other's eyes than they appear to the rest of the world; for while in each other's society the domestic faculties are called into a state of delightful activity; these again rouse Ideality, Benevolence, Veneration, and Conscientiousness, which greatly heighten the delight experienced by them in their interviews with each other. I need not farther enlarge upon this part of my subject: each of you, probably, has either already experienced the delightful sensations hinted at, or will hereafter; for the feeling is so universal, that we may triumphantly ask with the poet,

> 'Where is the heart that has not bow'd,
> A slave, almighty Love, to thee?
> Look at the cold, the gay, the proud,
> And is there *one* among them free?'

Some, possessing fine temperaments and a good endowment of the domestic and moral faculties, experience in these moments the most ecstatic joy. Moore has described it as a

> 'Light, that ne'er will shine again
> On life's dull stream.'

We may here remark, that these pleasurable feelings are denied to the sensualist. Milton has truly said, that 'the embrace of harlots is tasteless, joyless, unendeared;' and Phrenology shews clearly how this arises—it is the momentary gratification of one or more of the inferior feelings, by which the moral faculties, with Self-esteem, and generally Love of Approbation, are wounded.

Having made these preliminary observations, I shall proceed to notice the principles upon which marriages are contracted in savage life and in the different orders of civilized society, and to point out how far these principles are in accordance with Phrenology; next, I shall attempt to lay down and elucidate some of these principles,—give a summary of the whole,—and conclude with an

address to the youth of both sexes upon the practical application of them as guides to conduct. I begin, then, with the native of New Holland. His mode of courtship is certainly unique—nor is there much danger of its being adopted in any other country. Goaded by the impulses of Amativeness, he provides himself with a club, endeavors to discover the retreat of another tribe—if a hostile one so much the better,—in the neighborhood of which he lies in ambush until night overtake them ; and when, by the light of the fires, he discovers a female straying to any distance from the encampment, he rushes upon her from his hiding-place, levels her with his club, seizes her by the feet, and runs with her to some secret spot, regardless of the injuries which she may receive from her head striking against the roots of trees or stones during the flight. Every one must consider such conduct savage in the extreme, but it is in perfect accordance with the organization. All is animalized, and from a head and mind like his, much higher conduct cannot be expected. Nor let us on other grounds too rashly condemn the untutored savage. He, it is true, inflicts physical pain in the accomplishment of his purpose, but he makes the amende honorable by adhering to her as his wife, and by using every endeavor to heal the wounds he has caused ; while, on the other hand, the European seducer, with all his intellectual and moral superiority, in place of merely inflicting *physical* pain, abandons his victim to *mental* agony, and leaves her to the scorn of an ungenerous and an unpitying world—a prey to 'remorse, regret, and shame.' Happily, however, seduction is not a prevailing vice among the humbler sons of toil ; it is a depravity, which it is to be feared, the higher ranks of men will continue to practise until they add to their wealth the nobility of virtue. So much for love in savage life. Let us now turn to that of the nobility of our own country, of a sketch of which, as given in Mr Fox's Repository, I gladly avail myself. 'When (the writer asks) the education of their daughters is ended, what then remains for them ? Are they not led like lambs to the slaughter ? Are they not put up for sale at the fashionable shambles ? where they are brought out to be exposed to the highest bidder with more real coarseness, though disguised under the veil of hypocrisy, than it is the lot of female servants to undergo at a statue fair. Are

their feelings ever consulted—their likings or dislikings? Are they not bidden to sit, and to walk, and to recline, in those modes which are most likely to attract the eyes of the chapman? May they speak ere they are spoken to, and are they not required to overcome every feeling of repugnance when a likely bidder appears, to make his offers? Are they not studiously instructed that marriage is not an affair of judgment, affection or love, but merely a matter of bargain or sale, for the purpose of securing as much of wealth or station, or both, as they can possibly achieve? Are not the whole arrangements made with diplomatic caution, and is not a half concluded bargain frequently broken off in consequence of a better offer? Disguise this conduct as you will, (adds the author,) under the fine sounding names of honorable alliance, excellent match, and other specious terms, which have been invented to make interest look like affection; but such marriages, entered into by a female, for wealth or station, are at best but prostitution clothed in the robes of sanctity. And what is the usual result? The lordling is soon tired of his new toy, and wanders in quest of fresh excitement, leaving his victim to her own sad thoughts, and the consciousness that there exist desirable things which neither wealth nor station can purchase.' It is to be hoped that this picture of our aristocracy is highly colored, and not nearly so universally true as the respected writer believes it to be. If it be accurate, however, marriage amongst our nobility is nearly as much an affair of the animal faculties as is the marriage of the New Hollander. In the savage, the activity of Amativeness rouses Acquisitiveness, Secretiveness, and Destructiveness; in the peer, it excites Acquisitiveness, Self-esteem, and Love of Approbation; while Benevolence, Veneration, and Conscientiousness, are kept in a state of abeyance to these inferior faculties, and left ungratified. And what is the result? Mutual loathing and disgust quickly ensue—libertinism becomes the pastime of the peer; too often the infidelity of his consort ensues; and the progeny of this unhappy marriage inherit the powerful animal, and weak moral and reflecting, faculties of the parents.* While

* With all the faults which belong to the aristocracy as a class, we cannot agree with Mr Fox, or the author, in holding the preceding description as generally applicable. It is too strongly drawn.—*Editor Edinburg Journal.*

such selfishness and ignorance of the Creator's laws are to be found in what is called exclusive society, we have little reason to wonder, if their inferiors in the middle ranks partake in some degree of the same fashionable debasement; and accordingly we find, that the same pursuit after wealth in the formation of the marriage-compact characterizes many of this class. Hence the questions—'What money has she?—is there any property?' are usually the first that are put by one who hears of the marriage of a friend. Intellectual and moral considerations are either given to the winds, or regarded as secondary to the acquisition of wealth. I do not mean that it is always so; but it will be admitted that individuals of this class too generally consider a marriage wise or foolish, according as the dower is ample or deficient. Nor can a favorable description of the conduct of the operative classes be always given in this respect. It is a daily occurrence to see a mere boy and girl, under the blind impulse of the sexual feeling alone, *rush* into marriage, destitute alike of the means necessary to enable them to sit down with comfort in their own house, and of the judgment to retrieve a past error;—ignorant of each other's dispositions, unacquainted with the duties they have to fulfil, and destitute of the physical strength which might enable them to emerge from poverty. Hence quarrels often ensue—home loses the attractions it ought to possess—want and all its attendant train of miseries overtake them. Philoprogenitiveness is wounded by the death of the children in infancy, from want of sufficient care and sustenance;—Benevolence and Conscientiousness, also lacerated, give rise to feelings of remorse, when reflection points to the absence of parental attention and moral training;—Self-Esteem and Love of Approbation are rendered painfully active by the consciousness of inferiority;—life is embittered by domestic feud and the immorality of the offspring, and shortened by excessive labor and irregular habits. It is thus that marriages contracted for the direct gratification of the domestic faculties, without reference to the moral and intellectual powers, prove ultimately unsatisfactory, and pregnant with evil to both parties. Happily, however, there are many exceptions to this picture in the humbler walks of life; because many estimable individuals inter-

marry, as it were, by accident, without any previous knowledge of the principles which ought to regulate their choice. Some of the principles I shall now proceed to lay down and briefly illustrate.

Man, as an organized being, is subject to organic laws. One of these laws is, that a healthy and vigorous constitution of body in the parents, is necessary to communicate existence in a perfect state to the offspring. The progeny of too young or imperfectly developed parents will be feeble and probably short-lived.

Another organic law is, that mental talents and dispositions are transmitted by hereditary descent; or, more shortly, that 'like begets like,' subject to some important modifications; and that mental and moral endowments are determined by the form, size, and constitution of brain. The temperaments indicate, to a certain extent, this constitution. It seems a general rule, also, that the faculties which predominate in power and activity in the parents, when the organic existence of the child commences, determine its future mental dispositions.

The first of these laws will not be denied by any; yet, though of great practical importance, it is often, from ignorance, overlooked. An individual with weak lungs, indicated by a compressed chest, stooping shoulders, and other symptoms that may be known to himself, should carefully avoid intermarrying with another so constituted; because the offspring will prove subject to pulmonary complaints that may carry them off in infancy; or if, by careful nursing, they should be enabled to survive that period, they will most probably fall victims to consumption before they attain maturity. In like manner, with respect to any other constitutional malady to which we may be subject, we should avoid perpetuating it by an alliance with persons in a similar condition, because, in that case, it would descend in an aggravated state to the offspring. These remarks are peculiarly applicable to that most deplorable of all maladies—insanity. This, as is well known, descends in many families from generation to generation; and if individuals belonging to such families intermarry, it is more than probable that the offspring will be either weak in intellect or absolutely insane.

A knowledge of the temperaments is of great practical impor-

tance. Every one, therefore, should endeavor to ascertain his own, for, from the union in marriage of two individuals with very active temperaments, children will most probably be produced, having nervous systems still more predominant than those of the parents; and such children run a very great risk of dying in infancy from convulsions, or, if they survive, are peculiarly predisposed to high cerebral excitement, bordering upon insanity, in which there is great danger of its ultimately terminating. Again, the union in marriage of two persons of a lymphatic temperament will give birth to offspring that will inherit the inertness of the parents, and will, consequently, be unfit to struggle successfully against the difficulties of life. Much more might be said on the importance of a knowledge of the temperaments, but I must refer to books on phrenology for farther information concerning them.

The organic law by which hereditary qualities descend to the offspring, is acted upon by every practical farmer with complete success in the rearing of his stock. Strange that it should never have occurred to such men, that they, as organized beings, are subject to the like laws, and that, if they desire to improve their own race, they have only to obey them. This law is also practically acted upon by the too-often immoral dog and cock fighters. More need not be said to establish its existence, because it is as universally admitted as it is disregarded in relation to man.

The next organic law is, that intellectual and moral endowment is determined by the size, form, and constitution of the brain,—a fact of the utmost importance in leading to the choice of a suitable partner.

The phrenologist finds too many illustrations of domestic infelicity arising from ill-assorted unions. Thus, a young woman in whom the domestic and moral faculties were strong, and whose intellect was considerable, married a man about her own age, with great force of character, resulting from a large head, and with large animal and intellectual, but deficient moral, organs. During the first year or two of their married life they contrived to live peaceably; but, by degrees, the husband acquired dissipated habits, and neglected his domestic duties. His wife used every endeavor, by

mildness and persuasion, to reclaim him, but, from his deficiency of the moral faculties, without effect. The two eldest children have taken up the mother's cerebral development, and their lives have been exemplary and irreproachable; the younger members of the family inherit the strong animal faculties and deficient morality of the father. The mother confesses she has had little moral enjoyment, and she feels that the remaining portion of her life is to be embittered by the profligacy of her children and the unfeeling indifference of her husband. Another instance may be given of a young man, whose father possessed great strength of character, by which he raised himself to the middle rank of society. The son, however, has a small head, with Acquisitiveness, Love of Approbation, and the reflecting faculties deficient. Belonging by birth to the middle ranks, he married a very respectable young woman, entered into business, failed, subsequently contracted the lowest and most dissipated habits, and, after bringing his wife and family to destitution, contrives to secrete part of the charity she receives from her respectable connections, wherewith to regale himself and his low associates. The parents have now three children, two of whom inherit very nearly the father's development. Had the mother been a phrenologist, it is not probable that she would have intermarried with him.

In another couple, where the husband has large organs of the moral faculties, with moderate intellect and large Combativeness and Self-esteem, while the other party has a small head, with excessive Self-esteem and Love of Approbation, there is a never-ending contention about trifles. They are total strangers to domestic tranquillity and fireside enjoyments; nor, to all appearance, have they tasted domestic felicity for thirty hours together during the whole thirty years of their married life. Happily for themselves, and perhaps for society, their children all died in infancy. Too many instances might be given, demonstrative of the fatal effects of disregarding the operation of the organic laws in marriage; but I shall conclude this part of the subject by referring, for several striking instances of it, to Mr Combe's work on the Constitution of Man,—a work that should be very generally perused.

I now proceed to give some facts strongly illustrative of the doctrine, that the faculties which predominate in power and activity in the parents, when the organic existence of the child commences, determine its future mental dispositions. This is a doctrine to which, from its great practical importance, I would beg leave to call your serious attention. It was remarked by the celebrated Esquirol, 'that the children whose existence dated from the horrors of the first French Revolution, turned out to be weak, nervous, and irritable in mind, extremely susceptible of impressions, and liable to be thrown by the least extraordinary excitement into absolute insanity.' Sometimes, too, family calamities produce serious effects upon the offspring. A very intelligent and respectable mother, upon hearing this principle expounded, remarked, that there was a very wide difference in the intellectual and moral development between one of her children and the others; and accounted for this difference by the fact, that, during pregnancy, she received intelligence that the crew of the ship, on board of which was her son, had mutinied—that when the ship arrived in the West Indies, some of the mutineers, and also her son, had been put in irons,—and that they were all to be sent home for trial. This intelligence acted so strongly upon her, that she suffered a temporary alienation of judgment. The report turned out to be erroneous, but this did not avert the consequences of the agitated state of the mother's feelings upon the daughter she afterwards gave birth to. That daughter is now a woman, but she is and will continue to be a being of impulses, incapable of reflection, and, in other respects, greatly inferior to her sisters.

The following is a melancholy instance of the operation of this principle, which was communicated to me by a respectable medical practitioner, and which I have since found, from inquiries in the neighborhood, and from seeing the subject of it, to be substantially correct. In the summer of 1827, the practitioner alluded to was called upon to visit professionally a young woman in the immediate neighborhood, who was safely delivered of a male child. As the parties appeared to be respectable, he made some inquiries regarding the absence of the child's father; when the old woman told him

that her daughter was still unmarried, that the child's father belonged to a regiment then in Ireland, that last autumn he had obtained leave of absence to visit his relations in this part of the country, and that, on the eve of his departure to join his regiment, an entertainment was given, at which her daughter attended: during the whole evening, she and the soldier danced and sang together; when heated by the toddy and the dance, they left the cottage, and after the lapse of an hour were found together in a glen, in a state of utter insensibility, from the effects of their former festivity; and the consequence of this interview was the birth of an idiot. He is now nearly six years of age, and his mother does not believe that he is able to recognise either herself or any other individual. He is quite incapable of making signs, whereby his wants can be made known—with this exception, that when hungry he gives a wild shriek. This is a case upon which it would be painful to dwell; and I shall only remark, that the parents are both intelligent, and that the fatal result cannot be otherwise accounted for than by the almost total prostration or eclipse of the intellect of both parties, from intoxication. Numerous instances might be adduced, wherein the temporary activity of certain faculties not in general prominent in the parents, has caused strong endowments in the offspring, and nothing but the fear of giving offence induces me to forbear citing many that have come under my own observation. It is well known, that the first born children of very young parents, have usually a larger animal and less moral and intellectual development than the younger branches of the family. Sometimes this is not the case, and the converse happens; but this will be found to be the consequence of straitened circumstances or other causes rousing the propensities of the parents into a state of unwonted activity, at the time of the production of the younger children. Marriage among near relations is also a breach of an organic law, and a fruitful source of evil; but unions of this class are seldom contracted by individuals of *our* order. We find this law principally infringed by royal families, and others of the higher and middle classes, who, anxious to keep up their wealth and their caste, intermarry amongst each other, until mental imbecility results.

I now conclude with a few observations to the young of both sexes, founded on the foregoing views.

To my fair hearers, I would take leave to say,—Persevere in the acquisition of orderly, cleanly, and industrious habits;—learn early to accommodate yourselves to the different dispositions of others with whom you may be associated;—strive to acquire a knowledge of your own dispositions, and endeavor, as much as possible, to render your manner *habitually* agreeable and engaging;—and when your estimable qualities, graces, and accomplishments attract the attention, or rivet the affections, of others, learn to be circumspect—act with great caution,—be wary before you give encouragement. Consider that the happiness of yourselves and the welfare of others are dependent upon the choice you are about to make. Learn to know your own physical and mental constitution, and to judge of that of others aright. Remember that, if you contract an alliance with any one possessing an unhealthy constitution, that constitution will descend to your progeny, and, in all probability, consign them, one by one, to the grave, at the very time when they have become most endeared to you. Remember, also, that on the industry, honesty, sobriety, and affection, of him to whom you shall unite yourselves, depends your every temporal felicity. And remember, that, unless your feelings, opinions, and sympathies are in harmony with his, unhappiness will be your inevitable portion. 'What,' says Dr Johnson, 'can be expected but disappointment and repentance from a choice made in the immaturity of youth, in the ardor of desire, without judgment, without foresight, without inquiry after conformity of opinions, similarity of manners, rectitude of judgment, or purity of sentiment? Such is the common process of marriage. A youth or maiden meeting by chance, or brought together by artifice, exchange glances, reciprocate civilities, go home, and dream of one another. Having little to divert attention or diversify thought, they find themselves uneasy when they are apart, and therefore conclude that they shall be happy together. They marry, and discover what nothing but voluntary blindness before had concealed; they wear out life in alterca-

tions, and charge nature with cruelty.' (*Rasselas*, chap. 29.) What, indeed, can be more productive of misery to a refined and educated woman than the habitual society of a man addicted to grovelling pursuits, and who laughs at whatever she most highly esteems? Let not the countenance drest up in smiles, nor the honeyed accents of a lover, enlist your affections in his favor before your judgment has been satisfied of his moral and intellectual worth. Regard not his behavior towards yourself, but examine into his previous conduct as a son and a citizen. If you find that he has been regardless of the infirmities and wants of those to whom he owed existence; that he could never brook parental restraint, or listen to the counsel dictated by affectionate regard; that he spends too much of his time in idleness, or that, though industrious, he spends too much of his money in the gin shop; that his associates are unintellectual, immoral, and dissipated;—shun him as you would a pestilence: but if you find that he has been dutiful to and is esteemed by his parents and the other members of his family,—that he is industrious and sober,—and that his associates are men of intelligence and moral worth,—then will you have reason to believe that he may prove to you a faithful and affectionate husband, and fulfil all the duties of life with integrity and skill.

To the youthful aspirant towards manly usefulness and honor, I would now address myself. Acquire a knowledge of the physical and moral sciences, to fit you for the proper discharge of the duties of active life. Learn to know yourself, both as regards your physical frame and your intellectual and moral constitution. Physiology will unfold the former; and Phrenology the latter. Study the laws which the Creator has established for the government of organized beings, and train your faculties to render them a willing obedience. Learn to look around you in the world, and note the consequences to others of their infringement of these laws, and the benefits that follow observance. Become acquainted with the institutions and laws of your country, and with the principles that regulate the population of a state. Cultivate a love of truth, and the moral courage necessary to follow it; for, be assured, that it

can never lead to danger. Cherish a kindly feeling towards the whole human family: let no distinction of country or sect be made a pretext for indulging invidious feelings; but remember that it is not given us to be born where we please, and that

> 'True religion is a boon, which Heaven
> To man, and not to any sect, has given.'

Neither let inferiority of mental endowments in others prompt you to despise them, nor be elated with the idea of your own capabilities and acquirements; remember that the advantages you possess over others in that respect, are purely a gift of the Creator, and that, consequently, though you have been more fortunate, you are not the more meritorious. Labor rather to improve those who are behind you, and do not scorn to imbibe instruction from your superiors in moral and mental attainments. Strive to acquire a knowledge of the duties you may be called upon in after life to fulfil, either as citizens, husbands, or parents. Make Phrenology in particular your study, for acquiring a knowledge of which you possess higher advantages than the artisans of any other city in Europe, with the exception of Edinburgh. Judge not of the importance of the science from what my limited faculties have been able to lay before you, but examine for yourselves the writings of its intellectual and benevolent founders, and then look abroad on society and draw your own conclusions. This you can accomplish with a very trifling sacrifice of time and money, while the benefit you will derive may be the means of insuring much of the happiness of your future life, and will have the immediate effect of exercising and rendering active your moral and intellectual powers. When you have acquired industrious and moral habits, and a knowledge of those laws which the Creator has established for the moral government of the world, endeavor to act in accordance therewith. Be especially on your guard that you do not infringe them in forming the social compact; for the consequences will extend beyond yourself, and go far into futurity. And when a choice has been made in accordance with the dictates of your superior faculties, let both parties endeavor, by fulfilling every duty, to render yourselves mu-

tually agreeable: then will the joyful husband find by delightful experience, that,—

'It is to lovely woman given
To soothe our griefs, our woes allay,
To heal the heart by misery riven,
Change earth into an embryo heaven,
And drive life's fiercest cares away.'

Article IX.

Characteristics of the Caribs.

[From No. XLI. of the Edinburgh Phrenological Journal.]

We had occasion lately to look into an extremely well-written book, entitled, '*Histoire Naturelle et Morale des Iles Antilles*,' published at Rotterdam in 1658; and were much amused, as well as interested, by a very careful description of the Caribs, then inhabiting St Vincent's and several other of the West India islands. The author seems to have taken great pains in observing and recording the manners and customs of these savages, and to have been unusually free from the prejudices so often attached to civilization. He evidently possessed an extensive acquaintance with the natural and civil history of man; and in noticing the prominent features and practices of Carib life, he makes his narrative doubly instructive, by constantly comparing them with similar traits and customs, not only among contemporaneous savages in other parts of the world, but also among the rude inhabitants of Europe, as displayed in its earliest authentic records.

The race of Caribs having now almost disappeared, it is interesting to go back a hundred and seventy years to the pages of an author who gathered his information from persons who had lived amongst them while their numbers were still great, and their natu-

ral character comparatively pure. Even at that time, indeed, they had been driven from several of the islands by the fire-arms and superior intelligence of the whites; but they still abounded in St Vincent's and a few other places, in each of which modifications of character were to be found. The author warns the reader that his description is applicable chiefly to the Caribs of St Vincent's.

Our readers are well acquainted with the flattened and unintellectual forehead presented by the Carib skull. The author says—'Admiration being the daughter of ignorance, we ought not to be surprised that the Caribs should be seized with a profound astonishment at every thing of which they cannot see the cause, and that they should be brought up in so much simplicity, that *in the greater number of this poor people, one would take it for brutal stupidity.*' 'Most of them were persuaded that gunpowder was the seed of a plant, and many insisted on having some to sow in their gardens,' where they thought it would grow like cabbage. They never could get over their astonishment at muskets, or conceive how they were discharged. They saw the match applied to the cannons, and thus accounted for their discharge; but believed that Matoya, their evil god, set fire to the muskets. The Caribs were as bad as those American Indians, who, being employed by the Spaniards to carry letters and dispatches, could not conceive how the news contained in them was conveyed, and at last fancied the letters to have eyes and ears, and to tell what they saw. Acting on this belief, a party in charge of a letter, fearing its watchfulness, hid it below a stone, that it might not see them steal and eat some of their master's melons!

Our author notices the inability of the Caribs to count beyond the number of their fingers. Their extraordinary deficiency of Causality, or reasoning power, proved an insuperable obstacle to their forming any conception of an omnipotent and omnipresent God; and when the admirable arrangements of Providence were pointed out as proofs, they listened patiently and answered, '*My friend, you are very eloquent; I wish I could speak like you;*' and then added, that it was the earth, and not God, that gave every thing. Monsieur de Montel, finding a Carib at work on a Sunday,

told him that 'the Being who made the heaven and the earth would be angry with him, as He had set apart that day for His own service.' The Carib, unable to penetrate beyond what he saw with his eyes, replied coarsely, 'I am angry at your God; you say he is the ruler of the world and of the seasons;—it is he, then, who has not sent rain in due season, and has caused my manioc and potatoes to die. Since he has used me so ill, I shall work all Sunday to vex him.' This brutality, the author remarks, is like that of another savage, 'who, when told that God was the author of thunder, remarked that he could not be good, since he took such pleasure in terrifying them with it.' Remarks like these could proceed only from minds incapable of embracing general principles, or following out a chain of reasoning to its proper results. They possess only that kind of acuteness which proceeds from active knowing faculties jumping to a visible conclusion. The Caribs were never able to comprehend the doctrines of Christianity, and although many were baptized as a means of protection against one of their own demons, they always considered Christianity as ridiculous and unworthy of men.

Justice was not publicly administered amongst them. Every one was his own avenger, and was held in contempt if he did not resent injuries. They almost never stole from each other; so that when any thing was missing from their huts, their first exclamation was, '*A Christian has been here.*' After describing their diabolical treatment of their enemies and prisoners of war, and giving a horrid picture of atrocity and inhumanity, the author adds, '*I confess that the sun would be right in abandoning these barbarians, rather than assisting at such detestable solemnities;* but, to act justly, he must also retire from many of the countries of the continent of America, and even from some of those of Africa and Asia, where like cruelties are perpetuated.'

The Caribs were extremely fond of their children, and the mothers were tender and excellent nurses; which trait corresponds with the great development of Philoprogenitiveness in all the Carib skulls without exception, of which the Phrenological Society possesses casts. They were scarcely less kind to the children of their

neighbors, when the parents were absent in war. They left the infant the free use of its limbs, and allowed it to roll about on the ground; and by this constant exercise most of them were able to walk at six months old, and all of them were finely formed,—deformity, except from wounds, being unknown amongst them. They were carefully taught the various qualifications of an able warrior; to draw the bow, endure hunger and fatigue, and cherish revenge against their enemies. To fit them for the first of these duties, it was a common practice for the parents, almost as soon as the child was able to walk, to tie its breakfast by a thread to the branch of a tree, put a bow and arrow into its hands, and tell it to eat when it could bring it down; and no pity was shewn them if it failed. As the children grew older, the breakfast was suspended from a higher and higher branch, till at last their dexterity in cutting the thread became almost incredibly great. This may serve as a hint in our systems of education.

In accordance with their deficient reasoning powers, the author remarks, that their language cannot express any relation 'which does not fall under the notice of their five senses, except the names of some good and evil spirits; but beyond this they have no word to express any thing spiritual, such as *understanding*, *memory*, or *will*, and they have no comparatives or superlatives.' They have names for only four colors, *white*, *black*, *yellow*, *red*. Can this last have relation to a small development of the organ of Coloring? They are easily managed by kindness, but harshness totally fails. They have a strict regard for cleanliness, which, he says, is extraordinary in savages.

The *naiveté* of the author, in commenting on the omission of swaddling in the treatment of infants, as was the universal custom in Europe when he wrote, is very amusing. He says that the Carib mothers allow their infants to tumble about on beds of cotton or dried leaves, without either bandage or swaddling clothes; and that '*nevertheless* (*meantmoins*) they do not become deformed, but *grow marvellously well, and most of them become so robust that they can walk when six months old*,' and all of them are straight and well made!! This he seems to have considered a truly marvel-

lous result, and it never once occurred to his simple and *civilized* understanding, that the savages were in this respect reaping the reward of fulfilling the intentions of Nature, while his deformed countrywomen were enjoying the necessary fruits of their own absurd aberrations. The modern Europeans may gather an useful lesson from the testimony now quoted, if they choose to avail themselves of it.

Article X.

Notes, chiefly Historical, on the Philosophy of Apparitions.

[From No. XXXIX. of the Edinburgh Phrenological Journal.]

Although the organs of the perceptive faculties are not usually brought into a state of full activity without the stimulus of impressions transmitted to them by the senses, yet it frequently happens that internal causes alone,—such as an unusual influx of blood into the vessels which supply them,—or inflammation,—or the influence of a large organ of Wonder, *—excite them so much as to give origin to perceptions which are generally called into existence only by the presentment of material objects. In dreaming, for instance, the external world is inwardly represented to our minds with all the force of reality: we speak and hear as if we were in communication with actual existences. Spectral illusions are perfectly analogous to dreams, and seem to differ from them only in requiring a higher degree of internal excitement of those parts of the brain which take cognizance of color, magnitude, sounds, &c. 'Visions,' says

* It is proved, by a vast number of facts, that persons in whose heads the organ of Wonder is large, are liable to be visited by apparitions. *How* that organ produces the necessary excitement of the perceptive organs is unknown:

Dr Spurzheim, 'are these internal sensations or ideas so strongly pictured forth that, though aroused and awake, the person still refers them outwards, and cannot help considering them as realities. These internal perceptions when transitory, are of no moment; but, when permanent, they indicate a true disease of the brain.*

The resemblance between dreams and spectral illusions has been remarked by persons subject to the visitations of the latter. A patient of the late Dr Alderson of Hull, complained 'that he had troublesome dreams, and he *seemed to dream whilst awake.*' It generally or uniformly happens, too, that the figures are not less visible in the dark than in day-light, and are perceived whether the eyes be closed or open. An individual in the west of Scotland, whose case is related in the second volume of this Journal, p. 111, whenever he shut his eyes, or was in darkness, saw a procession move before his mind, as distinctly as it had previously done before his eyes. In our fifth volume, a similar case is reported by Mr Levison. Pordage, in his Divina et Vera Metaphysica, (A. D. 1651,) a work containing an account of the splendid visions with which he and his Philadelphian disciples were favored, mentions that whether they shut their eyes or kept them open, the appearances were equally distinct, 'for we saw,' says he, 'with *the eyes of the mind*, not with those of the body.'† In former times, individuals who beheld visions, instead of ascribing their perceptions to a disordered condition of the brain, referred the impressions outwards, and had a full conviction of the presence of supernatural beings. Though it was not till the commencement of the present century that the true philosophy of apparitions began to be generally understood, there were certainly various writers, who long ago had the sagacity to perceive the real cause of spectral illusions. Of these writers, Bayle seems to have been among the earliest, and from him some of the other authors, whom we are about to quote,

the *fact* however, seems indubitable. See Gall sur les Fonctions du Cerveau, v. 347; Combe's System of Phrenology, third edition, pp. 309, 320, 502, and Phrenological Journal, i. 551.

* Phrenology, p. 71.

† See Foreign Quarterly Review, No. xi. p. 13.

probably derived their opinions. Bayle's explanation occurs in his Historical Dictionary, *voce* THOMAS HOBBES, Note N, (published about the close of the seventeenth century,) from which the following is an extract. 'A man would not only be very rash, but also very extravagant, who should pretend to prove, that there never was any person that imagined he saw a spectre; and I do not think that the most obstinate and extravagant unbelievers have maintained this. All that they say comes to this,—that the persons who have thought themselves eye-witnesses of the apparition of spirits, had a disturbed imagination. They confess, then, *that there are certain places in our brain*, that, being affected in a certain manner, *excite the image of an object which has no real existence out of ourselves*, and make the man whose brain is thus modified believe he sees, at two paces distance, a frightful spectre, a hobgoblin, a threatening phantom. The like happens in the heads of the most incredulous, either in their sleep, or in the paroxysms of a violent fever. Will they maintain after this, that it is impossible for a man awake, and not in a delirium, *to receive in certain places of his brain an impression* almost like that which, by the law of nature, is connected with the appearance of a phantom?' 'These apparitions in dreams are very frequent.'

Voltaire has some remarks to the same effect, in his Philosophical Dictionary, under the word APPARITION:—'Fantastic visions,' says he, 'are very frequent in hot fevers. *This is not seeing in imagination; it is seeing in reality. The phantom exists to him who has the perception of it.* If the gift of reason were not at hand to correct these illusions, all heated imaginations would be in an almost continual transport, and it would be impossible to cure them. It is especially in that middle state, betwixt sleeping and waking, that an inflamed brain sees imaginary objects, and hears sounds which nobody utters. Fear, love, grief, remorse, are the painters who trace the pictures before unsettled imaginations. The eye which sees sparks in the night, when accidentally pressed in a certain direction, *is but a faint image of the disorders of the brain.*'

The English poet Shenstone offers an equally sagacious 'Opinion of Ghosts,' in one of his essays bearing that title, and published

eighty or ninety years ago. 'It is remarkable,' he says, 'how much the belief of ghosts and apparitions of persons departed, has lost ground within these fifty years. This may perhaps be explained by the general growth of knowledge, and by the consequent decay of superstition, even in those kingdoms where it is most essentially interwoven with religion.'

'But whence comes it,' he asks, 'that narratives of this kind have at any time been given by persons of veracity, of judgment and of learning?—men neither liable to be deceived themselves, nor to be suspected of an inclination to deceive others, though it were their interest; nor who could be supposed to have any interest in it, even though it were their inclination?

'Here seems a further explanation wanting than what can be drawn from superstition.

'I go upon a supposition that the relations themselves were false. Supposing no ghost then ever appeared, is it a consequence that no man could ever imagine that he saw the figure of a person deceased? Surely those who say this, little know the force, the caprice, or the defects of the imagination.

'Persons after a debauch of liquor, or under the influence of terror, or in the delirium of a fever, or in a fit of lunacy, or even walking in their sleep, *have had their brain as deeply impressed* with chimerical representations, as they could possibly have been, had their representations struck their senses.

'I have mentioned but a few instances wherein *the brain is primarily affected.* Others may be given, perhaps not quite so common, where the stronger passions, either acute or chronical, have *impressed their object upon the brain*, and this in so lively a manner as to leave the visionary no room to doubt of their real presence.

'How difficult, then, must it be to undeceive a person as to objects thus imprinted!—imprinted absolutely *with the same force as their eyes themselves could have portrayed them!*—and how many persons must there needs be, who could never be undeceived at all!

'Some of these causes might not improbably have given rise to

the notion of apparitions; and, when the notion had been once promulgated, it had a natural tendency to produce more instances.

'The gloom of night, that was productive of terror, would be naturally productive of apparitions. The event confirmed it.

'The passion of grief for a departed friend, of horror for a murdered enemy, of remorse for a wronged testator, of love for a mistress skilled by inconstancy, of gratitude to a wife of long fidelity, of desire to be reconciled to one who died at variance, of impatience to vindicate what was falsely construed, of propensity to consult with an adviser that is lost;—the more faint, as well as the more powerful passions, when bearing relation to a person deceased, have often, I fancy, with concurrent circumstances, been sufficient to exhibit the dead to the living.

'But, what is more, there seems no other account that is adequate to the case as I have stated it. Allow this, and you have at once a reason, why the most upright may have published a falsehood, and the most judicious confirmed an absurdity.

'Such appears, to me, at least, to be the true existence of apparitions.

'The reasons against any external apparition, among others that may be brought, are these that follow:

'They are, I think, never seen by day; and darkness being the season of terror and uncertainty, and the imagination less restrained, they are never visible to more than one person; which had more probably been the case, were not the vision internal.

'They have not been reported to have appeared these twenty years. What cause can be assigned, were their existence real, for so great a change as their discontinuance?

'The cause of superstition has lost ground for this last century; the notion of ghosts has been, together, exploded; a reason why the imagination should be less prone to conceive them, but not a reason why they themselves should cease.

'Most of those who relate that these spectres have appeared to them, have been persons either deeply superstitious in other respects, of enthusiastic imaginations, or strong passions, which are

the consequence; or else have allowedly felt some perturbation at the time.'

Shenstone concludes by recommending the due government of the passions, and the strictest temperance, as the best means of avoiding the persecution of ghosts.

David Hume appears to have had a glimpse of the theory of apparitions. 'Memory and imagination,' says he, 'may mimic or copy the perceptions of the senses; but they never can entirely reach the force and vivacity of the original sentiment. The utmost we say of them, even when they operate with greatest vigor, is, that they represent their object in so lively a manner, that we could *almost* say we feel or see it. *But, except the mind be disordered by disease or madness,* they never can arrive at such a pitch of vivacity as to render these perceptions altogether undistinguishable.'*

The well-known visions of Nicolai of Berlin, occurred in 1791, and were regarded by him as 'the consequence of a diseased state of the nerves and an irregular circulation of the blood.'†

About the year, 1806, Dr Alderson‡ wrote an essay 'to prove the reality of ghosts, and, by accounting for their appearance from natural causes, to remove those impressions of terror which are made upon the minds of youth, when apparitions are supposed to be preternatural.' This essay was read in manuscript for several years afterwards, in different places, and was published, unknown to the author, in the Edinburgh Medical and Surgical Journal, in the year 1810. Dr Alderson himself reprinted it with corrections in 1811, and appended it to an essay on the Rhus Toxicodendron, then in the press; and a separate edition was published at London in 1823, under the title of 'An Essay on Apparitions, in which their appearance is accounted for by causes wholly independent of preternatural agency.' He shews that spectres 'are perfectly natural, arising from secondary physical causes, and depending on cir-

* Hume's Essays and Treatises. Edition 1817, ii. 15.

† See Nicolai's Narrative in Phren. Jour. i. 541.

‡ This gentleman was, for some years before his death, an ardent phrenologist, and President of the Hull Society for Phrenological Inquiry.

cumstances to which all nations, all mankind, are equally liable;' and 'that the cause lies not in the perturbed spirits of the departed, but in the disordered functions of the living'—in the 'distempered brain' of him who beholds the apparition. He details several very interesting cases which had fallen under his own observation, some of which are quoted in the first volume of this Journal, p. 544. He repeatedly scared away the ghosts which haunted his patients, by the application of 'bleeding, leeches, active purgatives,' and similar remedies. *

In the year 1813, Dr John Ferriar, of Manchester, published 'An Essay towards a Theory of Apparitions;' in which, without taking the slightest notice of Dr Alderson's work, he gave forth, as new, the same theory, supported by ancient history, traditional stories, and cases within the range of his professional employment. From this work, which contains much curious matter, we extract the following passages:

'It is well known, that in certain diseases of the brain, such as delirium and insanity, spectral delusions take place, even during the space of many days. But it has not been generally observed, that a partial affection of the brain may exist, which renders the patient liable to such imaginary impression, either of sight or sound, without disordering his judgment or memory. From this peculiar condition of his sensorium, I conceive that the best supported stories of apparitions may be completely accounted for. When the brain is partially irritated, the patient fancies that he sees spiders crawling over his bed-clothes or person; or beholds them covering the roof and walls of his room. If the disease increases, he imagines that persons who are dead, or absent, flit around his bed; that animals crowd into his apartment; and that all these apparitions speak to him.' 'These impressions take place even while he is convinced of their fallacy. All this occurs sometimes without any degree of delirium. I conceive that the unaffected accounts of spectral visions should engage the attention of the philosopher as well as of the physician. Instead of regarding these stories with the horror of the vulgar, or the disdain of the sceptic, we should

* Essay on Apparitions, pp. 21, 28, 40, 48. Longman & Co. 1823.

examine them accurately, and should ascertain their exact relation to the state of the brain, and of the external senses.' 'Lastly,' he says unfairly, 'by the key which *I* have furnished, the reader of history is released from the embarrassment of rejecting evidence in some of the plainest narratives, or of experiencing uneasy doubts, when the solution might be rendered perfectly simple.' From the extracts given above from the works of Bayle, Voltaire, Shenstone, and Nicolai, it is evident, that neither Ferriar nor Alderson is entitled to the merit of having originally furnished this 'key.' It had been suggested upwards of a century before, and the merit of *demonstrating* it to be the proper key belongs not to Dr Ferriar, but to Dr Alderson, if indeed it is due to either of them.

The next regular treatise on spectral illusions was that of Dr Hibbert, * who follows the opinions of Drs Alderson and Ferriar, respecting the proximate cause of the phenomena. 'An apparition,' says he, 'is, in a strict sense, a past feeling, renovated with a degree of vividness equalling or exceeding an actual impression. If the renewed feeling should be one of vision, a form may arise perfectly complete; if of sound, distinct conversation may be heard; or if of touch, the impression may be no less complete.' (P. 362.) Sensations (which are the result of actual impressions) and ideas (or renovated feelings) 'differ essentially in nothing but degree. Thus, the latter are *less intense*, *less vivid*, or *fainter*, than the former.' (P. 15.) 'When sensations and ideas,' he says, 'are, from some peculiar state of the sanguineous fluid, simultaneously rendered highly intense, the former arrive at a certain height of vividness, and gradually become fainter, while the latter, in an inverse ratio, increase in vividness; the result being, that recollected images of thought, vivified to the height of actual impressions, exclusively, or nearly so, constitute the states of the mind.' (P. 549.) This theory, so far as it relates to the blood, is at once upset by the fact, that in ghost-seers only a few of the faculties are vivified; whereas, if the quality of the blood were the circumstance

* Sketches of the Philosophy of Apparitions; or an attempt to trace such Illusions to their physical causes. By Samuel Hibbert, M. D. Edin. 1824.

on which the phenomena depend, every propensity, sentiment, and intellectual faculty would be influenced in a similar manner.

A still more unfounded opinion receives the countenance of Dr Hibbert, and one which we are surprised that a man of his physiological knowledge should entertain: 'The retina,' he says, 'may be shewn, when subjected to strong excitements, to be no less the organ of ideas than of sensations.' (P. 291.) And again: 'There are grounds for suspicion, that when ideas of vision are vivified to the height of sensations, a corresponding affection of the optic nerves accompanies the illusion. A person, for instance, laboring under spectral impressions, sees the form of an acquaintance standing before him in his chamber. Every effect in this case is produced, which we might expect from the figure being impressed on the retina. The rays of light issuing from that part of the wall which the phantasm seems to obscure, are virtually intercepted. But if impressions of visions are really renewable on the retina, their delineation ought to be always remarkable for accuracy.' (P. 198.) Sir David Brewster also favors the same opinion, when he maintains, that 'the mind's eye is actually the body's eye, and that the retina is the common tablet on which both classes of impressions (recollected images and actual sensations) are painted, and by means of which they receive their visual existence according to the same optical laws. Nor is this true,' he continues, 'merely in the case of spectral illusions: it holds good of all ideas recalled by the memory or created by the imagination, and may be regarded as a fundamental law in the science of pneumatology.' And he goes on to speak of the optic nerve 'carrying from the brain to the retina the figures of memory,'* to be thence transmitted back to the brain. Nothing could be more glaringly in opposition to sound physiology and observed facts, than this theory. In the first place, the function of the eye, including the retina and optic nerve, is simply to transmit the impressions of light to the brain; and it is the latter organ, alone, which perceives, judges, and remembers. Such being the office of the brain, any circumstance which renders

* Letters on Natural Magic, pp. 49, 50. The Third Letter contains a report and a very interesting case of spectral illusions.

that organ, either wholly or in part, sufficiently active, so vivifies its functions as to bring ideas to an equality with actual impressions. Secondly, there is not a shadow of evidence in support of the theory that the brain sends an influence to the retina, in consequence of which an actual picture is there produced; and that this picture being transmitted back to the brain, gives rise to an actual sensation. The very idea of this retrograde motion is absurd. Thirdly, there is satisfactory proof *that the reverse is the fact;* for did a picture exist on the retina, the apparition would partake of every motion of the eye. Dr Brewster himself seems to admit, that no motion of the apparition takes place in such circumstances; for he mentions that he instructed a lady, who was subject to the visitation of spectral illusions, 'that if she should ever see such a thing, she might distinguish a genuine ghost existing externally, and seen as an external object, from one created by the mind, by merely pressing one eye or straining them both so as to see objects double; for in this case *the external object* or supposed apparition would *invariably be doubled*, while the impression on the retina created by the mind *would remain single.*' * There is a passage to the same effect in one of Sir Charles Bell's essays, in the Philosophical Transactions, which, indeed, merely states what must be familiar to every one. 'Let the eye,' says he, 'be fixed upon an illuminated object, until the retina be fatigued, and in some measure exhausted by the image, then, closing the eyes, the figure of the object will remain present to them; and it is quite clear that nothing can change the place of this impression on the retina. But notwithstanding that the impression on the retina cannot be changed, the ideas thence arising may; for, by an exertion of the voluntary muscles of the eyeball, the body will appear to change its place, and it will, according to our feeling, assume different positions, according to the muscle which is exercised.' This is what takes place when the impression is on the retina; and if spectral illusions be the consequence of such an impression, it follows that, 'by an exertion of the voluntary muscles of the eyeball,' the apparition 'will, to our feeling, assume different positions.' Now, in *not one*

* Letters on Natural Magic, p. 39.

of the numerous cases of which we have perused the details, *did such a phenomenon occur.* In every instance, the evolutions of the spectres exactly resembled those of actual beings. Yet Sir David Brewster, in apparent contradiction of what he says in the passage last quoted from his book, tells us, a few pages farther on, 'that the spectres conjured up by the memory or the fancy,' 'appear in front of the eye, and *partake in its movements* exactly like the impressions of luminous objects after the objects themselves are withdrawn.' (P. 49.) This very remarkable doctrine rests, he says, on experimental evidence; but unfortunately he has considered it 'out of place in a work like this,' to advance that evidence, 'or even to explain the manner in which the experiments themselves must be conducted.'

In the appendix to Dr Hibbert's work are presented 'sketches of the opinions, ancient and modern, which have been entertained on the subject of apparitions.' Here abundant details are given of all sorts of absurd theories, but not a word is said respecting the notions of Bayle, Voltaire, or Shenstone. A passage, however, is quoted from an essay on apparitions, attributed to M. Meyer, a professor in the University of Halle, A. D. 1748, and embodying a theory considerably analogous to theirs. It assumes the materiality of ideas. With this we shall conclude the present article.

'I shall suppose,' says the professor, 'that I have lost a parent whom I have loved—whom I have seen and spoken to an infinity of times. Having perceived him often, I have consequently preserved the material figure and perception of him in the brain. For it is very possible, and reconcileable to appearances, that a material figure, like that of my deceased friend, may be preserved a long time in my brain, even after his death. By some intimate yet unknown relation, therefore, which the figure may have to my body, it may touch the optic or acoustic nerves. In the very moment, then, that my nerves are affected in the same manner that they formerly were when I saw or listened to my living friend, I shall be necessarily induced to believe that I really see or hear him as if he were present.'

Article XI.

The Physiological Characters of Races of Mankind considered in their relations to History; being a Letter to M. Amédée Thierry, Author of the History of the Gauls. By W. F. Edwards, M. D., F. R. S. L., *&c. &c. Paris*, 1829.

[From the Edinburgh Phrenological Journal, No. XLII.]

The very interesting work of the title of which a translation is prefixed, may be divided into two parts. In the first, the author endeavors, and we think successfully, to prove that a race, if not extirpated, continues, however it may be mixed with others, to present its characteristic features, and may thus be recognised after the lapse of many ages; and, in the second, he gives some examples of the application of this important principle in discovering among modern nations, the descendants and representatives of various ancient races, commonly supposed to have been lost in the mixture of tribes which followed the various conquests and settlements which have taken place in Europe.

Dr Edwards justly observes, that, 'When a people is conquered, and has lost its independence, as it no longer forms a nation, it ceases to exist in history; and we are tempted to believe that in such revolutions each disaster annihilates the previously existing races. But an attentive study of languages enables us to detect, in those spoken at the present day, the ancient idioms which have formed them, and thus to trace, in countries where otherwise we should never have suspected it, an uninterrupted connection between the ancient and the modern inhabitants. If, then, the forms of speech leave traces which betray their ancient origin, what are we to think of the physical characters of the race? Are they less permanent? Do we retain nothing of the features of our ancestors? Has climate so changed them that they can no longer be recognised? Has the mixture of races confounded every thing?

Has civilization regenerated every thing? Has decay degraded every thing? Has force exterminated or expelled entire peoples? Such are the questions which must be briefly examined, before coming to the observations which are the subject of this work.'

On the question of THE EFFECTS OF CLIMATE, the author observes, that we must attend not to extraordinary and perhaps isolated instances, but the general results when large masses of beings are exposed to this cause. He shews that the greater number of plants, when brought into a new climate, retain their peculiar character, if they survive; and the same is the case with animals, with the remarkable exception of the well-known changes in their fur and other coverings; but here the essential characters remain unaltered.

All the European nations have sent portions of their population into distant countries; and, as many of the colonies thus formed have existed very long, we can judge by them of the effect of the prolonged influence of climate. Now, asks Dr Edwards, do England, France, or Spain, find it difficult to recognise the descendants of the original colonists? Do not these colonists, on the contrary, exhibit the proper characters of their mother country? But as these characters, in the European nations, are not single and uniform, but mixed to a considerable extent, and consequently admit of some hesitation in pronouncing upon them, let us take, says he, an example which will leave no doubt on the subject. The physiognomy of the Jews is so marked, that it is universally known and recognised. They may be considered as colonists in all countries and climates; and, as they have preserved their customs, and have mixed little with the surrounding tribes, they are in the most favorable circumstances for shewing the real effect of climate.

In the first place, then, Jews in all countries resemble each other, and differ from the people among whom they live. Secondly, at distant periods, they had the same external characters. In the Last Supper of Leonardo da Vinci, this painter, who was an excellent naturalist and close observer, has painted faces which might be portraits of living Jews. This was 300 years ago; but

we have evidence, that 3000 years ago the Jews had the same characters.

In the copy of the paintings adorning the tomb of an Egyptian king, exhibited in London about ten years ago, there are representations of four different races in procession :—1*st*, the natives, very numerous, of a dark brown tint, but without the woolly hair of the Negro ; 2*d*, Negroes, with the black skin, thick lips, and woolly hair of that race ; 3*d*, Persians ; and, 4*th*, Jews, distinguished, says Belzoni, by their complexion and physiognomy. Dr Edwards says, 'I had seen, on the previous day, Jews in the streets of London ; I thought that I now saw their portraits.'

Here, then, is a people, existing with the same type in every variety of climate, and for ages. We could not desire a better experiment to ascertain the effect of climate. Even supposing that other nations might not so powerfully resist its influence, we must admit that such is the tendency of nature, and that, if no other cause were in operation, races of men would preserve the characteristic features of their ancestors, during a long course of ages in every climate.

Next, as to THE MIXTURE OF RACES. This cause, to which all modern nations have been more or less subjected, seems likely to effect more important changes. If the mixture of races were unlimited, perhaps it might confound all ; but it has evident limits. The differences of caste and rank, originating often in difference of race, oppose to it a barrier which is now and then overleaped, notwithstanding the force of laws and prejudices, but which long restrains the mass. Let us, however, suppose all artificial restrictions removed, and observe the result. First, we must consider the relative number of the two races. Supposing *a very great disproportion*, the type of the smaller number will finally disappear. If a Negro and a white produce a mulatto, this mulatto with a white produces an individual nearer to the white ; and after five and sometimes even four crossings with white blood, the black taint can no longer be perceived. The same is observed in domesticated animals. This conclusion, at first appears unfavorable to the search after ancient races among modern nations ; and it would be so in

the case of such races as had formed but a minute fraction of the mass; but where the mass has been great and preponderating, this principle shews, on the contrary, that the type of the race must still exist. If, then, where no restrictions as to mixture of races exist, the least numerous, if the disproportion be great, finally disappears, still less will the type of the more numerous be altered, if, as in most cases occurs, such restrictions do exist.

Let us now take the other extreme case, namely, where the two races are *equal in number*. What is required, that both should disappear, and form only one intermediate type? Each individual of the one race must unite with an individual of the other, or at least each race must have nearly an equal share in the amalgamation of physical characters. Such are the conditions absolutely necessary; and if their occurrence be not impossible, it is at least in the highest degree improbable.

When animals of different species are crossed, they produce an animal of an intermediate type, or a mule, but when different varieties of the same species are mixed, the result is often quite different. M. Coladon, of Geneva, made a very striking experiment, which bears strongly on this point. He procured a great number of white mice, as well as of common brown mice, studied their habits, and found means to cause them to breed. In his experiments he always put together mice of different colors, expecting a mixed race; but this did not occur in one instance. All the young mice were either white or brown, but each type was produced always in a state of purity.

Even in the case of varieties of the same species, we have an intermediate type or mule, but this is when the varieties differ most from each other: when, as in the case of the mice, they approach very nearly, mules are not produced. In both cases we see one common principle, namely, that the mother often produces a being of a type different from her own,—less so, however, in the latter case. The same principle is seen even in the same variety; for here also the mother, in producing a male, gives birth to a being whose type differs, and in some cases differs very much, from her own.

Now, the same is observed in man. The varieties which differ most strongly, such as the Negro and white, when crossed, produce mules; and when varieties more nearly resembling each other are crossed, the descendants sometimes resemble one parent, sometimes the other, sometimes both. This is the cause of the great variety observable in modern nations; among which, however, we can always observe specimens of the pure types which have entered into their composition. Thus, even if two races, having considerable resemblance to each other, and in equal numbers, were to mix without limitation, the original types would still frequently occur in their descendants.

Another cause which prevents the disappearance of the original types, where there has been no great disproportion of numbers, is the geographical distribution of the races. They cannot be so thoroughly mixed that the one or the other shall not predominate in some district, where, of course, the type of the race so predominating must exist.

A type may occasionally disappear by extermination. Thus the Guanches, savages who inhabited the Canary Isles, have disappeared; but their number was small, and they were confined to small islands. The Caribs, likewise, for the same reason, have almost disappeared from the Caribbee Islands, although they are said still to exist on the continent. But it is impossible to extirpate a numerous nation, more especially when they have attained a certain degree of civilization. In that case, it becomes the interest of the conquerors to preserve the conquered people as slaves, and not to destroy them; and we have no example in history of a *whole people* sacrificing themselves rather than submit to such slavery. On the other hand, we must suppose an incredible rage and cruelty on the part of the conquerors, if a whole people is to be exterminated. When it was proposed to Genghis Khan, by some of his counsellors, to extirpate the Chinese whom he had conquered in the north of China, as being useless to the conquerors, one of his ministers, Yeliu-thou-tsai, made the emperor observe, that in advancing towards the south, his armies would be in want of many things which it would be easy to procure by imposing on the conquered people

contributions, not oppressive, of money and provisions.—How then could it be said that such a people was useless to the state? This reasoning prevailed, although the cruelty of the Mongols was atrocious; and such reasons will always oppose the extermination of populous nations, possessed of some civilization.

A nation, that is, a numerous people, may be dispossessed of a large territory. This, however, has rarely happened, and only in the case of savages. It has occurred in America, but not in Hindostan. Where industry exists, the chiefs cannot induce a nation to emigrate in a body; and if conquered by a new tribe, the latter expels a portion to obtain room, if nomadic, but preserves the rest, as slaves, as auxiliaries, or as tributaries. These conclusions are confirmed by history; and M. Abel Remusat has ever been able, by comparing language with history, to discover nearly all the nomadic tribes of Asia in their primitive seats, notwithstanding the numerous revolutions and conquests which have occurred in that quarter of the globe.

As to the influence of CIVILIZATION on physical characters, we know nothing, either one way or the other; but its effect cannot be great, as it is commonly confined to the higher classes, except to a very small extent; and besides, wherever distinct types are seen, they will be found to pervade all classes of society.

Having now considered the chief causes,—climate, mixture of races, and civilization,—that might affect the physical characters of a race, and found that these causes are not capable, in ordinary cases, of annihilating the original type, we are prepared to find among modern nations the types of those tribes which have formerly occupied the soil.

We have seen that, if the accession of new tribes increases the number of types, it does not destroy them. The number increases by those which the new people brings, and by those which it creates by mixture; but the old ones remain and exist along with the new, except where a particular tribe has been small in number, in which case the type of such a tribe may have disappeared; but it *may* have also been preserved, for obvious reasons.

Of course, we will naturally expect to find the descendants of the most numerous nations.

In reading the historical accounts of the destruction of the Roman empire by barbarous tribes, we are apt to imagine that their numbers were immense, and that there was scarcely room for them; but on examining more closely, we find that this impression is erroneous. The Goths, who conquered the Heruli, a race which preceded them in Italy, had only 50,000 men to oppose to Belisarius. They were finally reduced to 7000, who capitulated and were sent to Constantinople. The Lombards, who possessed nearly half of Italy, and gave their name to a part of it, remained there; but, according to Botha, they did not exceed 100,000 armed men. The Normans, who conquered Naples and almost the whole of the south of Italy, were but a handful of men; and the Franks under Clovis, who possessed themselves of Gaul, and gave their name to that country, were far from numerous.

Still later, William the Norman conquered England with 60,000 men. These were memorable conquests, which totally changed the face of affairs in these countries, but which cannot have produced any considerable changes in the types of the conquered races; and such is the history of most conquests, in which a nation does not fall upon a nation, but a small portion of one people subjugates the entire country of another.

In some cases, indeed, where a country has been exposed to successive invasions from the same race, the latter has established itself in such numbers as to continue to perpetuate itself in its new abode. It was thus the Saxons obtained possession of England, and retained, from their numbers, their own characters, without, however, exterminating the previous inhabitants.

We have consulted natural and civil history, and both agree in the conclusion, that the direct descendants of almost all the great nations of antiquity must still exist. Now, as we have seen that physical characters are transmitted without much change, we may expect to find the types of these nations at the present day.

The proper plan is obvious. We must observe whether, in

those nations which we study, there be one or more distinct types, and we must then trace these types to their origin.

The characters which most strongly distinguish a type, are certainly those drawn from the proportions of the head and of the features, since these are the characters by which we recognise the individual. Thus the representation of a man by means of a bust, will always give a much clearer idea of his individual character than any description which it is possible to give. The description would apply to the race, but would never serve to distinguish the individual. The modifications relative to complexion, stature, and color of hair, are considered important but secondary, because they are more apt to be changed by external circumstances.

Having formed an idea of the type, it must, if correct, occur in a large number of individuals. If not, we can have no confidence in it. It will be seen immediately how well these conditions have been fulfilled, in the observations of Dr Edwards, which form the second part of his work. To the consideration of this we now proceed.

In travelling through France, Italy, and a part of Switzerland, Dr E. had scarcely reached the frontiers of Burgundy, when he began to observe a union of features which constituted a particular type. This became more marked and frequent as he penetrated into the country, especially from Auxerre to Châlons. He arrived in this latter town on a market day, and immediately repaired to the market to study the faces of the peasantry from the surrounding country. He was astonished to find a great many of them totally different from those he had first observed, and forming a strong contrast to them. During the rest of his journey in Burgundy, the first type occurred frequently, and continued in the Lyonnais, in Dauphiné, and in Savoy as far as Mont Cenis. There were in this large district many shades of color; but, with the exception of the group at Châlons, only one well marked type of head and face. Both types shall be afterwards described.

In Florence, Dr E. took the opportunity afforded by the Ducal Gallery to study the Roman type in the busts of the emperors;

among which, especially those of the earlier emperors, he found a type so well marked, that it is difficult to forget or to mistake it. In this type, the vertical diameter is short, and consequently the face broad. As the coronal region is flat, and the lower edge of the jaw nearly horizontal, the head seen from before has a square aspect. This form is so essential, that if the head be lengthened, preserving the other features, it ceases to be characteristic, even supposing it to be the exact portrait of an ancient Roman. The lateral parts of the head above the ears are arched, the forehead low, the nose truly aquiline, that is, the curve commences near the root and stops before reaching the point, so that the base of the nose is horizontal. The front of the chin is rounded. This type is well seen in Augustus, Pompey, Tiberius, Germanicus, Claudius, Nero, Titus, &c.

As Dr E. travelled towards Rome, expecting to find the Roman type in that city, the resemblance to it must have been very striking to attract his attention among the peasantry of Monte Gualandro, where he entered the Papal territory; and he saw the same character in a great many individuals on the road at Perugia, Spoleto, &c., till he arrived in Rome, where it exists in all classes of society. His companions observed it as well as himself. Dr E. does not say how far this type extends to the southward; it is not seen at Naples, but to the north of Rome it is found not only towards Perugia, but in the direction of Sienna, and even beyond Viterbo. This type is characteristic of these districts; and it is remarkable that it is seen in the soldiers and others on ancient bas-reliefs, as well as in the emperors; and as Rome was founded by a small band, it was probably even then the type of the surrounding country. According to Niebuhr, the Sabines and other enemies of the Romans were of the same race as their conquerors. This race appears to have extended formerly, as now, into Tuscany.

But another type was found along with it, in this latter country, by Dr E.; and one which had long attracted his attention. All the busts and pictures of Dante agree in giving that poet a very marked physiognomy. He had a long head, not broad; the forehead was high and well developed, the nose curved so that the

point of it drooped, the wings of the nose raised, and the chin prominent.

Dr E. saw, at Radicofani, people who possessed this type, and one of whom was the image of Dante. He had also observed it in the busts of many of the Medici, and other distinguished men of the Republic of Florence; and even traced it in some Etruscan bas-reliefs. He continued to observe it at Bologna, Ferrara, Padua, and the intermediate towns. It was very frequent at Venice. When examining at this last place the picture of a saint painted by one of the Venetian school, the cicerone desired him to observe how much it resembled Dante. In the Ducal Palace he observed that a great majority of the Doges, whose portraits he saw, had the same character.

In proceeding towards Milan, this type became still more frequent, and was sometimes absolutely caricatured. In one village, where he stopped for an hour or two, he saw a number of peasants, and could scarcely take his eyes off them, so great was their similarity to those whom he had seen in the market-place at Châlons. Being now in Cisalpine, as he had formerly been in Transalpine Gaul, he naturally concluded that this was a Gaulish type. In crossing the Alps, he met first with a German type, then with the Burgundian, and finally near to and in Geneva, with the type observed at Châlons and in Tuscany. Here, then, was a population composed of two races, each having its own type, and forming a complete contrast to each other. The one observed in Burgundy, Dauphiny, Savoy, and the Valais, having the head more round than oval, and rounded features, with a middling stature. The other, observed in Tuscany, at Geneva, and at Châlons, having the head long, the forehead broad and high, the curved nose, the prominent chin, and a tall stature. With the Roman type we have nothing to do at present.

M. Thierry, to whom the work of Dr Edwards is addressed, has shown in his History of the Gauls, that the greater part of Gaul was occupied by two great families, differing in language, habits and social state.

Dr Edwards discovers, in the same part of Gaul, two predomi-

nant types, so distinct that it is impossible to confound them. Had there been no foreign intrusion, we could not hesitate to ascribe these types to two Gaulish tribes. But we know that since the period alluded to, different nations have successively conquered the whole, or parts, of this territory. How, then, are we to distinguish? On the principle established previously, that the smaller number never imposes its type on the larger. Now we know the extreme disproportion of the conquerors of Gaul to its inhabitants, who have consequently retained their own type.

Of these two families, which are named by M. Thierry, Gauls and Kimris, (Cimbri,) the former should be the more numerous, as he has shown that they were the ancient inhabitants, who occupied almost the whole of Gaul before the establishment of the Kimris. Hence Dr Edwards concludes, that the type first observed by him in Burgundy, which was the most numerous, is that of the Gauls, and the other that of the Kimris; and their geographical distribution corresponds to this view.

The type of the Gauls is as follows:—The head is nearly spherical. The forehead of middling size, somewhat arched, and retreating towards the temples. The eyes are large and open. The nose is nearly straight, and rounded at the point. The chin is likewise round; and the stature is middling. In a word, the head is more round than oval, the features rounded and the stature middling. This type occurs in the east and south-east of France, where M. Thierry, from historical considerations, places the Gauls.

The Kimris, whose type has already been described in speaking of Dante, are placed by M. Thierry chiefly in the north of France, in the Belgium of Cæsar, and in Armorica. Now Dr Edwards, in a former journey, had observed this type to predominate, in the most marked way, in the country extending from the mouth of the Somme to that of the Seine, and we have seen that he recognised it at Châlons and in Tuscany. Although occurring in Burgundy, it cannot be the type of the Burgundian conquerors, because it appears in Picardy and Normandy, where the Burgundians never appeared; neither can it be that of the Scandinavian Normans, be-

cause it occurs at Macon and Châlons in Burgundy, which the Normans never approached. It must therefore belong to the previous inhabitants, the Cimbri or Kimris.

According to M. Thierry, England was chiefly occupied by the same people who possessed the North of Gaul, viz. the Kimris, and Dr Edwards has recognised the type of this people very abundantly in England. Those who exhibit it he considers as the descendants of the ancient Britons, whose supposed extermination he very properly doubts.

In that part of Switzerland, where French is spoken, formerly called Helvetia, Dr Edwards finds both races. The Helveti, according to Thierry, were Gauls, but must have been either then or subsequently mixed with Kimris.

From the earliest period, the north of Italy, between the Alps and Apennines, was inhabited by Gaulish races. Thierry says, that both Gauls and Kimris formed the population of Cisalpine as well as of Transalpine Gaul. We have already seen, that the type of the latter is abundant in the north of Italy; and Dr Edwards also saw the type of the Gauls, though less distinctly marked, in some parts of that country.

One very curious observation led him to suppose, that this type might occur more frequently in those districts which he had not visited in the north of Italy. In a bookseller's shop, at Milan, he saw an almanac containing a print, which represented two grotesque characters mocking each other. These figures were the most exact caricatures of the Gaul and Kimri types, even to the difference of stature, the Kimri being very tall, and the Gaul of middling size. The painter surely thought neither of natural history nor of antiquity, but he must have drawn from what was before him, and furnished a ludicrous contrast. The gigantic Gauls, described by the Roman historians, were obviously Kimris. Dr Edwards has observed that a tall stature very often accompanies the Kimri type in France, England, Switzerland, Italy, in short, wherever he has seen it. This also accounts for the circumstance, that in France, where the Gaul type predominates, the people are not tall, so that the question is often asked, what has become of those gigantic Gauls, for-

merly so terrible? They are still to be found even in France wherever the Kimri type prevails, as in Normandy. *

Such are the conclusions of Dr Edwards with regard to these two races. He next examines some of the Sclavonic tribes, which are found in the east of Europe. Having had an opportunity of examining many Austrian troops, he separated the different nations from each other, and studied their physical characters. There were Silesians, Bohemians, Moravians, Poles, and Hungarians. In none of these, however, did he find a characteristic type peculiar to the individual nation. But he soon saw a type which occurred frequently in all of them, and which he recognised as the Sclavonic type. It is found in the east of Europe, mixed with the German type, occurring very frequently among the nations above mentioned, and also among the Russians and Austrians. It is unnecessary to enter into details on this part of the subject.

Among the Sclavonic nations, Dr Edwards includes only a portion of the Hungarians, chiefly those inhabiting a circular strip of territory, varying in width, on the frontier of Hungary. But the central part of Hungary is peopled by a nation speaking the Madgiar language, which is quite different from the Sclavonic Hungarian. This would lead us to conclude, without consulting history, that a foreign people had established themselves among the Sclavonians, who may possibly represent the Dacians, the earliest inhabitants of this part of Europe. But what was the origin of the Madgiars? Dr Edwards has observed that many of those who speak the Madgiar language and pass for Madgiars, are of Sclavonic type. Supposing the Madgiars to have conquered Hungary, they would, from their political ascendancy, have perpetuated their language; while the Sclavonians, from their superiority of number, would have perpetuated their type. But Dr Edwards has shown, that another type exists in Hungary, and is quite peculiar. He found

* See the second article of our 18th number, (Vol. v. p. 194,) fo an account of the comparative degrees of intelligence manifested by the inhabitants of the different departments of France. See also, with respect to the Gauls and Kimris, Malte Brun's System of Geography, Edinburgh edition, vol. vi. p. 77.

it by comparing those Hungarians who were not of Sclavonic type. This new type corresponds accurately with the descriptions given by ancient authors of the Huns, who, in the fifth century, overran Hungary. The establishment of the Madgiars took place in the ninth century. This type, which Dr Edwards calls the Hun type, seems to him too abundantly diffused to have resulted from the Huns alone, whose empire in Hungary fell to pieces soon after the death of Attila, and who must have been greatly reduced in number by their constant wars. It has even been said, that they were exterminated, which is improbable, but at all events their type must have been extended by some subsequent irruption of a similar race, probably the Madgiars. Now the tradition of the latter people is, that their chief, Arpad, was descended from Attila.

But further, the Hun type is Mongolian, and therefore we should trace the Huns to Asia. Now, De Guignes, in studying the races of the east of Asia, shows us a tribe called Hioungnou, in their original seat, follows them to the westward, and finds them connecting themselves with the Finns, and establishing themselves in Hungary. Dr Edwards tells us, that the Finnish type is different, but that the Madgiar language is Finnish to a great extent, thus confirming the deductions of De Guignes, which were founded solely on historical considerations. The Hun or Mongol type, therefore, which is almost universal in the eastern half of Asia, is found in different parts of the west of that continent, in Russia, and in Hungary. The study of the languages of the people possessing this type connects them all with the Mongol race.

It is justly observed by Dr Edwards, that this correspondence in the results obtained by different means, adds greatly to their interest. 'If,' says he, 'De Guignes, beginning in the east of Tartary, recognises the same people in their distant expeditions, and in their communications with the Finns, and follows them even into Hungary; on the other hand, I recognise, in a part of the inhabitants of Hungary speaking a Finnish dialect, physical characters which prove their ancestors to have come from Eastern Asia.'

Dr Edwards gives some very ingenious remarks on language, and particularly on pronunciation, as a natural character. He dis-

tinctly traces, on the authority of Mezzofante, the celebrated linguist of Bologna, the resemblance of the dialects, and especially the pronunciation of northern Italy to those of France, to the fact that in both countries the Latin language was imposed on a Gaulish tribe; and shows that, as in the case of the English, the original tongue, (in this case Celtic,) although lost, communicates a peculiar and recognisable accent to the language which has supplanted it. We shall not, however, dwell on this division of the subject, but rather offer a few remarks on that part of the work which more particularly interests us as phrenologists.

No one can read Dr Edwards' interesting statement without regretting that he had not the assistance of Phrenology, which would have doubled the interest and importance of his discoveries.

But, although not a Phrenologist, we find him describing the characters drawn from the head and face as the most important, and laying great stress on the form of the head in all his types. We are therefore entitled to conclude, that where the type of a race appears pure, we shall find likewise the prevailing cerebral development of that race; and it is much to be desired that some of the many scientific men who have the opportunity, should endeavor to fill up the blank left by Dr Edwards. We should then see the national character, as described in history, illustrated by the development, while the identity of the race would be shown by the external characters or type.

While, therefore, we would offer our best thanks to Dr Edwards for this valuable contribution to the natural history of man, we earnestly hope to see the subject taken up, not only on a more extended scale, as Dr Edwards himself recommends, but also on phrenological principles.

Article XII.

What constitutes a trustworthy and intelligent Phrenologist.

From the following remarks, which we extract from an article in No. XXXVII. of the Edinburgh Phrenological Journal, it will be seen that the qualifications necessary for constituting a good practical Phrenologist, are numerous and important:—

'While the errors of skilful and experienced phrenologists are wonderfully few, much injury may—and we believe is—done to the cause, by ignorant pretenders, who, having learned the position of the cerebral organs, and acquired a superficial knowledge of the elements of the science, boldly and inconsiderately predicate characters from heads presented to their notice. From the blunders of quacks, no argument against any science can be fairly deduced. To constitute an intelligent and trustworthy practical phrenologist, a long course of study and observation, as well as a natural capability of profiting by these, is indispensably requisite. He must have an intimate acquaintance with the cerebral development of numerous individuals, and ample opportunity of observing the dispositions and talents connected with each;—he must be able to recognise with facility the degrees of development of the various organs, and also the temperament of the subject before him;—he must know accurately the functions of each organ, both individually and in combination with others;—his stock of general information must be respectable, that he may understand the nature of the sciences and occupations, to the pursuit of which the different faculties prompt;—and he must render himself familiar with human nature in its various phases, by mixing extensively with men of different ranks and employments, and by a careful study of biography. Finally, such a degree of reflective power as gives perception of motives is necessary to the observer; for it is a fact, revealed by

Phrenology, that persons in whom the reflective faculties are weak, do not clearly perceive causation either in morals or in physics. Such persons see actions only as occurrences, and are blind to the motives which produce them. They are the loudest scoffers at Phrenology, and are excusable in every respect for being so.'

Article XIII.

Progress of Phrenology.

It is but a few years since the science of Phrenology was spoken of in the most contemptuous style by the conductors of our public journals. It was ridiculed as an absurd system of philosophy, which ought to be ranked with Astrology, Animal Magnetism, and Physiognomy;—and the founders of the system, Gall and Spurzheim, were regarded as well-meaning, but visionary men, laboring under some strange hallucination. It was predicted that, in a few years, Phrenology would cease to exist; that it would quietly follow Spurzheim to the tomb. A great change in public opinion has indeed taken place with respect to this science, within a few years, but not exactly of the nature which was predicted. The science has become more known and better understood. Men of all classes admit the beauty and truth of the principles of Phrenology. It has its advocates in every corner of the land, among men of acknowledged talent and worth. The conductors of the public journals no longer speak of it with a sneer, but are disposed to treat it with the respect to which it is entitled. We subjoin a few extracts from some of the newspapers of the day, less for the purpose of

laying before our readers any new or striking remarks, than to show the tone which prevails in many of our most respectable journals.

Craniology.

[From the National Intelligencer.]

A desire to discover, in the outward, certain marks indicative of the inward man, his powers and his passions, has in almost all ages induced the learned to establish systems of physiognomy, more or less satisfactory. The most striking of these systems are those of BAPTISTA PORTA and LAVATER, the theory of the facial angle, and the system of Dr GALL. With regard to the first, who employed himself in comparing the contours of the human figure with those of beasts, observers have determined its value, and consider his principles as the result of a disordered imagination, as too bold, too little founded on rational observation, and absolutely uncertain in its application. The system of Lavater has had more success; but while we revere the genius of that celebrated man, we are compelled to acknowledge the instability of the basis on which his opinions rest. The theory of the facial angle, which embraces a wider field than the system of Lavater, leaves us in uncertainty as to particulars connected with the human faculties, and gives us only general views—yet it presents us with this truth, that the facial angle increases in size in proportion to the faculties of animals; and in this it coincides, in an evident manner, with the general results of the system of Dr Gall. Without entering into a minute detail of the laborious process pursued by this philosopher, (the object of which was to establish a certain basis in a science hitherto hypothetical,) we shall examine, very briefly, his fundamental principles:—

1. *The Brain is the material organ of the internal faculties.*

Without attempting to decide the metaphysical questions on the nature of the soul, or what may be the occult cause of the internal faculties, we are, however, forced to admit a material organ for their action. But, as it is observed that these faculties are found only where the brain exists, that they are lost with it, that disease and

læsion of the brain have a sensible influence on their degree and action; that the volume of the brain increases in direct proportion to the faculties of animals—it is not going too far to consider the brain as the material and intermediate organ. It might be here objected, that, in several cases, individuals have lost a considerable portion of the substance of the brain, without the faculties being sensibly diminished; but it may be observed, that the greater part of the cerebral organs exist double, and that the observations mentioned are not exact:—

2. *The brain contains different organs independent of each other for the different faculties.*

The internal faculties do not always exist in the same proportion one to the other. There are some men who have a great deal of genius, without having a memory—who have courage without circumspection, and who possess a metaphysical spirit, without being good observers. Besides, the phenomena of dreaming, of somnambulism, of delirium, &c. &c., prove to us that the internal faculties do not always act together; that there is often a very great activity of one, while the rest remain insensible. Thus, in old age, and sometimes in disease—such, for example, as madness—several faculties are lost, while others continue to subsist. The continual employment, too, of the same faculty, sensibly diminishes its energy. If we employ another, we find it has all the force of which it is susceptible; and if we return to the former faculty, we find that it has resumed its former vigor. It is thus that, when fatigued with reading an abstruse work on a philosophical subject, we proceed with pleasure to take up a poem, and then resume, with the same attention, our former occupation. The phenomena prove that the faculties are distinct, and independent of each other; and we are tempted to believe that the case is the same with their material organs. Many have dissented from this idea of Dr Gall, and have maintained, on the contrary, that the separation of the material organs are to be considered as the cause of the difference between the internal faculties. It appears, to us at least, that by supposing the faculties themselves as originally separated, we can-

not well avoid falling into materialism, which must exist when the mind is no longer considered as a unit.

3. *The expansion of the organs contained in the cranium, is in the direct ratio of the force of their corresponding faculties.*

This principle, dictated by analogy, rests on the axiom, that throughout all nature the faculties are always found to be proportioned to their relative organs; and the truth of this is proved in a special manner by the observations of Dr. Gall. It is however to be remarked, that exercise has great influence on the force of the faculties, and that an organ, moderately expanded, but often exercised, can give a faculty superior to that which accompanies a very extensive organ never put in action. Thus we see that a man of a very weak conformation, acquires, by continued exercise, strength superior to another of more athletic structure. We shall here mention an opinion, which seems to result immediately from this principle, but which is, however, false: it is, that the volume of the brain, in general, is in the direct ratio of the energy of its faculties. Observation has proved that we cannot judge of the strength of the faculties, but by the development of the separate organs which form distinct eminences in the cranium; and that a cranium perfectly rounded, of whatever size it may be, is never a proof of great faculties. We have never heard the reason assigned, but in our opinion these brains may be considered as in a state analogous to obesity; and as we do not judge of the muscular force of a man, or an animal, by the volume of their members, but by the development of the muscles, we ought, perhaps, in like manner to judge of the strength of the faculties by the development of the relative organs.

4. *We may judge of the different organs, and of their faculties, by the exterior form of the cranium.*

The truth of this principle is founded upon another, viz: that the conformation of the cranium depends on that of the brain—a truth generally acknowledged, and proved by the anterior part of the brain, by the impressions on the interior part of the cranium, and by other facts. There are skulls, it is true, in which an external protuberance of the bone corresponds to an interior one; and this

irregularity, which is found sometimes as a disease, and most commonly at an advanced age, when the cerebral organs do not oppose the same resistance to the cranium, renders the practice of Dr Gall's system in some measure uncertain. Guided by these principles, craniologists have examined the nature of the skull, compared the crania of animals and those of men, both of different and analogous faculties. Their researches have established, almost incontestably, not only the above truths, but that the faculties of animals are analogous to those of man; that the quantity of the organs fixes the difference of the genius of animals; that the disposition originally given by nature to each faculty may be called forth by exercise and favorable circumstances, and sometimes by disease, but that it can never be created where it is not given by nature; that the accumulation of the organs takes place, regularly and constantly, from the hind part forward, from the bottom to the top, in such a manner that animals, in proportion as they approach man in the quantity of their faculties, have the superior and anterior part of the brain expanded; and, in the last place, that in the most perfect animal, man, there are organs in the anterior and superior parts of the frontal bone, and of the parietals, destined for faculties which belong to them exclusively. It is under the latter point of view, that the discoveries of Gall agree thoroughly with the theory of the facial angle, which seems still farther to establish the truth of those discoveries.

The Siamese Twins—Phrenology.

[From the Schenectady Reflector.]

Last week we visited the Siamese Twin brothers *Chang* and *Eng*, then exhibited in this city. They certainly afford a very remarkable and interesting spectacle, which we very much enjoyed. Although, in the first instance, we were led to view them as objects of curiosity only, yet on cultivating their acquaintance, we became fond of their society; so much so, that we were induced to call upon them several times. A few days previous, we had noticed an article in the *Albany Argus*, in which the editor of that

paper suggested, that the alleged affinity of thought and feeling in these twins might prove a test of the phrenological system. He hinted that the existence of this, while the cerebral developments of each twin are different, might lead to the conclusion that the phrenological doctrine is untrue. We profess not to be an adept in the science of phrenology, and wish not to be considered as expressing an opinion either for or against it. But, having not long ago with much satisfaction paid some attention to this science, and as it was now brought to mind by the article alluded to in connection with the Siamese twins, we were tempted to examine their heads *secundem artem*. Such examination, with that kindness for which they are so distinguished, they permitted us to make.

We would state, in passing, that we do not consider these twins as proper subjects by which to test this science. Their case is isolated and *sui generis*: yet, as far as it proves any thing, it proves the truth of phrenology. We opine that all who draw the conclusion above alluded to, must reason from false premises. It exists only in the fancy of the poetess upon whose beautiful lines, doubtless, the premises aforesaid are predicated. We conversed with Mr Harris, an intelligent gentleman, their protector and associate, who has travelled with them for the last four years. He gives his opinion, that Chang and Eng are no more alike in their affective or intellectual faculties than any other two men would be who had been kept constantly together, witnessing the self-same scenes, and brought up and educated under the self-same circumstances. The 'historical account of the Siamese twin brothers,' sold at their exhibition room, asserts that their intellectual powers are very acute, and that, in this respect, the one does not possess the *slightest* degree of superiority over the other. In accordance herewith, the phrenological organs denoting the perceptive and reflective faculties (these last by the way are very large) are equally well developed, or nearly so. If there is any difference, Eng has a trifling superiority; and this corresponds with the fact. Wit and mirthfulness, benevolence (disposing to compassion) and adhesiveness (indicative of warmth of attachment,) while they are prominent phrenological organs on the head, are prominent traits in the

character of these amiable and interesting young men. The organs of time and tune are also distinctly marked, and Mr Harris informs us that they evinced much musical talent. Our readers may remember to have read an account, we believe about a year ago, of their being insulted while on a hunting excursion near Salem, Mass. On this occasion, one of them was quicker to resent the injury than the other. We made an examination with a view to ascertain, phrenologically, whether the spunky fellow was Chang or Eng. We found the organ of 'Combativeness' (called by Dr Gall the instinct of self-defence,) larger on the head of Chang than Eng; and so we pronounced Chang the hero, and he plead guilty to the charge. Chang has a quicker pulse and a more nervous temperament than Eng.

Phrenology.

[From the New Hampshire Gazette.]

PHRENOLOGY is not confined to a few bumps and depressions upon the head, as the sneerers and the scoffers, the ignorant and the sceptical would insinuate. It is related to the whole man—soul and body, as well as to the whole system of inferior existences in the animal kingdom; it is owing in some degree to its extensive relations, that it receives such decided opposition. Men consider it as a new science, an innovation, and, going upon the old principle of departing not from the ways of their fathers, they revile and ridicule what they do not understand. They attack a shadow, or a phantom, which their own ignorance has conjured up, and not a reality; but are so elated as to cry victory! victory! when there is no enemy, and investigation can find none. Phrenology is never assailed as it is, but as its enemies make it, and will have it. The genuine system of Spurzheim and Gall has never been assailed, and is not susceptible of attack. The reason is plain and obvious. If its opposers investigate the science, instead of opposing it, they become admirers; unless, perchance, it so happens that its first principles of division militate against the construction and organization of their own *craniums!!* Gall and Spurzheim were exiled from

Germany for their heterodox opinions but a few years since; and now their system has been published at Leipsic, and extensively circulated in Germany! Gall and his system were *excommunicated* by Pope Pius VII. in 1817; and now his system and his name are revered by the enlightened and the renowned of the Pope's subjects! The Edinburgh Review thundered its anathemas against it, but Jeffrey only exposed his ignorance of the subject; and Phrenology has taken deep root in Edinburgh; Blackwoods' Magazine joined in the tirade against it, and the London Quarterly barked to the same tune, but now these Magazines have nothing to say against it.

Many of the most distinguished men of Europe are at this time active phrenologists, and *none* are found against it. What is Dr Gregory? a Phrenologist. What is Dr Chalmers? a Phrenologist. Dr Welsh? a Phrenologist. What are Doctors Ellitson, Conolly, and Johnson, of London? Phrenologists. What is Cuvier, Broussa, Otto, Uccelli, and a hundred others—giants in literature? Phrenologists. And these are old men, too—men who, with difficulty, would yield their long established opinions of mind and matter; but did yield them to truth and true philosophy—even as ice yields to the rays of the vernal sun. But point me to a young and distinguished natural philosopher or physician, in Europe or in America, who has investigated the subject, who is not a Phrenologist, and I will point you to a '*rara avis* in *terra*.'

NOTICES.

WITHIN the present year, Phrenological Societies have been formed in a number of our populous towns—which shows the increasing interest which is taken by the scientific and reflecting portion of the community, in this interesting and highly valuable study. A society has been recently formed in the city of New York, another in Utica, of which we hope to be able to give more particular intelligence in our next number. In Louisville, (Ky.) a society was established Jan. 1, 1835, the members of which were limited to twenty-five, for the purpose of procuring books, phrenological specimens, &c. and pursuing the study of the same. The officers elected were as follows—C. E. BLUMENTHAL, President, Joseph Buchanan, Secretary, F. W. Lynde, Treasurer.

GALL'S WORKS. Marsh, Capen and Lyon, have in press the works of Dr Gall, translated from the French, by Dr Winslow Lewis, Jr. These works will make the first six volumes of the Phrenological Library. The publication of these works has been retarded in consequence of four of the volumes having been destroyed at the late fire, while in the hands of the bookbinder, and therefore had to be reprinted before publication. The whole six volumes will be ready for delivery to subscribers in about three or four weeks.

Combe on the Constitution of Man, which makes the seventh volume of the Phrenological Library, is already printed.

PREMIUM. The Boston Phrenological Society has offered a Premium of $100 for the best article against Phrenology. The Committee appointed to award the premium is composed of professional gentlemen of the first respectability. The following notice has been published, stating the requisitions of the Society.

'NOTICE TO ANTI-PHRENOLOGISTS. The subscriber, in behalf of the Boston Phrenological Society, is authorized to offer a premium of One Hundred Dollars for the best original Essay, the design of which shall be to *disprove* the Science of Phrenology. All articles offered for the premium must be forwarded (in the usual envelopes) to the subscriber, before the first of March, 1836, free of expense to the society; they must contain, at least, fifty pages of small pica print, octavo; and, whether successful or not, be considered at the disposal of the society. The premium will be awarded by a committee of five gentlemen of high reputation, in their several professions, and who are all unbelievers in the doctrines of Phrenology, provided any article in their estimation worthy of the premium shall be offered.

'July 18, 1835. J. S. SLEEPER, Secretary Boston Phrenological Society.

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