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Hamilton (F. H.)

LECTURE

ON

PHRENOLOGY,

BY

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Vermont Academy of Medicine.*

Delivered before the "Rochester Athenæum," Feb. 9th, 1841.

BY REQUEST.

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APOLGY TO THE PUBLIC.

This lecture was originally delivered orally, but in a much abridged form, before the "Rochester City Athenæum;" without any intention on the part of the author to open or invite a controversy. Notice however was given by Mr. Fowler at the close of my lecture (who had previously, over the signature of "O. S. Fowler, the American Practical Phrenologist," given me a public challenge) that he would reply to me on Friday evening of the same week; but failing to fulfill his engagement, he advertised that he would reply through the columns of the Democrat—failing also in this, and leaving for Philadelphia soon after, a gentleman of this city, publicly announced his intention to reply. A reply was accordingly given at the city Court House. It was however replete with misstatements and misrepresentations of my former lecture. In order therefore that the public might know correctly what my statements were, and whether, as stated by this gentleman, I have been guilty of scientific inaccuracy; and lest my farther silence should be construed into a lack of confidence in the tenability of my own opinions, I have determined to publish the lecture entire. Some additions have been made, particularly on the function of the cerebellum; which for manifest reasons could not be properly introduced before a popular audience. And although it would be impossible, since I had not a single note previously committed to writing, to publish the lecture literally, yet as far as could be recollected the spirit and arrangement of the original has been retained.

FRANK H. HAMILTON.

Rochester, March 3, 1841.

LECTURE.

YOUNG GENTLEMEN—

Members of this Association—I address you this evening in accordance with the invitation of your committee; and upon a subject which you have chosen to dictate to me. But I fear that in appearing before you without a written discourse, I have not complied with the usages of your society, or the intention of your request, and must claim as my apology the brief time which has been allowed me for preparation.

Permit me also to say, that I am not here as the defender, or antagonist of any man, or set of men, nor indeed of any special faith, but rather as a lecturer upon a matter of science, and the expounder of my own views; the written opinions however, of all men are public property, and of them I shall speak freely as occasion may require.

Most of this audience deem themselves, I doubt not, in some sense phrenologists; having a vague belief of its general truth. You believe, as you affirm, its fundamental principles, but its details—the minutiae of the science—the dividing of the head into small organs, and locating benevolence here, hope there, &c., you have not seen satisfactorily made out. I say this of you, because I hear the same remark every where, even among the most learned and intelligent; indeed phrenologists themselves have made the same observation, as I shall prove to you, and frankly declared that such men are not, and cannot by any possible construction be considered believers in the essential principles of phrenology. It will therefore not be considered arrogance in me that I attempt to show, that you do not of right belong to this school; but that in admitting what you term the general principles of phrenology, you have only admitted what can be as well explained without the aid of this science as with, upon long known and established principles of Physiology; but that the details, which you deny, constitute the very essence of phrenology.

The doctrines of phrenology as taught by Gall or his disciples, are

1. That the mental faculties are innate.
2. That the brain is the organ of the mind.
3. That size, other things being equal, is the measure of power.
4. That the mind possesses distinct faculties and that each mental faculty is manifested through a distinct cerebral organ.
5. That the size of each organ can be estimated during life.
6. That each organ when predominantly active, impresses the body with certain uniform attitudes and movements, called its natural language.

Before we proceed to the examination of these several propositions, we will correct an impression entertained by some, that Physiognomy, or the science of facial expression as taught by Lavater, is a part of Phrenology. It is true that the long continued and constant indulgence of any particular passion, sentiment or train of reflection will give to the features of the face a stamp and fixedness of expression, which no art or effort can conceal; the character and disposition of the individual becomes therefore indelibly impressed upon his countenance, and we are able to read as in a title page, the contents of the volume. But Phrenology disclaims all aid from this source and declares that it draws its information solely from the impression of the brain upon its walls. It must be confined therefore to the region of the cranium alone.

The first proposition, viz. "That the mental faculties are innate," we admit, if by this is meant that all men are born with a capacity to perceive and reason. This is the doctrine of Stewart, Bacon, Locke, Abercrombie, and nearly all of the

old school metaphysicians. But if they mean that *ideas* are innate, which involves the absurdity that we could reason, reflect, possess ideas without the aid of the external senses, and before these began to act, we deny the proposition; it is the doctrine of Plato, Kant and Descartes, and long since rejected as a mere "fiction of philosophers."

The *second* proposition, "That the brain is the organ of the mind," or the instrument through which it manifests itself, we also admit; reserving to ourselves however the understanding that the cerebellum and medulla oblongata, although included within the cavity of the cranium, are not portions of the cerebrum or *brain proper*, and thus understood, phrenologists acknowledge that the fact has been long known and admitted and therefore it constitutes no part of Gall's discovery. "The brain is the organ of the mind. This is a proposition which no person of common intelligence at the present day pretends to deny." "Although this is a fundamental principle of phrenology, yet it was fully established in the minds of scientific men *before* the time of Gall." Grimes phren. p. 29 and 30. "For many centuries the brain has been said to be the organ of the soul." Spurz. phren. v. 1. p. 35. (Spurzheim employs the words mind and soul as synonymous at all times.) "The brain is the organ of the mind. The greatest anatomists admit this proposition without hesitation." Combe's phren. p. 8. The author proceeds to mention as sanctioning this opinion, Cullen, Gregory, Blumenbach, Majendie and Arnott, some of whom wrote before the time of Gall, and none of whom we believe were disciples to his doctrines, and were in no way indebted to him for their opinions. See also Fowler & Kirk. p. 10.

We are aware that some physiologists deny that many of what the phrenologists term affective faculties and sentiments reside in the brain; viewing them as not properly faculties of the mind, but mere animal feelings, and having a common residence in the whole nervous or animal system, or as tenants of special organs in different parts of the body: such are mirthfulness, ideality, &c., which seem to depend in a great degree upon temperament or peculiar organization of the whole system; and amateness, alimentiveness, not to speak of chemicality and pneumaticness, all of which last have their appropriate organs independent of the brain; and over whose functions although the mind may hold cognizance, yet they are in no rational sense operations of the brain or intellect. If it is this which phrenologists would teach us, has been "established" by Gall and his followers, we will award them the credit, provided it has been established at all: of the proof of this we shall speak presently.

We here also admit, without prejudice to our argument, the third proposition as applied to the general mass of the cerebrum. That "size, other things being equal is the measure of power"—and this we illustrate by the well known observation, that a very small brain indicates idiocy and a full sized brain greater intellectual power. Here is nothing new; it is the doctrine of almost universal acceptance among all writers; indeed it has seemed to us that no one ever denied it, thinking. Yet it is true that *some* (see Edin. Rev. v. 44, p. 301) have appeared to doubt the accuracy of the statement, but rather, we think, from an overweening desire to demonstrate the fallacy of the principles of phrenology than from an honest wish to discover truth; a disposition which is equally unbecoming the advocate or antagonist of any doctrine.

Boardman remarks in his preface to Combe's Lectures p. 48, that an obscure notion of this kind "has existed for ages. The ancient sculptors represented their highly intellectual men and gods with *large heads*," &c. The fact is doubtless so; and the quotation is important only as showing that phrenologists admit that it was acknowledged prior to the time of Gall. But to sustain still farther our position with regard to the matter of fact, we will quote from that eminent and impartial physiologist, Robley Dunglison, of Philadelphia.—"Much may depend upon education; but it may, we think, be laid down as an incontrovertible position, that there is an original difference in the cerebral organization of the man of genius and of him who is less gifted; and, as a general principle, that in the former the brain is much more developed than in the latter. Whilst the brain of the man of intellect may measure from nineteen to twenty-two inches in circumference, that of the idiot frequently does not exceed thirteen,

or is not greater than in the child one year old."—Dung. Phys. v. 1 p. 233. See also a work entitled "Physical Man," by Robert Mudie, p. 87, and Paxton's Anat. v. 2 p. 52.

We are also prepared to believe, with phrenologists, that there may be a difference as to coarseness, fineness or compactness of fibre, in the cerebral organization of different animals, or different individuals, similar to that which we daily notice in the texture of the skin and general system of various persons—and that it may serve to explain the occasional exceptions which in the lower classes of animals, occur to the general rule that "size is the measure of power." And thus delicacy of cerebral fibre *maybe* one of those conditions to which we refer when we say that size *ceteris paribus* the measure of power.* This however is yet a mere hypothesis, and not established in our mind by any positive evidence.

It is equally certain that the *form* of the skull varies in different individuals, sexes and nations, and that these variations *correspond* with certain differences of habits, character and propensities; so that the form of the skull may become to some extent the index of the general character. Yet if I can explain these *correspondencies* upon any other principle than the doctrines of phrenology, it will of course be conceded that my admission does not affect my argument nor make me a phrenologist.

First, a high and spacious forehead it seems to us is *generally* a mark of high intellectual capacities; and as we think because nature in her most perfect specimens of architecture always preserves a symmetry of proportion; and if the forehead be well turned and full, the whole upper and lateral parts of the head will have a similar proportion. In which parts are contained the cerebrum or brain proper, which we shall attempt to show is probably the only intellectual part of the encephalic mass, or that only through which mind is manifested—the cerebellum being wholly an animal organ. Had the sides or top of the head been as constantly presented to the eye of the observer, free of the hairy covering, they might be made equally the index of mental capacity, for there is no doubt but that an infringement of the skull upon any part of this organ (cerebrum) so as to diminish essentially its size is a deformity, and when excessive indicates such an originally deficient or defective organization as must produce idiocy.

We have already given our opinion that the cerebellum or little brain, situated below and behind, is a mere animal organ, and in no sense the organ of mental manifestation, and of consequence, that if the individual or animal is large in the posterior and lower part of the head and small in the upper, he will be more animal than intellectual, and also the reverse. We do not state it as a point settled, but only as our conviction which needs many facts and observations to establish. The grounds of our belief are the following:—

The Phrenologists think they have established their point that it is the organ of amativeuess, or physical love, and by a greater number of facts than any other organ; "it is now," says Spurzheim in his Phrenology v. 1. p. 148, "impossible to unite a greater number of proofs in demonstration of any natural truth, than may be presented to determine the function of the cerebellum." Larrey, Richerand and others seem to favor the same view. (Yet in all the attempts made by phrenologists to show that it belonged only to those animals who "re-produce by sexual union" they have hitherto failed.)

We will not then positively deny that it is in some way connected with the function of generation; and our full assent would not imply that the organ of the *mind* is *multiple*, (which we are yet to show is the essential feature of phrenology,) since amativenes is no strictly mental operation, and of course the cerebellum, in which phrenologists have located this propensity, cannot according to their own showing, be a mental organ. But we confess that after all the testimony in favor, we have great difficulty in conceiving any connection between parts so remote as the cerebellum and the generative organs, and between which no nerve or medium of communication has ever been traced. And we think all the facts which seem to have indicated it as the appropriate organ of this function can be explained by considering it a mere animal organ, like the medulla ob-

* The other admitted conditions are, education, temperament and health.

longata, or top of the spinal marrow, which is also within the cavity of the cranium and admitted to have no other function than motion and sensation, and perhaps respiration.

The experiments made by Dr. J. Budge and reported in the August No. for 1840 of the Lond. Med. Chi. Rev. p. 445, are any thing but conclusive, since we are not told whether other parts were not similarly affected with those mentioned—nor is it shown that the same results would not have followed had the cerebellum been irritated also; not to speak of the obscurity and therefore lack of responsibility of the experimenter, and the fact also that M. Majendie and other great experimenters, in their vivisections upon the same organ never discovered any such phenomena.

Says Combe, p. 138 of his Lecture in New York—"That the cerebellum may manifest other functions than that of amativeness is not, however, impossible." He also, in p. 129, declares that the "instinct of re-production" is "a feeling," and that its organ, the cerebellum, springs from that part of the spinal marrow which is devoted to sensation—and further on he adds, "the organs of the feeling (including other organs than amativeness) are formed of fibres connected principally with the sensory, but partly with the motive tract."

In the experiments of M. Majendie also, wounds or removal of the cerebrum, or brain proper, did not impair immediately the mere animal functions of many of the creatures experimented upon, but they continued to live several days after the mutilation; while similar experiments upon the cerebellum affected promptly the motions of the animal, but had no peculiar effects upon the generative organs. The experiments of Rolando, Flourens, Foville, Pinel-Grandchamps, have also contradicted the opinions of Gall that the cerebellum is the organ of the amative instinct, as also those of Desmoulins and Broussais, both of whom are phrenologists.—Dung. Phys. v. 1, p. 276. Prof. Dunglison remarks, p. 260, "We have seen that the brain (cerebrum) alone is concerned in the intellectual and moral manifestations; although Gall includes also the cerebellum. It has already been remarked that no animal equals man in the development of the cerebral hemispheres," &c.; and on p. 277 he adds, "almost all believe that this function is restricted to the brain proper. Gall and his followers include the cerebellum." Again, says Roget, in his Outlines of Physiology and Phren. p. 494—"The cerebellum, as Rudolphi has observed, is found to lessen in its proportional development as we descend the scale of organised beings, without any corresponding diminution, and even with an increase of the propensity which Gall connects with it. How remarkably powerful is this instinct in birds; and yet how small is the cerebellum in the feathered tribes compared with its size in mammals, and even in the latter, when we consider the magnitude which it attains in the human species? We observe those tribes in which the cerebellum nearly ceases to exist, obeying, nevertheless, the impulsion of instinct as blindly or devotedly as other kinds which have the organ in question remarkably developed." Also, C. Bell, v. 2 p. 293—"There are grounds for believing, that the cerebellum has more reference to the strength and perfection of the bodily frame."

In addition to the testimony now produced, we may also convert, without incurring the charge of prejudice, much of the evidence adduced by phrenologists in favor of their opinion, to our own use; and as corroborative of our own views. The cerebellum is generally larger in the male than in the female; and generally bears a greater proportion to the cerebrum in the adult than in the child. Spurz. Phren. v. 1. p. 148. And this would seem to accord with the greater physical strength of the male and adults. And what is still better, if not conclusive evidence that the cerebellum is only associated with the general vigor and strength of the animal is the admitted fact that it attains nearly or quite its full size (and size, *ceteris paribus* is the measure of power,) before the propensity in question begins to manifest itself. Sp. Phren. v. 1. p. 149.

It is fair, also, to inquire whether admitting the amative desire to be proportioned to the size of the cerebellum, (which is not at all satisfactorily shown,) the increase of this organ in breadth, as well as of the whole head through the region of combativeness, * is not an effect rather than a cause of the amative power.

* It " (amativeness) seems to give activity to combativeness, and is generally accompanied with a large development of that region." Grimes phren. p. 223.

It is well known that the destruction of the organs of virility in early life, in man or animals, greatly enfeebles and retards the developement of the muscular system, while if permitted to remain as in the bull, the animal is much stronger, as is indicated by the greater breadth of muscle not only in the neck, but also in the back, loins, &c.; to accommodate which greater volume of muscle, the bones into which they are inserted are every where broader and firmer; may not then the greater breadth of cerebellum over that part of the occiput into which the muscles of the neck are inserted and by which breadth alone we judge of the size of the cerebellum, be an effect only of greater muscular developement? Certain it is that breadth of head in this region is *generally* accompanied with muscular power, and that those animals who have most muscular power with sanguine temperament have these propensities most active; yet exceptions enough occur to show that temperament, education and habits have more to do with the function under consideration than size of cerebellum or muscle or any other one condition. In short, we conclude, that the propensity in question is not a mental operation, and therefore if it resides in the cerebellum, the cerebellum cannot be a mental organ, and the mind or its organ is not proved multiple; and also that its actual residence in the cerebellum is not satisfactorily shown, nor indeed to our mind rendered probable. Many experiments and all anatomy being opposed to it, while the observations of phrenologists seem only to have shown that there is a frequent or general correspondence between a *strong muscular system* and the *amative propensity*. We have dwelt thus long upon this subject because the cerebellum being separated from the cerebrum by a strong membrane, the tentorium, and being the only phrenological organ which is so situated, phrenologists have relied upon it as one of their strong holds, to prove the brain a multiplex organ. And if our position is correct, it reduces them to the necessity of proving that the *cerebrum*, the real organ of mental manifestations, is multiplex, in aid of which, no dividing lines or membranes like the tentorium can be shown.

It is for the same reason which we have already explained, that a broad head, or great breadth across the region of combativeness and destructiveness, near which the lateral muscles of the neck, are attached, is generally accompanied with the propensity to fight or quarrel, and especially if the temperament be sanguine, bilious or choleric. Most great fighters and all carnivorous animals, even down to the rat and mouse have similar conformations of head and body. Mere irritability of temper, however, seems to depend less upon strength than temperament—an illustration of which is afforded in the little pet or whiffet dog.

That a proportion generally exists between the breadth of the head in this region, and the breadth and strength of other parts of the frame, none will deny: so that if exceptions occur to our explanation of the coincidence between large developement of combativeness and destructiveness and great exercise of these dispositions, they must of course, occur to the phrenologist's explanation—and these exceptions *do* occur in most phlegmatic temperaments, in which although the head may be wide and the frame and whole muscular system strong, yet the person will not be disposed to fight.

Let it be observed, also, that constructiveness, or the mechanical organ, is on the side of the head, and practical mechanics, are of course, laborers; and farther, that acquisitiveness is placed near combativeness; and the combative power does often encourage, if it does not actually, in some rare cases, engender the propensity to steal. Vitaliveness, also, is located near destructiveness, combativeness, acquisitiveness, alimentiveness, &c., and what greater proof of a man's desire to live, than the exercise of these organs?

We cannot deny, also, that great breadth in the region of the organ of alimentiveness, will occasionally indicate a great propensity in the individual or animal to eat. But not as we are taught by phrenologists, because the brain is here more fully developed, but simply because unusual breadth at this point, indicates greater use of the temporal muscle; which is in fact, the principle muscle with which we masticate food, and will always be developed in the exact ratio in which it is exercised! In this immediate vicinity, also, Mr. Grimes has placed pncumativeness, which is supposed to preside over the functions of respiration; we consider the location a very fortunate one, since a large chest and lungs are gener-

ally accompanied with large organs of alimentation." Walker on intermar. p. 332. Hence it must follow that breadth or fullness in this region indicating large alimentiveness, will also indicate large pneumativeness.

It is possible, that other coincidences than these now enumerated, might be found to exist between the shape of different portions of the head, and certain general traits of character, but whatever they may be, we have no doubt they may be explained upon similar physiological principles, and without the aid of phrenology.

4th proposition. This constitutes, as we are now prepared to show, the very essence of phrenology; or that essentially which distinguishes it from all other doctrines of the mind. It is not that "the mental faculties are innate"—that "the brain is the organ of the mind"—that "size, other things being equal is the measure of power," nor indeed, that the *form* of the skull, and of course, the contained mass, will, to no inconsiderable degree, prove the index of the character and propensities of the individuals, and even mark national differences and difference of habitudes, &c., among animals; but it is, "*that the mind possesses distinct faculties, and the brain (cerebrum) is composed of distinct organs, and that each mental faculty is manifested through a distinct cerebral organ.*"

That this is really the "vexed question," and that alone which distinguishes this philosophy from the philosophy of other modern schools, we have already shown, by proving their assent to the first three propositions, while it will be seen that the two remaining propositions are mere dependencies upon the one now under consideration. We propose to show, also, that they themselves, as well as others declare, this to constitute the great and leading principle of their science. "The foundation of this doctrine is, that the brain is not a single organ but is composed of as many nervous systems as there are primary and original faculties of the mind." Dung. Phys. v. 1. p. 262. Again, Fow. & Kirk. phr. p. 10. "The mind consists of a plurality of innate and independent faculties." "In the general argument in proof of phrenology, this proposition is all important and even fundamental. It is indeed the test and touch-stone of the truth of the science. If this proposition should be disproved, phrenology would fall like the baseless fabric of a vision and leave not a wreck behind." Do. p. 17. These, however, seem to be the very points to which most men of science have hesitated to give assent; and it is upon this, that Prof. Silliman "would not hazard an opinion." "In suggesting the considerations that have been presented, we do not assume or deny that the *minute* divisions of the mental, moral and animal faculties indicated by phrenology, as the science is now taught, are fully made out. On this question, we would not hazard an opinion." Silliman's Jour. v. 39. no. i. p. 86.

To us it seems also, that James Johnson, the distinguished editor of the Lon. Med. Chi. Rev., occupies a similar position. On p. 225 of vol. 28 of his jour., he remarks, "while, however, we think that there is much conjecture and mere fanciful speculation in many of the *details* of phrenology, we do not hesitate to assert that the fundamental doctrines of the system appear to us to be strictly in accordance with the truth." And proceeding to define what he means by *fundamental doctrines*, he declares that he refers to the great divisions into "intellectual"—"the higher sentiments peculiar to man," and the "lower feelings, which are common to man and animals." p. 226. Robley Dunglison, the distinguished physiologist, appears also to take the same ground. "The views of Gall are by no means established." Dung. phys. vi. p. 279. "The topographical division of the skull, which he has proposed, can hardly be regarded otherwise than premature, to say the least of it; and the remark, of course, applies *a fortiori* to that part of Spurzheim, who enumerates thirty-five original and innate faculties. Do. p. 278. We would not, of course, assume to dictate opinions for these gentlemen, but as they are often quoted as favoring phrenology, we have thought it right to give their own statements; and especially as many less learned, considering such men ample authority, have, without farther examination, seen fit to adopt the same views. But we have observed the same, or similar facts to those upon which they found their opinion of the correctness of the "general principles" of phrenology, yet do not see the necessity of their conclusions. Indeed, we should feel ourself inconsistent to admit the grand divisions, which these men call its "general principles," but which phrenologists

do not, until the "details" were made out. Permit us here again to quote from Mr. Boardman, the Secretary of the New York Phrenological Society, since his remarks fully accord with our own views, and will be deemed better authority. "The absurdity of the middle course men is finely illustrated by their expressions concerning phrenology. You hear them remarking every day, 'the *general principles* are no doubt correct, but the details are ridiculously absurd.'—Now as a general truth is merely a truth common to many individuals, if the details be false, the general principles must be so too. It is as impossible that any accumulation of falsities should constitute a truth, as that the simultaneous infliction of various torments should harmonize into exquisite delight."—p. 42. Now I appeal to yourselves, if this has not been your position, and also whether if this be not phrenology, as it has been proved *not to be*, you can claim to be called phrenologists? Are you not, in fact, denounced as unbelievers, by the leaders themselves—as heretics with whom they can hold no communion?

We now come directly to the arguments by which they endeavor to sustain their fundamental principle,—the plurality of the organs,—in which we shall follow Mr. Spurzheim. But we should remark, that while Mr. Spurzheim proceeds at once to prove the plurality of the *organs*, he passes over as granted or assumed, the antecedent and most essential proposition, that the *faculties* are multiplex: which we deny he has any right to do; unless it is admitted by previous metaphysicians, as certainly it is not; since whenever they speak of primary faculties, they regard the mind as a unity, and refer only to its various modes of action. His first and greatest labor, is therefore left unaccomplished. To prove, however, the plurality of the *organs*, he first refers us to the fact, that this opinion among certain writers, is very old; many of the ancient scholars having endeavored to sustain the doctrine. But unfortunately, these references prove too much or nothing, since no two located the faculties alike; they being often entirely reversed, and thus proving either that it was a mere fanciful speculation, and therefore worth nothing; or else if it was the result of observation, it must show that observation will establish any certain organ in one part of the head as well as another; and must weigh strongly against all the observations of Gall and his followers.

His *second* argument is "analogy," which might at once be wholly rejected as illogical and unsound; since by all reasoners it is considered but slippery testimony, and as capable of proving one thing as well as another. But let us for a moment examine its value as applied to phrenology. "The five external senses," says Spurzheim—p 70, "are separate and independent of each other," and each has, say the phrenologists, its appropriate organ within the brain, as "color" for the sense of sight, "tune" for the sense of hearing, &c. Why then, according to fair analogy, have not "firmness," "veneration," &c., each an *external* sense like the eye or ear through which their appropriate sensations or perceptions may be conveyed? Why, in short, should "color," "tune," &c., have an *external* organ of sense and not each of the 33 other faculties? Thus analogy is seen to prove as much or more against phrenology, as in its favor: yet really it is unworthy the name of argument. *Third*.—"Different animals have different habitudes and instincts." This fact is as easily explained by supposing a difference of *intimate structure* in the brain, as by supposing each instinct to have a particular organ. But that not a little depends upon the temperament and physical organization of the whole animal, we have no doubt: the carnivorous animal, devouring flesh in part, at least, if not solely, because he has the proper organs for seizing, masticating, and digesting his prey. Yet it is true that physical organization alone, does not satisfactorily explain all instincts; since some animals possess an instinct by which they are enabled to detect poisonous herbs, &c., even from birth, as in the case of the kid quoted by Galen; and certain animals will find their way home when carried with their eyes covered, a great distance and let loose.—Spurz. phren. v. 1. p. 319—Combe. phren. p. 392. Nor will phrenology better relieve us from these and many similar difficulties. Does it provide animals with an organ for the detection of poison? or if it did, would it not be quite as reasonable to suppose the faculty owing to certain peculiarities in the senses of taste or smell in these animals? Does the existence of the organ of "locality," which produces "fondness for travel," and enables its

possessor to "recollect places," &c. aid the animal in finding his way home, when he had not seen a foot of the journey over which he had passed? The truth is, that upon this subject of instincts, much or all, remains unexplained; and it must be left to vague conjecture, whatever science of psychology we adopt.

Fourth. "Every one has his peculiar gifts," and this, it is asserted, can only be explained by ascribing to each "gift" a distinct organ. But we believe most of the *varieties* in genius, arise from accidental circumstance, education and temperament; the *amount* of genius depending measurably upon the size or vigor of the brain. The brain being of good size and well proportioned, education will give any direction you choose, always abating the effect of temperament, which must influence the character materially; thus a man of dull lymphatic temperament, could scarcely become a poet or excel in the fine arts, whatever might be the power of his intellect. On the other hand, an idiotic brain can never be made by education to excel in any department of science or art. How much education and accidental circumstances in early life have to do with the formation of character, can never be fully known. Even the falling of a pin while yet in the cradle may give a course & impulse to the thoughts from which, other incidental circumstances concurring, the future life and character of the individual shall be determined. Mudie observes that before the inclination of the child's mind has begun to disclose itself, "the principle bent of its intellectual character, has been, in all probability, determined for life."—p. 119. Than Dr. Nott, the venerable president of Union College, no man has been a more close and shrewd observer of human nature; speaking to his class while we were under his instruction, he remarked, "give me one hundred boys of proper temperament, and fair constitutions and permit me to train them up without other influences, and I will make them all braves, &c." which is readily accomplished by familiarizing them with danger, little by little—accustoming them to the use of powder and firearms—to feigned combat and close encounter, and finally placing them in a military school or the army. So may also, under ordinary and favorable circumstances, almost any trait of character be given. It is thus, only, that we can rationally explain the varieties of courage which men are seen to possess. Perry, on his return from the lakes, after the bloody battle of the 10th of September, 1813, in which he signalized himself by his most unparalleled coolness and courage—being asked if he felt no fear when passing from his own vessel to the Niagara, exposed, as he was, to the close and uninterrupted fire of the enemy, replied, "why sir, I have no fear upon water,—it is my home; but place me upon land and I am the veriest coward that ever lived,—at the first war whoop of the Indians, my hair would stand on end." And again the same soldier who is fearless as the lion in the field of blood, would often, rather fight all his battles over again, than recount them upon the rostrum, to the assembled multitude! however skilled in the use of words he might be. Let the phrenologists be consistent then, and give us one organ for courage on land, and another for courage on water, &c.

Fifth. "Study of the same subject too long protracted causes fatigue; by changing this we may still continue our labors." This assertion is no doubt true, yet we need not invoke phrenology for a satisfactory explanation. A subject long studied loses its novelty and interest, and it requires therefore a much greater effort of mind to continue our attention, and if persisted in, the brain becomes overburdened and fatigued; we are then relieved by any novel study, which possessing for a while more interest, demands less effort for its prosecution, although equally abstruse: and the relief is still more apparent when we leave a difficult subject such as mathematics, for a light study, like music; and this is the illustration most frequently adduced by phrenologists. This exposition seems to us satisfactory; but if we adopt the explanation given by phrenologists, then we should find no relief by carrying the mind from one subject to another, requiring the exercise of the same organ; and the musician would find as much pleasure in performing the same piece of music twenty times, as in performing twenty different pieces—which is not the fact; and since every new piece affords him relief and new pleasure, he should have as many new organs of music ("tune" &c.) as there were different pieces of music.

Sixth. "Nor are all the propensities and intellectual faculties manifested simultaneously; several appear at an earlier, several at a later period." To

this we simply reply, it is the result of the gradual and successive developement of the physical organs, and of the culture and intellectual improvement of the mind.

Seventh. "Dreaming proves the plurality of the organs"—"since," say the phrenologists, "when we have over-exercised a particular organ it will keep dreaming on the subject of the day." But can any reason be shown why if the *whole brain as a unit* has been over-tasked upon a particular subject, it may not when we fall asleep continue dreaming as a unit upon "the subject of the day?" The phenomenon in fact only proves that it is the same organ which is exercised in the two states, of sleep and watchfulness, but does not determine whether this organ is the size of the whole brain, or the size of their sub-divisions. If the plurality of the organs and their appropriate functions was fairly established, the argument would be sound, but until then it can have no weight. The argument takes as admitted that which it is designed to prove, and is highly illogical. But we are told that "dreaming persons sometimes reason better than when they are awake, one or two organs alone being awake, which are not therefore disturbed by the action of the others." This is plausible; but it is to us quite as plausible to suppose that in dreaming the whole brain is awake, while the external senses are asleep, which prevents the mind from being distracted by external objects—as when we wish to think closely we shut our eyes, and exclude ourselves from noise. But we must frankly acknowledge our incredulity with regard to all these remarkable feats of intellect during sleep, and declare that we have not a shadow of confidence in such tales, or their original authors, from Coleridge, who asserts that in one night while asleep he composed between two and three hundred lines of that most beautiful poem commencing

"In Xanadu did Kubla Khan
A stately pleasure dome decree,
Where Alph, the sacred river, ran
Through caverns measureless to man,
Down to a sunless sea,"

down to the gentleman who always solves problems in Euclid better when asleep than when awake. Nor do we believe they have themselves. If you think differently, we beg pardon; but this is our belief. A peculiarity of dreams seems rather to be, an inability to keep our thoughts connected, and preserve any single train of reasoning or reflection. Says Abercrombie p. 219 of his *Philos.* "A leading peculiarity in the phenomenon of dreaming, is the loss of power over our succession of thoughts." Now according to phrenology it is the function of "concentrativeness" to preserve the succession of ideas; says Combe it is small in "persons whose thoughts like clouds, come and go, without regularity."—Combe by B. p. 143. A better definition of dreaming for the phrenologists would then be, that condition of sleep in which all the mental faculties are awake except "concentrativeness;" when like schoolboys whose tutor has fallen into a doze, they play all sorts of wild and crazy pranks.

Eighth. "Monomania, or hallucination upon a particular subject while the mind is sane upon all others, proves incontestibly," say they, "that each organ has its appropriate function; and is wholly inconsistent with the doctrine of the unity of the brain." Let us examine—A man has long and deeply dwelt upon the subject of religion until it becomes to him a matter of paramount and intense interest; his brain has acquired a morbid and feverish irritability, so that the slightest mental agitation produces a rush of blood to the head, and positive derangement. Now speak to this man upon the subject of politics; he answers you correctly and talks sanely—he is cool, calm and rational. Introduce any other subject—his profession or trade, and still he manifests no excitement, nor sign of derangement. He has no interest in all these matters and his brain remains sound.—But speak to him on the subject of religion—no matter how cautiously, and you touch the string to which all his feelings vibrate; cerebral congestion immediately ensues, and he talks with all the wildness of a confirmed maniac. Is it not now clear that he is only a monomaniac when the subject of his monomania is before him

mind, and that it is the whole mind and not a portion which is then deranged?—Again, it is well known that a monomaniac who may have a destructive propensity, or as the phrenologist would say, is diseased in the organ of destructiveness, will often evince singular partialities; for while he will seize every opportunity to kill his children or wife, he will not show the least disposition to harm a stranger. But if monomania is a disease of only *one* organ, the propensity should be equally active towards all; for he could not at the same moment be destructive to one and not to another in the exercise of the same organ. It is no explanation of this to say that other organs might also be diseased, such as philoprogenitiveness, and this lead him to kill his children rather than strangers—surely if disease of destructiveness will make a person more destructive, then the same disease of philoprogenitiveness should make him *more attached* to his children and not *less*—inconsistent as this explanation may seem it is the one almost universally offered. It is moreover true that the same partialities are often evinced toward different persons, in reference to whom no such explanation would be admissible.

Ninth. (which is the last of the primary or fundamental propositions of the phrenologist.) The “natural language of the organs,” it is also supposed, indicates their situation. Thus a man when thinking profoundly, “drops his head in the direction of the organs of reflection”—and only, as we think, because he thus most effectually excludes external objects from his sight and is enabled to concentrate his thoughts. When combativeness is in exercise, “the animal stands sideways or turns his head laterally towards the combatant,” as the cock approaches his antagonist; and as we would suppose, either because this position gives him more firmness, or because he is better situated to run, in case that becomes his sole alternative. “Concentrativeness being behind and individuality in front, a speaker when much engaged in reasoning throws his head backwards and forwards, in the exact line of the two”—but as we think, because he wishes to enforce argument with action; and to throw his head forward twice he must needs throw it back once. “Benevolence being on the top of the forehead, a charitable man in offering a gift always projects his head towards the person to whom it is presented”—and we would say, simply because it would be very inconvenient to extend the donation with the hand, while the head and other parts were retrograding. Dr. Spurzheim remarks that “Ladies in whom constructiveness is large turn their heads on one side, towards the article *they are examining*.” “Self-esteem being on the top of the head, Gall noticed that proud children mount upon chairs in order to be on a level with grown up persons,” &c. &c. The chamois and wild goat prefer lofty situations, (self-esteem large,) while the rat, mouse, &c. (self-esteem small,) choose cellars and caverns. These and many other similar *proofs* of the situation of the organs we shall not attempt to answer.

We have thus enumerated and discussed briefly the principal arguments upon which phrenologists ground their doctrine of the plurality of the mind and its respective organs; having omitted intentionally, to be treated of hereafter, their cranioscopic and pathological facts, which if we have been successful thus far must remain their sole reliance. But before we consider these we shall advance our *positive* objections to the doctrine of the plurality of organs; the arguments having been hitherto mostly *negative*.

UNITY OF CONSCIOUSNESS. If I am conscious at all of the existence of my mind, the consciousness is single; this phrenologists deny, and indeed some metaphysicians of the old school—between whose opinions however, and the phrenologists a broad line of distinction exists. For while the phrenologists contend that some men have been conscious of thinking with the separate organs of the brain, such as thinking of places with the organ of locality—of the form of an object with the organ of form, &c., which they call double consciousness; other metaphysicians have only admitted that we may be conscious of thinking with one side or hemisphere of the brain when it is diseased. Of this *latter* kind of double consciousness Spurzheim relates several cases vol. 2 p. 76 of his phren.—“Numbers of madmen hear devils roaring, or angels singing only on one side. One of Gall’s friends, a physician, often complained that he could not think with the left side of his head; the right side was one inch higher than the left—Gall attended a gentleman (a clergyman) who for three years heard peasants in-

sulting him on his left side. He commonly discerned his derangement and ratified his error, but if he took a little too much *wine*, or had a fit of fever, he always imagined there were voices abusing him."

To us, these stories are incredible: books are filled with romances; and who believes them all must divest himself of reason and common sense. And as evidence that even the best authorities are often lead into the wildest opinions and beliefs, we may refer phrenologists to the fact that Spurzheim himself was a believer in the vagaries of animal magnetism, and endeavors to establish his doctrine of double consciousness by reference to magnetic sleep.—Sec Phren. v. 1 p. 79.

We can readily believe that disease on one side or in any part of the brain, may produce a confused sensation of pain, weight or noise in that part, which a maniac or an inebriate might easily convert into the discordant howling of devils or singing of angels. It is no uncommon occurrence that a determination of blood to the head produces a perception of sounds; we once attended a patient with a temporary derangement, who fancied there were three fires in his brain, "all singing together, and each an octave above the other," and he was constantly trying to catch the notes with his own voice; which case, if allowed to prove any thing, would locate the organ of tune in the *top* of the head, for that was the seat of the pain. The same might occur in any particular part of the brain which is diseased, and the patient be able to indicate from whence the sounds seemed to proceed; but to call this an intellectual operation, and to suppose that the character of the sounds indicated the function of that part seems to us highly absurd.

Admitting however the credibility of the cases related by Gall, Spurzheim and others, they could only show that the two *hemispheres* had the same function, and not that each organ on the same side has a *distinct* function—to prove this, it must be shown that we are conscious of being merry with the organ of mirthfulness; worshipping with the organ of reverence, &c. Are you conscious of any such thing? You are conscious you think with your brain, and no farther.

ANATOMY affords no arguments in favor of phrenology, while it furnishes some evidence against. It is true, as has often been asserted, that it is not to Anatomy that we are to look for the principal testimony to sustain or disprove any science of the mind—yet it is equally true that some valid arguments may be deduced from a dissection of the brain, against phrenology—and still more, and, as we think, insuperable arguments against its practical application. The latter we shall consider under another branch of the subject. But we wish first to disabuse you of a common error, entertained by those who have not carefully studied the subject, and which many itinerant phrenologists, either from ignorance or dishonesty have helped to sustain. The error alluded to will be understood from the following quotation—"It is often asked whether in the brain there are distinct *lines of separation* observable between the organs. We answer *no*. We presume that in the brain such lines do exist, though our present means of observation are too imperfect to detect them."—Combe's Lec. p. 127. Mr. Combe certainly does not mean to say that these partitions are so infinitely attenuated that a powerful microscope, in the hands of skilful anatomists, could not detect them—it is highly absurd; and yet the brain has been so dissected and examined by probably all the living eminent anatomists. The presumption is wholly gratuitous, and would not be admitted by any unprejudiced anatomist or phrenologist—nor indeed are we aware that it has ever been made by any other scientific phrenologist than Mr. Combe. We hazard nothing in saying that no such divisions will ever be found. A better reply however, and one which possesses a *negative* weight is, that "the spinal marrow, which is also composed of three distinct sets of nerves, presents no dividing line between its columns." It is therefore that we never call upon phrenologists to demonstrate any lines of separation, but only deny them the use of a gratuitous assumption which if *proved* would become the strongest argument in favor of their doctrines yet advanced—indeed we should deem it triumphant.

Let it be understood however that certain divisions of the encephalic mass, are admitted—the division into cerebrum—cerebellum, and medulla oblongata—of the cerebrum into equal halves or hemispheres—and a superficial division of the same at the base into lobes, which the phrenologists themselves call "an imaginary division made for convenience in speaking of the brain."—Jones' Phrenology, page 27. See also Combe's Phrenology, page 67. But that

none of these show the plurality of organs in the *cerebrum*, or *brain proper*, we need not stay to prove, for thus far all admit—and indeed Mr. Combe evidently concedes that it is none of these divisions to which the intelligent inquirer refers, since he replies that such divisions have not yet been found “in the brain.”

Another more positive anatomical argument is based on their assertion that the convolutions, mark out or *constitute* the organs. The assumption has in it nothing paradoxical with the admission of the phrenologists just stated, that in the brain (below the surface we suppose them to mean) divisions cannot be found. We wish then to show that phrenologists do teach that superficial divisions between the organs can be demonstrated. And we acknowledge that upon this point they have not been very definite—as in fairness they should have been. For if we say no divisions can be shown, they point us to the convolutions. If we say the convolutions do not correspond, they reply, the convolutions do not mark the organs—and we find it difficult to contend against them because their position is not well defined—but we will give our reasons for supposing that the phrenologists have generally intended to mark out the organs by convolutions. They are constantly laboring to prove that the convolutions upon the opposite sides do more or less agree—which is wholly unnecessary if the convolutions do not mark the organs. Spurzheim says also, in his anatomy of the brain—“Certain convolutions can always be distinguished from others by their form and direction.” He also declares that he can distinguish one organ from another when it is *cut out* of the brain by the size, shape, &c. of the convolutions. He remarks also more explicitly, the fibres are “folded into *convolutions* or *organs*.” Mr. Combe also occasionally marks out an organ by the convolutions, giving to some *one* convolution, as concentrativeness—Phren. p. 125, and vivativeness, p. 178—while size and form *together*, form a single convolution.—p. 366. Now what does all this mean, if it is not that the organs are defined upon the surface, by the convolutions?—some organs having *half* a convolution *uniformly*, others a *whole* convolution, and still others *groups*.

But it is entirely and unqualifiedly false that either the *single* or *grouped* convolutions (organs) on the opposite sides correspond. “The number and size of the convolutions vary exceedingly in different individuals; and indeed they are seldom found the same in the two hemispheres.”—Paxton’s Anat. v. 2 p. 55. “The convolutions proceed in diversified and complicated courses, which *never* correspond in different individuals, and *seldom* on the two hemispheres of the same brain.”—Horner’s Anat. v. 2 p. 355.

C. Bell is often quoted by phrenologists as having asserted that the convolutions do correspond upon the opposite sides.—See Combe’s phren. p. 68. It will be evident however to any person who will read the remarks of C. Bell alluded to v. 2 p. 283 of his Anatomy, that he was not speaking there of the *convolutions*, but had reference merely to the internal structure of the brain. It is folly to suppose that so palpable a fact had escaped his notice; and indeed a reference to his plate of the brain on p. 294, made expressly to show its surface, will prove conclusively that he did not admit any such agreement in the convolutions upon the opposite sides, since they are there represented as having no kind of resemblance.

The truth is, the only correspondence which can be found, is in the *general* direction of a *few* of the opposite convolutions, except on the base of the brain where these correspondences are more frequent—and in farther confirmation we call your attention to this cast, which I made from a frozen brain, the several coverings being previously removed—we refer you also to Mr. Combe’s plates in his large work, or to any others taken from nature.

If this be true it must inevitably follow—that the *organs* upon the opposite sides do not correspond either in size or *number*—some of them being entirely crowded out by the larger size of others.

PATHOLOGY, or the brain in a state of disease, disproves the plurality of the organs. The present doctrines of phrenology were first announced by Gall, more than half a century since, and during this time, its advocates have been laboring assiduously by observation, experiments; and dissections to establish its principles. Gall, Spurzheim, Combe and many others; men of great talents and acute observation, have travelled extensively through Europe, Great Britain and this continent,—have made the acquaintance of the most learned phy-

sicians and surgeons, and other eminent scholars,—have searched ancient and modern records with untiring zeal, as their writings fully show; and yet how few *pathological* facts have they gathered of any kind to favor their doctrines! and how much fewer still which are well authenticated, and will bear the test of investigation! We are surprised when we read their works, that these cases are so rare; not more indeed, than the mere doctrine of chance might afford them; & many of these of the most unsubstantial character. We are fully convinced, that had phrenology been true, among the thousands & tens of thousands of post mortem examinations which have been made, enough pathological facts should have been collected to settle its doctrines beyond a cavil. In all cases of monomania, the very organ should have been found diseased, upon the function of which the individual had exhibited insanity:—at least, in long continued and violent cases, in most of which cerebral disorganization is presumed to exist. Not to speak of the innumerable accidents which are and have been daily occurring in the naval and land armies, and in private practice; where more or less of the brain has been removed, and some of the organs in whole or in part destroyed. But notwithstanding all these opportunities, we are sure that the case-book of every surgical ward in the Union would furnish a more formidable catalogue of refutations, than their records can now boast of favorable cases.—It is remarkable that the researches of Haller and Dr. Ferrier—(see vol. 4, of Manchester Memoirs,) who collected an immense number of cases attended with loss of brain in different parts, does not show one to sustain phrenology. But as evidence of the resort to which they are driven for pathological facts, let us quote a few.

“I saw a clergyman in Manchester, known to his friends as particularly attached to his dwelling place, so that he should be unhappy if obliged to sleep elsewhere.” “I examined his head in company of several gentlemen, some of whom were opponents, but every one was obliged to admit that the spot of the head where No. V. is situated, was *warm* than the rest of his head. I merely asked what part was the warmest, and all agreed at *the same place*.” Now, let any man examine No. V. (Inhabitiveness) on his own head, and he will observe the same remarkable phenomenon, and as we conceive, because there the hair is most thin and the hand is brought nearest in contact with the warm scalp. In Combe’s lecture in N. Y., p. 279, we have related the case of a gentleman who fell into the Clyde and came near being drowned, and, he remarks, “since the accident in the Clyde he had been subject to sudden fits of fear and apprehension,” which he ascribes to a “diseased condition of the organ of cautiousness;” for no other assigned reason than that phrenology alone could explain it. We refer you also to McLellan’s case in the Philadelphia Courier, January 30, 1841—which has been largely circulated, but does not afford a shadow of argument. First, the skull removed was 4 inches long, by 3-4, in breadth: yet it was not fully settled among all the phrenologists who examined it, of which number was Geo. Combe himself, whether it covered any other organ than self-esteem—Combe at first denying that it reached firmness at all,—but afterwards admitting that it involved this and parts of approbation, combativeness and cautiousness. What, than this, could prove more conclusively the lack of precision in the location of the several organs. But he became “exceedingly timid and irresolute” after the operation, and was terrified at the approach towards the wound, of the “scissors,” a “piece of lunar caustic,” or the “forceps.” To explain which, it is only to be remembered, that he had recently undergone a most formidable operation, in which he had bled until he fell into “convulsive syncope,” and his head was also exquisitely sore. And this latter circumstance may also explain the fact that for a long time, he stooped and walked cautiously, and seemed afraid lest he should “blunder against a door post.”

If we admit the case of the clergyman in Manchester just related, as a pathological fact in favor of phrenology, what an infinite multitude of a similar kind may be found adverse to phrenology? How many men are as much attached to their homes as this man seemed to be, and yet no unusual warmth is felt over the region of inhabitiveness? and so also with regard to all the other organs. These alone, by parity of reasoning, must constitute a host of facts against phrenology, which no man can number.

But we have other pathological facts than these, of a substantive and unanswerable character. It is necessary, however, that we should first explain what kind of facts phrenologists permit us to use: for in this they have not evinced ordinary candor. Says Dunglison, v. 1. p. 277 of his phys., speaking of Gall and his evasion of pathological facts, "It is of course, gratuitously assuming that observation in such cases has been insufficient; and if he finds the fact in question militates against the faith he has embraced, he is too apt to deny its authenticity altogether. With all the candor which Gall possessed, this failing is too perceptible in his writings. Again, in many cases of severe injury to the brain, that are on record, but one hemisphere has been implicated:—and accordingly the impunity of the intellectual and moral manifestations has been ascribed to the cerebrum, being a double organ; so that although one hemisphere may have been injured, the other containing similar organs, may still be capable of carrying on the function." The same reply we hear reiterated everywhere:—on every occasion in which instances are related of loss of the organ on one side and no corresponding loss of function. But Mr. Spurzheim and Combe with others, have of late, assumed new ground with regard to this,—the one contending that when the organ on one side is gone, the function should be *just half* lost, —and the other teaching that when the organ on only one side is gone, the function should be *entirely* lost. Whether these positions were taken because they need all the facts that can be obtained from either side of the head, or from candor merely, we cannot judge. Says Spurzheim, speaking of cases related by Gall and others, in which one half of the brain was destroyed, and yet the mind remained unimpaired, "now it seems that in such a case, at least the *half* of the mental manifestations ought to have been annihilated."—p. 41, vol. 1. of phren.; and he adds, that "these statements (alluding to Gall and others,) bear the stamp of incorrectness." Mr. Combe also relates two cases in which only one hemisphere was affected, and yet the appropriate function was *wholly* lost. The first may be found on p. 118, of his lectures by Boardman. A gentleman being diseased in the organ of language, (on *one* side, as we see by referring to Silliman's remarks on Combe's lectures in New Haven—vol. 39. p. 74, of Sill. Jour. Query.—Why was this fact not stated in his lectures in New York?) "lost the use of words." And again on p. 261, he relates the case of a gentleman who forgot suddenly all words but "yes or no," and after death, "a lesion was found in the *left* hemisphere of the brain, which terminated at half an inch from the surface, where it rests over the middle of the superorbital plate." And he adds, "It appears to me that the lesion's being on one side only, accounts for his power of understanding words while he had not the power of employing them." Then we must infer that the organ on one side is for *understanding* words, and that on the other side for *using* words, or for *speaking*. What then, is the use of the tongue or larynx, which have always been accounted the organs of speech? Does not Mr. Combe appear to have entirely exceeded the bounds of reason in this attempt to evade a conclusion from a fact, which, if received, must open a wide door for the admission of ten thousand pathological facts against him, which have hitherto been kept out; and which we are now, we think, permitted to use. We have several of these in mind which have come under our own observation, and a host of others are on record.

A still wider door has been lately opened by phrenologists in their concessions that the cortical or ash colored substance of the brain, is the real seat of the mind; which opinion was long since advanced by Sir Charles Bell—vol. 1. p. 291 of his anatomy, "the cineritious and superficial parts of the brain are the seat of the intellectual functions." See also Boardman, p. 379: also Fowler & Kirk. p. 41, or the quotations at p. 20 of this pamphlet. This cortical substance is generally only one line, or the 12th of an inch in thickness, (Horner, v. 2, p. 355) covering the whole brain as with a thin film. If these views then be correct, and they are sustained by no mean authority, then all of those cases in which portions of the surface of the brain, on one or both sides, to the depth of *one line* has been removed, the *whole* of the faculty appropriated to those organs implicated should have been destroyed!

But we are not compelled to employ even these, and shall therefore leave them, and note only a few to which the most fastidious cannot object; and one

of which, if well made out, would be alone sufficient to settle forever this long disputed question. But lest the facts may be doubted, we choose to give a sufficient voucher, that such facts have really existed. "Many cases, however, are recorded, in which this mode of explanation would not avail; and where the loss appears to be sustained by both hemispheres and in corresponding parts; yet the faculties have persisted.—Dung. phys. vol. 1. p. 278.

The following case was published in the "American Medical Intelligencer" for April, 1837,—a work edited by Prof. Dunglison. Dr. G. W. Boerstler, of Lancaster, Ohio, was the surgeon in the case, and made the post mortem examination in presence of Drs. Edwards, Ohr, and Newcomer. The manner in which the report is drawn up is in itself sufficient evidence of his competency to make the examination. A boy had been kicked by a horse and his skull fractured. "There was no compression, save by the fractured pieces, which were readily removed. The boy's faculties were not destroyed, but there was some intellectual confusion from the time of the injury, during the operation, and for two hours after; *from which time he recovered every faculty of the mind, and they continued vigorous for six weeks, and to within one hour of his death, which took place on the forty-third day.*" * * * "The space of the skull, previously occupied by the right anterior and middle lobes of the cerebrum, presented a *perfect cavity*, the hollow of which was filled with some sero-purulent matter—the lobes having been destroyed by suppuration: the third lobe was much disorganized. The left hemisphere was in a state of *ramollisment* down to the corpus callosum. It was so much softened that the slightest touch would remove portions: and, with the aid of a sponge, I wiped away its substance to near the corpus callosum, when it began to be firmer, but presented more the appearance of a homogeneous mass than of regular organization. The chiasm of the optic nerves, as well as their entire tract, was so soft as to yield to a slight touch with the handle of the scalpel, and the olfactory were in the same condition. The corpus callosum, thalami nervorum opticorum, and tubercula quadrigemina, presented no pathological condition. The cerebellum and medulla oblongata were in a physiological state. The spinal column was not examined. This boy was remarkably intelligent. In my daily visits, I held frequent conversations with him, and in all my observations I could not discover the slightest derangement of his intellectual faculties—no dulness of sensibility, no obtuseness of perception, no impairment of judgment, no want of memory, and, so far as mind is concerned, he gave no evidence of disease. His vision, audition, and voice were unimpaired."

Prof. Mussey, of Cincinnati, related to us some years since, a case which came under his observation. An adult had lost, in consequence of a severe injury and consequent sloughing of the parts, most or many of the perceptive organs on *each side*: yet by examination, he learned that he retained the faculties peculiar to these organs as well as ever. In this case, there could be no deception; for the frontal bone in front of the destroyed organ, had also sloughed, and a deep and wide cavern was left into which the fingers might be introduced. We are happy to hear from Prof. Mussey, that he intends soon to give a paper to the public on the subject of phrenology; in which we presume, the particulars of this interesting case will be more minutely detailed. He is a distinguished scholar, and has proved himself an able antagonist of phrenology.—We shall look for his article with much impatience.

For the particulars of the following case, which we have taken the liberty considerably to abridge, we are indebted to the politeness of Erastus Cushing, M. D., of Cleveland, Ohio, who was himself the attending physician, and made the post mortem examination. In the autumn of 1839, Miss E. Atkins, of Cleveland,—a young lady of high intellectual accomplishments,—while passing from her chamber into the hall adjoining, made a misstep, and was precipitated down a flight of stairs. She was taken up insensible, and died three days after.

Twenty-four hours after death, an examination was made in the presence of Drs. Terry, James L. Ackley, Hutchinson, Cangan, Mendenhall and Cushing, all of Cleveland. Removing the scalp, an extensive fracture was found traversing the left parietal bone, obliquely upwards and backwards across the sagittal suture. The calvarium being next elevated, the skull was seen to be less than

half its usual thickness; while the dura mater was much thickened. The surface of the brain appeared a little more vascular than natural. A firm prominent point now presented itself between the hemispheres of the brain, pressing so firmly against the upper part of the os frontis, as that it had become perforated by absorption, for the space of one inch in length, and 3-8 in width,—the periosteum alone remaining entire. Examining farther, this was ascertained to be a bony tumor, situated nearly in the center, but inclining a little more to the right than left, extending from the top to the base of the skull, and depressing considerably the right orbital plate of the frontal bone; of an irregular cuboidal shape, and occupying nearly all of the anterior third of the cavity of the cranium. Its exact weight was one pound and six drachms, apothecary. Dr. Cushing describes it as being nowhere attached to the skull,—and only in one point to the dura mater, “between the bifurcation of the optic nerves.” It seemed, however, to “arise from, and be incorporated with, the substance of the brain,” from which it was with difficulty separated. Prof. A. W. Ackley, of Willoughby College, Ohio, to whom the tumor was immediately handed, made a section through the center with a saw, and states in a letter to me on the subject, “on careful examination, I have no doubt it was an osseous transformation of the substance of the brain increasing in density from the surface to the center.” Here then, was a total destruction of the perceptive and intellectual organs, as well as some of the sentiments—benevolence, &c. The following, however, will show that her mind retained nearly its wonted power and integrity, until the day of the accident, three days before her death.

She had been occasionally ill during the last three years; during which time her sight had been gradually failing, and at length she became totally blind;—her right eye being slightly portruded. Her occasional attacks of illness, were evidently the consequence of the pressure of this tumor; being attended with more or less stupor, pain in the forehead, &c. From these, however, she always soon recovered by proper treatment, and her mind in the intervals possessed nearly its usual accuracy and vigor, and seemed only to lack in *quickness* or readiness of conception, “alth’o” says Dr. Cushing, “it was in the end correct.” A few days before her death, she sung a favorite hymn, (time and tune) and had no other difficulty than that of indistinct articulation, which arose from the partially paralyzed state of the muscles and mouth.”

Here are then, three cases free from all the objections which have been hitherto offered to similar pathological facts. The disease occupied both hemispheres and corresponding parts; it was deep and involved not portions, but entire organs. The organs cannot be said to have been displaced, or pushed aside,—they were actually destroyed.

But it is needless to multiply facts, where one witness equals a thousand; for we are assured that “phrenology admits of no exceptions;” nature being inviolable in her laws.

We will next consider the difficulties which present themselves to the practical application of this science, even if its principles be admitted—and which brings us to the discussion of the fifth proposition of phrenology: viz:—“*That the size of each organ can be estimated during life*”—and which if strictly true, would render its application comparatively easy; but Gall has himself admitted, that owing to irregularities of the skull, “it is not available in old age,” and that its employment is always difficult and liable to numerous errors.”

First—From their own assumption that exercise increases and inaction diminishes the individual organs,—and the admission that the *inner table* of the skull alone, follows the brain when it diminishes, it must result that the form of the *external table* can be no index of the size of the cerebral organ.

Says Spurzheim, page 109, vol. 1, of his phrenology, “precisely so does the *internal table* of the skull follow the brain in its size and general configuration.” “In proportion as the brain or *its parts* decrease, they are followed by the *internal table* of the skull in conformity with the law of nutrition, of which we have just spoken. Frequently the *external table* to the end of life, preserves the form and size it had at the period of maturity. The skull in consequence, either becomes *very thick*, or the two tables are *far separated* from each other.—The orbital plate of the frontal bone is commonly thin and transparent; yet

in old persons, whose brain has diminished in size, it sometimes happens, that the two tables of which it consists, are separated: the inner having receded to a great distance from the outer." But if disease will cause a wasting and sinking of the inner plate at *one* time, it will equally at another; and these remarks are, therefore, no more applicable to old age, than youth or middle age, provided we show that during these periods certain faculties continue a sufficient time in disuse to impair their strength and diminish their size.

But how often do the inclinations, studies and habits of men, change from infancy upward? The most conscientious child becomes often the most unprincipled villain, and the pious youth changes to an open and bold infidel; while on the other hand, the blasphemer and reviler of religion, is converted into a devout christian,—the brawler and fighter into the peaceful citizen. How often have many of whom you can speak, "turned their attention" as it is termed, to this or that study, pursuit or trade, each wholly dissimilar from the former; and so often as these changes have occurred, the inner plate of the skull must have changed its form, while the outer retained its place. But on this point, listen to Mr. Boardman, p. 379. "But, and mark this, though the increase or diminution *may* be visible externally, it *may not* be." How then, to-day can a phrenologist tell the respective size of either of these phrenological organs? If he cannot, how can he tell their power, or in any way discriminate character. We leave the phrenologists to get out of this difficulty as they can, and shall not trouble ourselves to demonstrate whether the two surfaces do, or do not, correspond;—they may take either position. If they *do correspond*, then disuse does not waste the organ, and exercise increase it. If they *do not*, then phrenology can never be practically applied, or its principles established by experimental observation.

Second.—The frontal sinus varies greatly in size. "I know individuals of sedentary habits, who have *large sinuses*, and others who live much in the open air and have *none*."—Spurz. phren. vol. 1., p. 116. But it is objected that when it is very large, it can be known by the more sudden swell of the external plate. It is clear, however, that this only indicates more room in its *anterior* or external half,—while we have no kind of data by which we can conjecture the shape or direction of the internal plate. For ought that we can say, it may be an inch farther in than usual; for it is not disputed, that here the plates are not together, and of course, do not at all influence each other. How then, is it *possible*, from the shape of the external skull, to judge of the size of the organs of individuality, size, weight, and locality! Not to speak of caution, order, language, and eventuality, over which the cavity not unfrequently extends, as in the skull we now exhibit to you! It is certainly only previous to the twelfth or fifteenth year of life, when this sinus is not formed; that these organs can be examined: yet with what assurance do phrenologists daily pronounce upon them?

Third.—The organ of form, situated in the brain, "on the two sides of, and contiguous to, the *crista galli*," when large, the eyes are "*pushed laterally out*." Combe's phren. p. 361. Of this organ, it must be still more difficult to ascertain the size, *nay, impossible*. 1st—because "in some instances the frontal sinus is found at the situation of this organ."—Do. p. 361. 2d—because the space "between the eyes," the breadth of which, is said to indicate large form, is not at all on a line opposite the organ, but much below it. The point designated is opposite the nasal passages, while *individuality* as it is marked on the skull, is directly opposite the organ in question. Now we cannot understand why the organ of form situated upon the *crista galli*, entirely above the nostrils, should "push" (we use the words of Combe,) the eyes laterally outward, any more than the organ of individuality would, which is on the same plane with form, being situated *immediately* above the top of the nose"—and form can come no lower, unless, forsooth, it is *within* the nose. But both are, in fact, entirely above the plane of the eye ball; and farther, is it not quite as probable that the greater breadth of the *nasal passages* has separated the eyes, as this organ of form? Certainly if the nasal passages are wide, the eyes must be more separated, and that whether the organ of form in the brain be large or small.

Fourth. Language.—"A large development of this organ is indicated by the prominence and depression of the eyes, this appearance being produced by con-

volutions of the brain, situated in the posterior and transverse part of the upper orbitary plate, pressing the latter and with it the eyes, more or less forward, downward or outward, according to the size of the convolutions. If the fibres be long, they push the eye as forward as the eye brows; if they are only thick, they push them toward the *outer* angle of the orbit and downwards.'—Combe's Phren. p. 419.

Now we consider it a mere assumption that *thick* fibres, or in other words a greater breadth in this organ, will push the *eye* toward the *outer* angle. It would be as likely, or more so, to "push" its neighbors in the brain, individuality, order, &c. in each direction—and then how could the "power and intensity" of this organ which, as we are told, depends upon the *thickness* of fibre, be ascertained? And indeed, how could we well ascertain whether "order" was pushed out by the thickness of its own fibres or those of language? This is a serious difficulty, and Mr. C. seems to have attempted to evade it by *assuming* what is to us very improbable. It does not certainly look like candor; for beside the improbability of the rationale, that *thickness* of fibre would have this effect, we do not believe the eye is ever pushed out and downward towards the external angle of the orbit; it is therefore an assumption from beginning to end. The *frontal sinus* also, often extends between the plates against which this organ lies, as you see in this specimen. The *muscles* may be more fully developed in one than in another, and by their unusual size protrude the eye. This is not improbable, when we observe the effects of exercise upon the muscles in other parts of the body, and great use of the eye might effect the same, in some degree at least. The *socket* may not be so deep in one as in another, and this may cause the difference in the prominence of the ball, and no man can determine, *ante mortem* what its depth is.

We have seen in this respect a wide difference in the different skulls we have examined. Either of the three *other walls* also than the upper may encroach upon the orbit and protrude the eye; and who possesses the shrewdness to determine which of these several causes have in any certain instance prevailed?

Fifth. Calculation. ("Established.") "The organ when large, fills up the the head outside of the external angle of the eye, a very little below the point called the external angular process of the frontal bone."—Combe's Phren. p. 395. You see its situation here upon this skull. Now we show that this bone stands out like the rim of a hat, full three-fourths of an inch from the brain; and who can tell in any given case when flesh is yet on the bones, and the space filled up behind, how deep this rim may be, or how near the brain may come to this external sign of the organ? it may be half an inch, or it may be an inch.—"Order," also, which is above it, labors under the same difficulty.

Sixth. Constructiveness, acquisitiveness, secretiveness, tune, ideality, cautiousness, alimentiveness, all lie more or less under the *temporal muscle*—so also love of the sublime and pneumativeness, lately discovered. This muscle varies greatly in thickness. In one instance related by Dr. Henry A. DeForest of this city, and examined by himself in New Haven, the soft parts, including the muscle, actually measured just above the zygoma *one inch and a half*, and the muscles expanded until they nearly met opposite the sagittal suture, covering the greater portion of the head; while the integuments &c. covering the top of the head measured one inch in thickness; yet it was not known prior to his decease, even to skilful phrenologists who had examined his head while in prison. With regard to the organ of "tune" we wish further to remark that this is no more covered by the temporal muscle than several of the others mentioned, nor as much, yet it is seldom that we have heard an itinerant phrenologist venture an opinion upon the development of this organ; when asked in reference to a man under examination, "How is his tune?" they almost universally reply, "of this organ we cannot well judge, for it is covered by the *temporal muscle*." Combe has complained of the difficulty of observing this faculty successfully—p. 410—which he ascribes in part to the fact that the convolutions which compose this organ are not always the same in form and direction. Permit us however to suggest that the cause of their difficulties may lie in the simple fact, that this is a quality or faculty which most men know positively whether they possess

or not, and therefore when a phrenologist guesses wrong, it is at once known; while with many or most other faculties the case is widely different.

Seventh. We may again, under this head, allude to the fact that the organs do not correspond on opposite sides—as a serious *difficulty* in the way of ascertaining the position of any cerebral organ under the skull—for if we determine the location of a certain organ on one side, there are no possible means by which we can ascertain its position on the opposite side—it may be one or two inches farther back. Indeed its practical application is thereby rendered impossible.

Eighth. The convolutions do not all come to the surface; a large number are found on the base and many between the hemispheres—a true *terra incognita*, the functions of which have never been determined or even suggested—in fact they can have no function, since all the faculties of the mind have already found a habitation in the superficial convolutions. If these numerous remaining organs are ever supplied with functions, it must be by discovering new faculties. In addition to these anatomical difficulties in the way of the practical application or test of phrenology—and which taken together are not small—they are insuperable—we will mention others stated by phrenologists:

1st. One organ may crowd upon and dislocate its neighbor, instead of pushing directly out, and then the external protuberance can be no sign of the size of the organ.

2d. “Compactness, strength and tone of an organ’s fibres are qualities” which give “aptitude for ready, certain and energetic action;” but of this we have “no cranial indications whatever.”—Boardman, p. 379.

3d. Many phrenologists speak of the different *qualities* of various brains; thus the brain of Byron and Sir Walter Scott are said to have been of fine quality, and this is stated by Mr. Jones, for instance, in his *Practical Phren.* p. 214, “to be a different *consideration* to temperament; of this difference of quality there are no well ascertained external signs.”—*Ib.* p. 379.

4th. “There is a quality, called by Mr. Combe *retentiveness* of memory, (p. 289) which differs greatly in different individuals; for this we have no external sign.”—*ib.* p. 379.

5th. Facts, lately observed, render it probable “that the cineritious portion (the grey external coat,) of the brain is in reality *the organ of the mind*; and though we may conclude *a priori* that there will be an intimate correspondence between the generator and transmitter of mental action; it is indubitable that the thickness of the cineritious matter differs greatly in *different brains* of the same general bulk; of this difference we have not, and it seems *impossible that we ever should have any external indications.*”—*ib.* p. 379. The above opinion is sustained by Fowler and Kirk—“It is supposed that the portion of an organ which is *nearest the skull*, is chiefly used in the exercise of the mental functions,”—p. 41; also by many others.

If this view be correct then can we never possess any external sign of the size of the organ; nor indeed would the rules given to measure *from the base of the brain to its periphery*, to ascertain the size of each organ be of any service—because if the cineritious matter is the “organ of the mind”—and its thickness does “differ greatly in different brains of the *same general bulk*,” then what mark of size in the organs of the mind can we possess? Certainly none—and the practical test or application of phrenology is at an end. And after all these difficulties—“temperament”—“health”—“intensity of external influences”—“relative as well as absolute size,” and the effect of the “combinations of the different organs,” are, we are frankly told, to be taken into account;—truly, to be an expert phrenologist, is a labor and an accomplishment, of no ordinary character!

We shall now offer a few, from the many, objections to their innate, primordial faculties—we have not time to discuss the whole. If their rules (Spurz. v. 1, p. 132) for the formation of a faculty be adopted, then instead of 35 or 40, we should have 4000, or indeed as many as Charles Bonnett gave us, who regarded “each fibre of the brain as a particular organ of the soul.” Thus one man can judge of weight better than another, and therefore it is a primordial faculty; (for their other six rules will be equally applicable,) and for the same reason

should we have an organ of solidity, maleability, tenacity and texture, for in all these do we have different capacities; I cannot judge of the *texture* of cloth, but another can, &c. But who ever possessed any intuitive knowledge of weight? or could have known that lead was heavier than cork, unless he had been told, or learned by experience? Yet we are assured that this organ gives us an *intuitive* knowledge of weight. We have an organ of philoprogenitiveness, or love of children, and by parity of reasoning, should have an organ of love of parents, and love of brothers, and love of sisters, and love of cousins; or, as Miss Mitford has very properly suggested, in her amusing article entitled "Hop Gathering," an organ of "fondness for animals" in general, and another in special, to be called "passion for birds," &c. "Boys are particularly liable to it as a class," also "old maids and certain artizans;" and thus might we multiply upon all the faculties *ad infinitum*.

Some faculties are given as innate or congenital, the very existence of which presupposes a knowledge of the world and its objects: such are acquisitiveness, veneration, &c. Others are exactly opposite, and the excess of one will constitute a faculty the same as the absence or deficiency of the other, and the reverse. Thus, locality *small*, will dispose the individual to remain at home; and the same with *large* inhabitiveness—while small inhabitiveness will dispose him to wander, and so also large locality. The same is true of firmness and cautiousness—cautionsness and hope—self-esteem and veneration, &c.—This is, to say the least, using faculties not very economically. Memory is distributed among the intellectual and perceptive faculties, and has no particular organ; while concentrativeness has a residence in the top and back of the head, but presides over and communicates with them all; though no means of communication can be shown. We have now also an organ of "suavateness" or ability to be agreeable—and of "intuitive knowledge of human nature," both situate in the forehead.—Fowler and Kirk, p. 247 and 248. Dr. Judson gives us an organ which he calls "naturalite," opposed to marvellousness—*ib.* p. 249; and Dr. Powell an organ of "alertness," or that which makes us quick—placing it where Mr. Combe has located "sublimity," or love of the sublime—(strange inconsistency.) A writer in the Boston Med. Jour. v. 21, p. 29, thinks he has discovered an organ of "communicativeness," or disposition to talk, communicate, &c., "large in women," near adhesiveness, and Mr. Combe in part confirms the opinion. Dr. Vimont has discovered a "geometrical sense," and also a "sentiment of the beautiful in arts."—Boardman p. 75. Thus we are supplied with one organ for the enumeration of figures, (calculation,) one for mathematics, (comparison and causality,) and a third for "geometry;" why not a fourth for "conic sections," &c. Dr. Hoppe discovered also, and others have since established the organ, of "alimentiveness"—desire to feed or "appetite for food," (Combe's Phren. page 173,) which Dr. Caldwell thinks "diseased in drunkards"—yet it is "weight" only which gets intoxicated—Spurz. v. 1 p. 314; for "weight" means the ability to preserve equilibrium, "and," say phrenologists, "when one gets intoxicated, this organ is that chiefly or solely affected." But why is it that inebriation affects this organ and no other? what private or special means of communication exists between the organ of weight and the stomach? or if others are equally affected, why is it that while it diminishes the power of weight, it increases that of destructiveness, combativeness, &c? We have also vitativeness, or propensity to live; and, last of all chemicality, which "judges of the qualities of air and food" upon the tongue; and pneumativeness presiding over the respiration—large in those who cannot breathe in bad air.—The external signs of both of these latter, are on the cheeks.—Grimes. It has been suggested also that there is an organ for perception of *heat* and *cold*, (Combe,) although cold is only the negative of heat. But the greatest absurdity of all seems to be in the organ of color. Spurzheim remarks, page 315 vol. 1—"Those who do not perceive color, have sometimes a very acute sight, and readily appreciate the other qualities of external bodies; as their size and form." How, we inquire, can we see at all, if we do not perceive color? Certainly all objects are colored; white is but a union of colors, and who perceives white, or in short, the form, size or condition of any body, through the medium of his eyes, per-

ceives color and color only. Mr. Combe's reply to this argument, which was first advanced by Jeffrey, is surely but an evasion.

We object also to their present location of the organs, granting the doctrines of phrenology to be true; on the ground of their inconsistency with *fact* and *observation*. We have seen many cases in which expert phrenologists have given characters wholly at variance with truth—and even phrenologists themselves are frequently citing to us exceptions; and if we should collect all the marked failures in this city, and with them proceed to Geneva and collect such as might there be found, and from thence to Utica, from thence to N. York, &c., as do the teachers of phrenology, we could accumulate as many exceptions in a few months travel, as they have gathered confirmations—we were about to say, from the whole world; for they have already compassed land and sea, and visited almost every town and hamlet in the Union, as well as in other parts of the globe. But why is it not then done? Because, we reply, you will not permit a tax of twelve shillings a head to be levied upon you for every *anti-phrenological* lecturer who shall itinerate the country! We have no maps to sell or curious doctrines to teach, by which our expenses might be paid while thus employed. But fortunately, these gentlemen have themselves furnished us with all the facts we need; and these we prefer, because they come to us upon unquestionable authority—an authority no less than the great masters and founders of the science. And for proof of this assertion, we refer you to their numerous maps of the skull, among all of which no two agree; and this disagreement is not merely in the nomenclature, division, number and relative arrangement of the organs—but in the absolute location of the *same* organs—the places occupied by certain faculties in one map, being actually and entirely occupied by certain other unlike and opposite faculties in other maps. In testimony of which we quote again from Mr. Boardman, (Rec. Sec. of Phren. Society in New York) and particularly because his work was examined and approved by Mr. Combe. “Dr. Elliotson, (to whom we are “indebted for his early, zealous and unremitting advocacy of Phren. in England”) has, however, been assailed for stating what is indubitably true, regarding Spurzheim's altering the situation of the organs on the bust. The alterations which he mentions, and some others, I pointed out three years ago to the New York Phrenological Society, and to my friends many times since. And also, in November last, to a distinguished phrenologist, who wrote to Mr. Capen, the biographer of Spurzheim, to ascertain whether the chart published in the last edition of Spurzheim's Phrenology, and the bust purporting to be his, and sold by Marsh, Capen & Lyon, were authorized by Spurzheim. The answer was that they were made “according to his directions before his sickness.” Believing that the cause of truth cannot be injured by rectifying error, any more than that metal can be depreciated by refining away its dross, in December I exposed these discrepancies, in print, and showed that Spurzheim was at striking and irreconcilable variance, not only with other phrenologists, but with his former self, and with nature. The London Phrenological Journal notices the article, and approves of the conclusions drawn from its facts and statements; namely, that Dr. Spurzheim's latest bust was probably marked according to some *fancied* propriety, and that the Edinburgh bust should be used in preference. “Again, Dr. Elliotson says,—To prove Dr. Spurzheim's speculative spirit, &c.—p. 77.

If this map published by Marsh, Capen & Lyon, in Spurzheim's fourth and last edition, was made by authority of Spurzheim before his sickness, and when his mind was in full vigor, what right has Mr. Boardman to suppose that the transposition of organs was made according to some “*fancied propriety*?”—Were Spurzheim yet living to vindicate his own character, we have little doubt but that he would at least attempt to show, that it was made from no fancied sense of propriety, but only as the result of later and more careful observation. Or must we admit with Dr. Elliotson that Spurzheim was a *speculator*, and reject altogether his testimony, at least, in relation to the organs in question? for certain it is, that the arrangement of several organs in Spurzheim's work, does not at all correspond with Combe's, and are at “striking and irreconcilable variance with other phrenologists.”

Let us now examine a few of these discrepancies, to which Mr. Boardman probably alludes.

Firmness is bounded on Spurzheim's map, laterally by *two* organs exactly,—hope and conscientiousness,—on Combe's by *one* only,—conscientiousness. Veneration is bounded laterally, on Spurzheim's map by *marvellousness*,—on Combe's by *hope* and part of *imitation*. So that hope, which in Spurzheim is against *firmness*, is in Combe against *veneration*,—and marvellousness, which in Spurzheim covers exactly one side of *veneration*, in Combe is mostly opposite *benevolence*, and does not approach within one inch of veneration, the whole of imitation being in Combe's interposed between it and marvellousness. Time also, which in Spurzheim is bounded below, by calculation, order, *color* and part of *weight*, in Combe, is bounded on the same side, by only *calculation* and *order*. And time, which in Spurzheim is against *weight*, is in Combe against *color*.—The relative location of time, color, order, &c., differ also in the front and side views of Spurzheim's plates on the same page. Eventuality, also, which in Combe, is in close juxtaposition to time, has, in Spurzheim, locality interposed. Here, then, and in still other instances which we might mention, you see organs changing seats with each, and often forced from the closest relationship to occupy positions from one to two inches apart. But granting that one or the other of these men is proved to have been a mere speculator, and therefore not entitled to credit in any of their facts." How shall we dispose of the respective *followers* of the two. Some having adopted (as near as any two phrenologists ever have followed each other,) the map of Spurzheim published by Marsh, Capen and Lyon, and others of equal, though no better authority, that of Combe.

To be convinced of this, you have only to place a map of Fowler and Kirkham as given in their work on phrenology, opposite the maps of Mr. Grimes, Jones, &c., and you will see that, as in Spurzheim, firmness is bounded by *conscientiousness* and *hope*, so it is in Fowler and Kirkham. And as in Combe, the same organ is bounded by *conscientiousness* only; so it is in Grimes, Jones, &c.; and so also with most of the other organs. Now which school will you adopt? You must adhere to the one or the other; both cannot be right,—their facts being at "striking and irreconcilable variance with each other." But whichever you adopt, you will divide the *facts* about equally; and we shall have as many against you, as you have in your own favor. It is of no use to plead that the science is not perfect; for these discrepancies indicate not imperfection merely, but that a coincidence between a bump, and any certain trait of character may be found in one part of the head as well as another; and that phrenology has not yet taken its first step toward perfection,—since to this day, the phrenologists practice these opposite modes, and are in fact, diverging farther and farther from each; and no one can say which of them all is most successful.

To speak of all their discrepancies, would be an almost endless labor, and we can only stay to notice a few others. Sir Everard Home, a phrenologist, placed concupiscence, or the amative propensity, in the *top* and *forepart* of the head. Gall placed it *behind* and *below*, in the cerebellum, while M. Bouillaud, quoted as an eminent phrenologist, denies that the propensity in question, has any connection with the cerebellum, but thinks the cerebellum has the same function with the organ of *weight*, "to regulate the equilibrium," which other phrenologists place in *front*.—Lon. Med. Chi. Rev. v. 26, p. 228.

In Gall's map of the skull, self-esteem is just above, or rests upon philoprogenitiveness. In Spurzheim, inhabitiveness is pushed between self-esteem and philoprogenitiveness; and in Combe's, inhabitiveness is thrown out entirely, and concentrativeness is again placed between self-esteem and philoprogenitiveness; and thus three tenants are made to occupy in succession the same spot. Mr. Combe, however, thinks that Spurzheim erred because in his (Spurz's) head, concentrativeness was small, and he could not, therefore, judge as well as himself of its manifestation, in whom it was large! But it is not singular that Spurzheim complained of this explanation of their differences, as unsatisfactory. Spurz. phren., vol. 1., p. 175. Fowler and Kirkham give us both concentrativeness and inhabitiveness; and in their map, concentrativeness is above inhabitiveness, while in Combe by Boardman, they are exactly reversed.

The discrepancies, also, between Mr. Jones' (an approved author,) map, and

Mr. Combe's, Spurzheim's, &c., over the whole skull; but especially in the region of the perceptive organs, is almost incredible. Such indeed, that it would appear that he had aimed only at incongruity with others.

To all this, it is again objected, that phrenologists do occasionally, if not frequently, make "capital hits" of character. This we admit. We have already explained what the size of the head might indicate, and its general form:—"size, *ceteris paribus*, being the measure of power;" a very small head will indicate *illocy*. Again, a broad head indicates generally, strength; & it is thus that a male skull can generally be distinguished from a female. A broad full neck also *may* indicate amativeness, or at least, a prevalence of animal character,—large temporal muscles, alimentiveness, &c., The temperament also, which is easily known by the form,—hair, countenance, pulse, &c., is an important item in the character of all men; "the nervous and sanguine temperaments giving activity; the first rather mental, and the latter, physical." "The lymphatic producing indolence, and the bilious "great power of endurance," &c. The gait, apparel, and countenance of the individual, also afford much information to an experienced eye. Even the attitude in sitting, the arrangement of the hair, whether smoothed and oiled like a *beau Nash*.—or uncombed and disorderly like the head of a scholar *in studio*, are to some extent signs of character. We do not mean to say that all of these means are resorted to, by the honest and truly scientific teachers of the science, yet by most of the peripateticks, who make as many proselites and capital hits, as their peers, they are employed; and they are thus enabled, even in their mountebank "grand blindfold tests," to draw an occasional marked portrait. Of these men, destitute of all claims to science or honesty, who travel the country under the assumed and ridiculous titles of "great American practical phrenologist,"—"professor of phrenology," &c., and who examine heads blindfolded, and tell fortunes for a price—and some of whom, while they give lectures upon the *science* of phrenology, advertise that they will intersperse and vary the exercises of the evening with a few popular songs,—of these men, we say, we speak freely, whatever of truth or error there may be, in the science of phrenology, they are public nuisances which it becomes the public authorities to abate. They filch from every town, hundreds and thousands of dollars, and chiefly from that class who are least able to sustain a tax, for which they never receive an equivalent. These men are often guilty of the most pitiful tricks of deception. They flatter, evade, conceal and deny their own statements; and while they feel the pulse with one hand, under pretence of learning the temperament, with all the slyness of a professed jugler, they seize the palm of the hand with the other to ascertain his occupation.

We are pleased that a gentleman deservedly high among scientific phrenologists, has had the boldness and candor to denounce in no measured terms these *soi disant* gentlemen, and to hold them forth as they deserve to public odium.

"We are now prepared to pass judgment on certain practices prevalent in society. It is well known that persons calling themselves "practical phrenologists," have for years been peripateting through this and other countries, asserting and publishing their ability to ascertain character by cerebral developement alone, and their readiness to do so for any one who would pay them a certain fee.—Some of these have been men almost destitute both of knowledge and experience, such are beneath respectful remonstrance, they are swindlers and they know that they are swindlers, meriting whatever punishment may be due to those who obtain money under false pretences."—Boardman, p. 381.

The following from James Johnson's Rev. vol. 24, p. 208, is equally in point.

"It would be disgusting, if it was not absurd, to witness the mountebank performances of some persons who profess phrenology. They thumb the heads of gaping or laughing audiences at sixpence or a shilling each, and pronounce, ore rotundo, the elaborate characters of Styles and Noakes, who, fifty to one, have got no characters at all. We have been at some of these exhibitions, and a more complete travestie of a science we never in our lives have seen. We hope the philosophical phrenologists will put this egregious humbug down."

Phrenologists, however, often seem to give character, when, in truth, they do

not. "*Men do not know themselves.*"—Fowler & Kirk., p. 415. To be convinced of the truth of this, we have only to examine upon a scale of 7, or any assumed number, the relative power of our several faculties, and set them down in figures. We shall find it difficult, if not quite impossible, to give each its appropriate number. We all value ourselves upon our benevolence; and if told by a phrenologist that it should be marked 7, none of us perhaps would deny it. But reflect! are you a father or a mother? with whom will you divide your last morsel, a stranger or your famished child? Is not philoprogenitiveness or attachment to your children highest? Place it at 7, and benevolence 6. Reflect again. Have you a wife? and is not your attachment for the partner of your bosom greater even than for your children? the loss of which would afflict you most keenly? Mark adhesiveness 7, and push the others down. Reflect again! Are you a professor of religion? and do you not love & serve your God more than all others? Have you not made a solemn and sincere covenant to forsake *all* for CHRIST? Mark then the organ of veneration 7, philoprogenitiveness 6, adhesiveness 5, and benevolence 4. Is it not clear that you have never known yourselves? and that you have hitherto little practised the important precept, *γινώσκει σεαυτον*.—And had a phrenologist marked indifferently either of these traits 7, you probably would at once, have admitted his accuracy and admired his shrewdness.

Again "*friends, and neighbors frequently entertain views on these same points widely different from his own, and widely different from each other.*"—Fowler & Kirkham, p. 415. Let three of your most intimate friends make a similar trial on a scale of 7, and the 3 charts will not agree with each other, or with your own. Nor indeed will either of them *generally* agree with the chart of a phrenologist,—at least no farther than the general rules for the detection of character which we have already given, would aid him. If phrenology was always put to such tests, we venture to affirm, that it would less frequently give "*capital hits*," or make disciples.

The organs have an infinity of meanings or variations, either individually or in their thousand combinations, and like the thirty-five notes of a musical instrument they may be made to play any tune the performer may choose. "Every faculty may be applied to an *infinite* number of objects,—(Spurz. vol. 1, p. 133.) Destructiveness means to destroy in general—and if the person to whom it is ascribed, is not disposed to kill his fellow beings, he may at least be disposed to "*pinch, scratch, bite, tear, break, cut, stab, strangle, demolish, devastate, burn, drown, kill, poison, murder or assassinate*" animals; or it may prompt him to "*exterminate noxious objects, and the causes of dangerous situations*"—Spurz. vol. 1, p. 147; pull up noxious weeds in the garden, drain unwholesome marshes, ("*dangerous situations*,") &c. Combativeness may be offensive or defensive. The most peaceable man in the world, if he loves his home, will fight for his country and his hearth, or in defence of his friends. These are cardinal virtues, and claimed alike by all; or if he is very religious, and will not war with carnal weapons, he may at least fight *sin* as "Luther and Knox" whom Spurzheim thinks "*possessed it in a high degree*" p. 187.

Many of the organs also mean the same thing; and if the individual has not one organ to explain the existence of a certain trait of character known to be predominant, he may have another. If a man is combative, he is "*quarrelsome*," and the same is a trait of destructiveness. Large firmness causes "*mutiny and sedition*," so would combativeness or destructiveness. Cautiousness renders its possessor "*careful, shy and circumspect*." Secretiveness also makes "*the fox in approaching the poultry careful not to be observed*," and makes persons "*prudent and cunning*"—Spurzheim. Veneration disposes man to reverence and worship. It is large in religious people, and in "*all the busts and portraits of Voltaire it is represented as much developed*."—Spurz. vol. 1, p. 221. So also small self esteem, would produce a greater respect and reverence for others. We might enumerate twenty other such tautologies or duplicates, as we would term them—they are so numerous indeed, as almost to reduce the thirty-five faculties again to a unit; since each one in some form or modification can be made to produce nearly every supposable trait of character; indeed this seems to be fully admitted by phrenologists themselves, when in attempting to explain a

lack of correspondence between a certain large organ and the development of its function, they refer to the compensating influence of some other organ. Is it then difficult for a phrenologist to escape detection in an error? he surely cannot be in such a race a very expert runner who is caught: especially when to all of these we add the other outlets, viz: temperament, education, health, fineness, or coarseness of fibre, length of fibre, compactness, &c. Not to speak of the mode in which the pathological fact of Cruvelhier was evaded. The head of an idiotic girl being examined post mortem, little or no cerebellum could be found, and she was pronounced to have been deficient in the supposed function of that organ; but it being subsequently ascertained that this propensity had always been predominant during life, they declared that great use had *destroyed* the cerebellum! The same has also been attempted in a similar case related by M. Majendie in the London Lancet about four years since.

And if after all these resorts have been successively tried to explain an unfortunate "hit," the observer is not satisfied that phrenology is, in truth, "one of the exact sciences"—"Fowler and Vindex, p. 38.," it is because the gentleman's own organs "are not right,"* or particularly because his self-esteem or love of approbation are very large. A low and slanderous mode of argument which some phrenologists seem to think well calculated to silence all opposition, and have therefore employed it liberally,† but to which, as we humbly conceive, no person who sufficiently respects himself, would resort.

But if the weight of brain, and shape of head, of its friends or opponents are to decide the question, would it not be fair under such assaults to state that the brain of the eminent anatomist Baron Cuvier, who made a lengthy and able report against phrenology, weighed *three* pounds ten ounces and a half—L. M. C. R. v. 28, p. 238; while that of Gall weighed only *two* pounds eleven ounces—and the skull averaged one quarter of an inch in thickness—A. J. M. S. v. 6, p. 200. But the *cerebellum* or organ of amativeness, was very large," which according to Combe, accounted for his notorious character—Lec. in N. Y. p. 138—also L. M. C. R. v. 27, p. 228.

But in conclusion, it will be asked, "are we then to reject *facts* altogether? Facts we reply, are indeed a solid basis for any doctrine,—and the Baconian philosophy, or the philosophy of induction, is doubtless the only true and rational process of reasoning: yet we much question, whether the philosophy of the Stagirite was ever more abused, than that of Bacon. In our eagerness to get only facts, we have rejected all exercise of common sense, or reason, and depended wholly upon the uncertain testimony of our external senses,—while true philosophy would teach a proper exercise of both.

But are not phrenological facts attested by men whose honesty none would dare impugn and whose ability and acuteness of observation none could question? So also has it been with almost every science or doctrine with which the world, since its infancy, has been blessed or cursed. They have all, or nearly all, had their facts attested by learned vouchers, upon which their advocates always cast anchor in impending storms; and from which they vainly imagined all the thunders of argument could never drive them. That Charles the Second, King of England, in 5 years, cured, by the *tactus regalis*, or royal touch, 23,621 persons afflicted with the scrofula, or *king's evil*,—the whole court and realm of England could attest! And we have equal testimony that the same miracles were performed by several of the crowned heads of France. That Elisha Perkins, the "American humbugger," cured in the year 1798, one million and five hundred, by his metallic tractors, the clergymen—lords—commoners of England, and nearly all the learned men in Europe believed,—hospitals were established, and pamphlet after pamphlet was issued by physicians and scholars to substantiate his facts and doctrines. Judicial astrology, was for ages embraced by men of the greatest acquirements and of unblemished integrity; and who in innumerable instances foretold events that actually came to pass; and persuaded themselves that they foretold them by the rules of their own art. Among whom were Baptista Porta, Cardan, and Kepler, of the 16th century; the first, the most distinguished

* See Spurzheim's remarks on the *shape* of the head of Gordon, the eminent anatomist and reviewer, and all others who oppose phrenology—in Carmichael's biography of Spurz.

† Remarks upon Prof. Sewal, by Fowler and Kirkham, p. 295.

scholar, and the last two, the most distinguished mathematicians of their age; and also, the Abbe de Rance, the celebrated founder of the monastery of La Trappe, and the learned poets Cowley and Dryden of the 17th century."

Alchemy and Palmistry—the convulsionists of St. Medard, and the Swedenborgians, all had their incontestible facts and miracles, and learned followers.—Even the ridiculous antics of the bewitched Salemites were believed by Cotton Mather, a most learned scholar; and nearly all the eminent clergy and magistrates of the New England States, to be a veritable manifestation of Satan's power over these unhappy wretches. They even believed, as they tell us "that devils were walking their streets with lengthened chains, making a dreadful noise in their ears; and brimstone (even without a metaphor) was making horrid and hellish stench in their nostrils." For communion with which devils, twenty were condemned and executed, and hundreds thrown into prison.—Hist. of Salem Witchcraft, by R. Caleb, p. 4, and 225.

Thus it has been in all ages of the world, and thus, we believe, it ever will be. It is folly to boast of the greater credulity of past ages than the present. The world is as credulous now, if not more so, than at any previous period. As evidence of this assertion, witness the progress of Mormonism, and of Homœopathy, the late doctrine of Hahneman. Animal Magnetism also, with all its glaring absurdities, is the product and growth of this enlightened day—and which had it been taught and believed two hundred years since, would have stamped that age with the character of ignorance and gross superstition; and yet, it boasts among its advocates and firm defenders, men of acute discernment, and high mental endowments, who in all other matters might be entitled to implicit credit.—Does any one doubt whether any truly sane and rational man ever put faith in the incomparable fooleries of this science? Then must the sanity or integrity of Spurheim himself, an "advocate and defender of animal magnetism," be brought in question!

Even Judicial Astrology is again revived; and connected with phrenology "its practical handmaid" its doctrines are now taught successfully, by the prophet Zadkiel, in London, and by Thomas Hague, in Philadelphia—the very metropolis of American literature. The former, who, under the imposing title of Zadkiel, is no other than Lieut. Morrison, of the British Navy, has formed a society called the "Uranian," and has commenced the publication of a journal, and boasts already of his many unerring predictions and learned converts—while Hague, in Philadelphia, has also issued the fourth number of the "Horoscope," and finds multitudes who believe that by the aid of the stars and his strange chart of mysterious characters, he can foresee human events, and the certain destiny of all. Madame Adolph who was in our city a few months since, was of the same school; and though her stay here, *for certain reasons*, was brief, yet she has been visited in other cities by admiring and astonished crowds. Was it right and in strict accordance with the spirit of our institutions, that while in Troy, for no other reason than that by her "successful hits" she convinced all who witnessed her attempts at fortune telling and prescience, and drew throngs to her rooms, she should have been arrested and committed to prison as a *vagrant*?—Have not *all* a right to teach and preach their doctrines unmolested; and have not our citizens a right to listen to these doctrines, and ascertain by observation and "grand blindfold test" the verity of the matter? Who are they, who, in this republic have set themselves up to say that the poor and the ignorant as well as the learned and purse proud, shall not pay their own money where they please, even though they receive therefor no equivalent, and impoverish themselves and their families? *Let equal measure be meted to all!*

But it is in phrenology more than all else, that false facts are liable to be introduced; owing to the numerous modes of explanation, which, by phrenologists themselves, are admitted to account for an apparent failure. So numerous are they indeed, that we do not really think it possible so to weigh them all, as to arrive at a single well established fact, or confirmation. Of these "compen-

* The title page of Hague's Journal is embellished with a phrenological bust, surrounded by the twelve signs of the Zodiac—below which we read the following:—"Astrology is useful, and the day will arrive when it will be universally received; and aided by phrenology, its practical handmaid, will open the eyes of mankind to the wickedness of war," &c.

sating" and "explanatory" circumstances, we have already spoken, and will only relate by way of illustrating phrenological flexibility, a single case.

A skull was presented to Dr. Gall, at Rome, said to be the skull of Raphael, and which, to Gall seemed exactly to correspond with his character. Mr. Combe examined the same skull, and in his large work, has given 3 plates of it, and no less than 10 or 12 times referred to it as indicating in every particular, the remarkable and unique character of this truly great man; but to complete the astonishing coincidences, and to prove to the most incredulous that phrenology is as unerring as the needle to the pole, Mr. Scott, a phrenologist, delineated with the utmost nicety, the character and disposition of Raphael; and then by a reference to his skull demonstrated with almost mathematic accuracy, every shade and variation upon its surface.—Phren. Jour. v. 2, p. 327. But at length, it is discovered that this was *not the skull of Raphael!* and whose skull it was, no man can tell. Mr. Combe admits the error, (loc. in N. Y. p. 173) but declares that the discovery only proves that "the skull did not belong to Raphael." To our mind, however, it carries much greater weight,—if it was not Raphael's skull, and yet represented so exactly his character,—then there has lived another who rivalled—nay, was an exact copy of all the virtues, vices, affections, talents and other mental endowments of this "*unparalleled genius*"—otherwise cranial indications amount to nothing. Or if it can be shown that no other man than Raphael himself ever had such a peculiar and remarkable character, then it must follow that there is no difficulty in making character and skulls correspond. We cannot here refrain from introducing from Sir Walter Scott's demonology, the story related of Peter Walker, who was a "man of credit," and relates the incidents as *facts*, yet declares that for himself, he could not see what others saw clear enough. "In the year 1686, in the months of June and July, many yet alive can witness that about the Crossford Boat on the waters of Clyde, many people gathered together for several afternoons, where there were showers of bonnets, hats, guns, and swords, which covered the trees and the ground,—companies of men in arms marching in order upon the water side;—companies meeting companies, going all through other, and then falling to the ground and disappearing;—other companies immediately appeared, marching the same way. I went there three afternoons together, and as I observed there were *two-thirds* of the people that were together saw, and a *third* that saw not, and *though I could see nothing*, there was such a fright and trembling on those that did see," &c.—for ourself, we frankly acknowledge, that although we have gone many "afternoons" to witness their "sights," when *two-thirds* who were present saw—we never could see—and we doubt not, but that all phrenologists are ready to exclaim with one honest observer of this "martial gear," "if you do not see, *say nothing*; for I persuade you it is matter of fact, and discernable to all that are not stone-blind."

We will now speak of the *moral* influence of phrenology; *not* let it be explicitly understood as an *argument* against the doctrine, but simply to warn you against adopting a pernicious *error*. If the doctrine had really moral tendencies it might be of little consequence to our race whether it is true or false; and it would hardly merit the labor of refutation.

But if it is false, and has *not* moral tendencies, its refutation becomes a matter of serious import to our common interest. Phrenology, we believe, teaches *fatalism*; and it is no reply to this, that other doctrines, considered by many orthodox, teach the same—the question is simply with phrenology, and cannot be answered by any such evasion.

But where is the fatalism of the old doctrines of the mind? We teach indeed that one man is born with more talent than another, and therefore with less ability to do good; but in the same proportion we add, is his ability to sin or do evil also diminished. His faculties are all one, and therefore his good and evil powers are at his birth exactly equal. But phrenology teaches that one man is *born* with more virtues or *moral* talent than another, and this makes the wide difference between our doctrines. Mr. Fowler thinks that the argument of fatalism urged against phrenology, "has never been satisfactorily answered by other phrenologists,"—p. 382 (in which we fully agree with him.) He makes a lengthy argument upon the subject; and his *first* point is, "that certain vicious propensities do exist and are very strong, is an absolute matter of fact."—p. 382. And this may be answered by

the simple explanation that other phrenologists believe (whether Mr. F. does or does not,) that men are *born* with these moral obliquities of character stamped upon their heads, as we shall presently show; while *we* believe that such uncontrollable, vicious habits and propensities are the result of *education and habit*.

The *second* objection we shall not discuss, since it is only an attempt to prove fatalism in all divine agency, and not at all relevant to the subject under discussion—it is an evasion; and since also he tells us that in these arguments he has “virtually admitted” our objection—p. 387. We however deny that Divine agency ever interferes with moral responsibility.

The *third* argument is, that the large size of the organs “is in a great degree the effect, and not the cause of the exercise of the corresponding passions.”—p. 387. Now this approaches our doctrine, and it is at once admitted, if he means to say that all these vicious propensities are the result of bad education; by which, of course, moral responsibility is restored—but this certainly he would not teach, since it is wholly anti-phrenological; but he has guarded himself against phrenological heresy by the clause “in a great degree;” for he remarks that this diversity must of necessity be at least in part *inherent in our very nature*. in the following passage also he shows a little of the same doctrine.—“It is nevertheless true that when one has veneration large and another has it small, the latter cannot worship God with all the fervor and heart-felt devotion of the former; nor is this required of him.” Where in Holy Writ are we taught that God has given more moral “talent” to one than to another? But the truth is, that other phrenologists are at variance with Mr. Fowler, and *widely*—since they teach that men are *born* with certain uncontrollable evil propensities; in proof of which Spurzheim relates the case of the Duke Bourbon-Conde—“who would have renewed all the crimes of Nero, had he ever mounted a throne. While a *child* he betrayed a cruelty of disposition, which excited horror;” and he concludes by remarking,—“These latter facts which fortunately for humanity are very rare, *prove* that this terrible propensity (destructiveness) is sometimes quite independent of *education*, of *example* or of *habit*, and that it depends on *innate* constitution alone.”—Spurz. phr. p. 143. And under the subject of benevolence he remarks—“Men are not *born* alike in this respect.”—p. 212. “From all this it results, that benevolence is a *innate* and particular faculty, and *by no means* the effect of external circumstances as some have supposed.”—p. 211. It is clear then that whatever Mr. Fowler believes—Mr. Spurzheim, the great Hierophant of the science, *does* teach fatalism as a part of his doctrine: similar remarks also abound in Mr. Combe’s writings.

But the *fourth* and concluding argument is, that “every faculty is originally good;” but how is it with those cases just related, in which the vicious propensity manifested itself from birth—if it was originally good, what made it bad? Not “education”—“example”—“habit”—“or any external circumstances.” He asserts also, as other phrenologists have frequently done, that its excessive use makes it vicious; what do phrenologists mean by this? That a man may become so pious as to become an infidel, as Voltaire? or so attached to his children as to hate them?—for in no other way could this latter be converted into vice; the same rule must apply to one organ as to another. We are told also that too much exercise of the “good faculties,” combativeness and destructiveness, will lead to fighting and destroying. It becomes us then to be cautious, lest we improve our good talents too much. In short, the supposition that the excessive use of good faculties should render them vicious, is paradoxical—besides that (as we have before remarked,) they are sometimes excessively large from *birth*, and then this explanation must of course fail.

But to establish incontestably the doctrine which phrenologists teach, we will let them speak for themselves. “Size fixes a limit, which education cannot pass.”—Combe p. 95. Cardinal Polignac speaks of men who are *born wicked*, and to whom crime is delightful. “Why should a criminal,” he asks “who does not consider himself wicked repent?” “Indeed,” adds Spurzheim, “the greatest criminals do not commonly think themselves guilty, and therefore cannot repent.”—Vol. 1 p. 226.

Says Gall, “No one can deny that theft occurs in the world; and as it exists, *it was not against the will of the Creator*. The propensity to steal is more or less energetic, and there are very few who have never stolen anything; finally the organ is very considerable in inveterate thieves,”—Spurz. v, 1 p. 195.

Combe says that in his own head the organ of number "is 'idiotic,' it is so very small," that notwithstanding he cultivated it *seven* years, he could not tell "how many eight times nine were, without going to work circuitously."—Page 246 of Combe by Boardman. Suppose this had been the organ of veneration instead of number, would seven years cultivation have enabled him to reverence the Deity? Speaking of the Irish, he remarks, "they have great combativeness, and an acute intellect, but the *moral* sentiments are not so large. Indeed they will need training for *centuries* before they will equal the Saxon race."—Page 303. Of a certain variety of "cerebral organization," he remarks—"The propensities so decidedly predominate, that if allowed to go loose in society, they will as certainly go wrong as the sun will rise."—p. 309. "Their tendency is almost *irresistably* toward evil."—p. 310. "Such men are morally blind, and it is not for you to wreak vengeance upon them for their *misfortune*, but to keep them out of harms way."—p. 311. "Phrenology will lead men to see that crime cannot be prevented till its causes are removed; and these are *defective or excessive developments* of certain organs in the brain," &c.—p. 371.

"In a prison at Berlin we found a boy of an *unfortunate* cerebral organization." Dr. Gall said that such individuals should not be left at liberty, but ought to be kept in an establishment for security."—Spurz. on Ed. p. 298. "Intellectual idiotism is commonly understood; but there is a *moral* idiotism." "They are deprived of sufficient *moral* motives, and cannot be considered as accountable beings."—do. 299.

Whether phrenology does or does not, teach MATERIALISM, we are not prepared to say. It is the opinion of Ryan and many others that it does. Says Ryan in his Medical Jurisprudence, p. 16—"The doctrine of the materiality of the soul, which is that of *materialism* and *phrenology*," &c. If however phrenology teaches that the brain is the organ through which the mind *manifests* itself; then we think it does not involve materialism. But if on the contrary, it teaches that the brain, or its action *produces* mind, then it is materialism in its grossest form. And phrenological writers have at least thrown some doubt upon this point by expressions like the following—"The organs are the instruments, and the *faculties*," (not *ideas*.) "the musical result of their play"—Dean's Phren. p. 41. Then the *faculties*—which together constitute the mind, must cease to exist, when the organs die, or "cease to play"—and the immortality of the soul is but a fiction.—Again "without that organ (veneration) in man, religion could have no existence in him."—Caldwell's reply to Sewall, p. 59. Also, "Superiority of devoutness" "is the *fruit* of cerebral development, and cerebral training."—*ib.* p. 60. These gentlemen however declare themselves believers in the immortality of the soul; and say explicitly that the brain is only the organ of mental *manifestation*.—We therefore think ourselves bound to admit their assertions, and to consider these as mere errors of language, and especially as we do not conceive materialism necessarily connected with the fundamental doctrine of phrenology—the plurality of the organs.

APPENDIX.

We have determined, before offering to the public this imperfect outline of our views of Phrenology, to mention a few of the many who have recorded their names against the science; whose opinions, from their high standing and eminent attainments, are entitled to respect. But we have only been induced to do this, because the phrenologists have given the precedent, and by the array of names, gathered from the whole world, and which their practice of intemperance has the better enabled them to collect, they have doubtless gained some followers. Catalogues of this kind may be found in Haskin's History of Phrenology, and in Boardman's preface to Combe's Lectures—also in an octavo volume published by Combe, in 1836.

John Mason Good, M. D., F. R. S., F. R. S. L., author of "Study of Medicine"—Book of Nature," and various other works "Its morality is not of the purest kind." "The whole in truth is founded on hypothesis—here it begins and here it ends."

Sir Charles Bell, author of work on "Nervous System," &c. "The most extravagant departure from all legitimate modes of reasoning, although still under the color of anatomical investigation is the system of Gall."

J. Muller, M. D., author of "Elements of Physiology." "Experience shows that the system of organs proposed by Gall has no foundation." "M. Majendie is very right, in placing cranioscopy (phrenology) in the same category as astrology and alchymy."

T. Renne!—whom Mr. Combe calls a "learned and respectable, though prejudiced opponent"—author of work on "Skepticism." "The system of Gall and Spurzheim, however ingenious or amusing in theory it may be, is annihilated by the commonest reference to fact."

Robert Mudie, author of "The Heavens"—"The Four Seasons;" "The British Naturalist," &c. "No man ever came to any accurate knowledge of his own propensities, by examining the phrenological characters of his cranium."

P. M. Roget, M. D., Sec. to Royal Soc. and Prof. of Physiol. in Royal Institute Great Britain, etc., author of one of the "Bridgewater Treatises," and outlines of "Physiology and Phren." "Hollow as are the foundations of this theory, the materials which compose the superstructure will prove on examination, to be still more frail and unsound."

M. Rochoux, of Paris, Member of Royal Academy, &c.—"la phrenologie est un des plus grands mecomptes de l'epoque."

M. Esquirol, who has charge of the largest lunatic asylum in Europe, and under whose eye thousands of lunatics have passed, and who has made an immense collection of casts and crania, declares that "the testimony of his experience is entirely adverse to the doctrine of the phrenologists; it has convinced him that there is no foundation whatever in facts," &c.

Rudolphi declares that he has "examined many hundreds of brains without finding any thing that appeared to him favorable to the phrenological theory."

Prichard—author of work on insanity. "It is not enough to have a few CHOSEN COINCIDENCES brought forward by zealous partizans, who go about in search of facts to support their doctrine, and pass by, or really cannot perceive, the evidence that ought to be placed in the opposite scale." * * "The phrenologist avails himself of a double method of elusion. His position, like the cave of Philoctetes, affords him an escape on either side."

M. Majendie, author of Physiology, &c. "The efforts of this pseudo-science, are reduced to assertions which cannot sustain an examination for an instant."

Thomas Sewall, M. D., Prof. of Anatomy, &c., in Columbia Col. "No Phrenologist, therefore, who discovers a protuberance on the skull, can determine whether it is caused by a fullness of the brain, at that part, or an increased thickness of the bone."

J. Q. Adams. "I have classed it with Alchymy, Judicial Astrology, with Augury,—and as Cicero says, that he wonders how two Roman augurs could ever look each other in the face without laughing, I have felt something of the same surprise, that two learned phrenologists can meet without the like temptation."

John McLean—Judge of the Supreme Court of the United States. "But we need not wonder at the numerous supporters of phrenology. Quackery is too much the order of the day, and there is nothing so absurd, either in philosophy, politics or medicine, as not to have its advocates."

Hon. John Sargeant. "An asserted system, which never appeared to me worthy of any confidence."

Hon. Henry L. Pinckney. Dr. Sewall 'has given what I consider a death blow to the nonsense of phrenology.'

Ruel Keith, D. D., President of the Episcopal Theol. Sem. Va. "I am one of those who believe the pretensions of phrenology not only to be false, but very prejudicial to the interests of morality and religion."

W. Fisk, D. D., President of the Wesleyan University. "And such is, I confess my own opinion, that it is anatomically and physiologically absurd to rank practical phrenology among the sciences."

Stephen Chapin, D. D.—Pres. of Columbia College, D. C. "This baseless hypothesis, for science it should not be called."

To these names we may add, Baron Cuvier, author of Compar. Anat. &c.—M. Mitvic, phys. to the Salpêtrière—M. Foville, phys. to the extensive lunatic asylum at St. You—Wm. Gilchrist, Edingburgh—Francis Jeffery, Esq., Ed. of Edingburgh Rev.—John Gordon, prof. of anat. &c. Eding.—W. Baly, prof. of anat. London—John Barclay, prof. anat. &c.—Tiedemann—Brown—Dugald Stewart—Lord Brougham and Sir Wm. Hamilton, who was elected to the chair of Logic in the Edingburgh Univ., against Geo. Combe by a vote of 29 to 3. And in this country, John C. Warren, prof. of anat. &c. Harvard Univ.—D. M. Reese, late prof. of prac. med. Albany Med. Col.—J. Augustine Smith, prof. of physiol. &c. col. of phys. and surg. N. Y.—Chester Dewey, late prof. chem. and mat. med. Pittsfield Med. Col.—John P. Harrison, late prof. mat. med. &c. Cincinnati Med. Col.—Joseph N. McDowell, late prof. of Specidl anat. Cincinnati Col.—Reuben D. Mussey, prof. of surg. Ohio med. col.—A. W. Ackley, prof. of anat. &c. Willoughby Med. Col.—John De Lamater, prof. of patholog. anat. Geneva Med. Col. etc. etc. But it is unnecessary to accumulate names; the following testimony is all that can be required on this point:—

"But in the Universities, Colleges, and Seminaries of learning, it has hardly been able to set its foot. And by the generality of professors, ministers, scientific and religious writers, it is proscribed and denounced, or at least treated with distrust and lukewarmness."—Boardman, p. 81.

The following, among other journals, have taken up the cudgel against phrenology: Lond. Lit. Gaz.—Lon. Mon. Rev.—Lon. Q. Rev.—Blackwood's Mag.—Bost. Q. Rev.—Bost. Christ. Expos.—Amer. Q. Rev.—N. Amer. Rev.—New Monthly—Princeton Rev.

Edingburgh Rev.—"We look upon the whole doctrines taught by these two paripateticks, (Gall and Spurzheim) anatomical, physiological and physiognomical, as a piece of thorough quackery from beginning to end." "There are a certain number of individuals however in every community who are destined to be the dupes of empiricks; so it would be a matter of surprise if these itinerant philosophers did not make some proselytes wherever they came."