

Observations on Dr Barclay's objections to phrenology / by A. Combe.

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to John F. McFarlane Esq
with best respects
from the Author

OBSERVATIONS

ON

DR BARCLAY'S OBJECTIONS

TO

PHRENOLOGY.

BY

Mr A^w COMBE.

FROM THE
TRANSACTIONS OF THE PHRENOLOGICAL SOCIETY.

EDINBURGH:
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OBSERVATIONS
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DR BARCLAY, in his valuable work on Life and Organization, comes forward as the opponent of Phrenology, and condemns it as visionary and unfounded. The object of the present paper is, to examine shortly the arguments, for he advances no facts, upon the strength of which he pronounces this unqualified judgment. The phrenologists state, that they have observed certain facts in nature, and drawn certain conclusions from them. In order to refute their statement, an opponent is called upon, by the dictates of sound logic, to follow one of two courses;—either to disprove their alleged facts, by shewing that nature is in opposition to them; or to allow their assertions to be true, and to demonstrate, by argument, that their conclusions do not follow, even from their own premises. Dr BARCLAY, however, is pleased to follow a course altogether different. He assumes, without inquiry and without evidence, that the facts

have no foundation ; and he then proceeds to shew, by argument, that the phrenological conclusions are inconsistent, not with their own premises, but with certain preconceived notions of his own, altogether foreign to the question. The result is, that he fights with a shadow, and the merits of Phrenology remain exactly as he found them. The following observations, therefore, are necessarily limited to pointing out the insufficiency of Dr BARCLAY'S method of attack.

His first and principal proposition, upon the strength of which all the others more or less depend, is so very untenable, that I am surprised at his stating it seriously ; and if his whole subsequent reasoning had not been founded upon it, I should have passed it over as an unintentional mistake. It is as follows: that "*voluntary organs, or organs formed to obey the will, are not restricted to any specific modes of operation.*" This proposition he illustrates as follows: "The human hand," says he, "is not limited to acts of beneficence, or to acts of cruelty ; it is equally subservient to all the instincts, appetites and passions ; equally obedient to all who employ it in the different departments of the fine arts, and to all who exercise it in the numerous fatiguing and diversified labours of the mechanic. An organ thus employed, in such a variety of different offices, and executing each with promptness and precision, might naturally lead the unwary to imagine, that it is composed of a great variety of subordinate organs, corresponding in number to the different duties which it has to perform. Such is the conclusion which one would draw in reasoning analogically from the works of art ; but such a conclusion certainly would not follow, in reasoning analogically from the works of nature ; for although the hand be composed of many dissimilar parts, it is not constructed on the principle of a time-piece, whereof each index, as that for the hour, the minute and the second, requires a distinct and appropriate apparatus. In the human hand all the parts are observed to combine in each operation ; and it is certain, that the varieties of its operations are not so much owing to the number of parts as to the varieties of their combinations ; the combinations into which they enter being almost incalculable, while the parts themselves are comparatively few, and easily counted. *Taking the hand, then, as a specimen of the works of nature and of animal structure, and thence reasoning on the prin-*

ciples of analogy, with respect to the brain, ought we not to infer, that all the parts, of which it is composed, may also combine in a similar manner, and be concerned in every phenomenon which has been ascribed to it? This inference," he continues, "it is true, is not, and cannot consistently, be the inference of the phrenologists, who, upon the *supposition* that the brain is constructed as *man* would construct it, on the principles of art, *imagine*, that each specific phenomenon, or series of phenomena, is the effect of a specific *δυναμις*, faculty, or *vita propria*; and that each faculty or *vita propria* has a specific system of organs, by which it perceives, conceives, imagines and remembers, in a manner peculiar to itself." Pages 373-4.

Is it really true, then, that voluntary organs "are not restricted to any specific *modes* of operation?" If Dr B. means merely, that such organs are not restricted to the performance of any specific *acts*, no one will refuse assent to his proposition; for the same muscles which move the hand to do an act of charity, may move it to commit a homicide, by precisely the same function of contraction. But if his meaning be what his words express, viz. that "voluntary organs are not restricted to specific *modes of operation*," every physiologist must differ from him; for his proposition would then amount to this, that such organs have not received from nature any definite constitution and functions; but that muscles, for example, besides acting by contraction and relaxation, which have hitherto been conceived to be their sole *modes of operation*, may assume any other mode of action, which the will, directed by the fancy, may choose to impress upon them,—a notion too absurd to require any serious refutation.

In the case of the hand, it is obvious, that all its operations are distinctly referable to the single mode or principle of voluntary motion, or muscular contraction; and therefore to maintain the analogy between its acts and those of the mind, the whole operations of the latter ought to be equally referable to one principle,—feeling, or reflection, for instance, but not to two or more. The hand which ampu-

tates a diseased limb performs an act of beneficence ; while the hand which would cut off a sound leg would be the instrument of atrocious cruelty ; but, in either case, the action of moving the knife is precisely the same, and one set of muscles, acting in one way, is amply sufficient for impelling it in both operations. But, taking the other part of the parallel, will Dr B. himself venture to assert, that the feeling of the mind which impels the knife is in both cases precisely the same ; and so completely so, that we are bound, by the mere force of analogy, to infer, that as one set of muscles serve to move the knife in both operations, so both emotions *must* be experienced by means of one and the same mental organ ? This length he is bound to go ; for he feels so strong in the force of his analogies, that he reckons all direct inquiry into the *fact* superfluous. In this instance, however, the analogy is scarcely in his favour.

I may observe, farther, that there is as great a difference betwixt the feeling of benevolence and that of cruelty, as betwixt a sound and a smell ; and as we know, that, in the latter case, Nature has provided different organs for receiving the different kinds of impressions, we are led to infer, that she may have followed the same course in regard to the different internal feelings. Even in the case of the hand, also, the analogy is in favour of this inference, and in opposition to that of Dr B. This organ, besides performing the function of voluntary motion, is also the instrument of touch. If Dr B.'s analogy hold good, both functions should be performed by means of the same corporeal parts, and the power of exercising the one function, should be always in proportion to that of performing the other. Recent experiments, however, have shewn, that voluntary motion is performed by one set of nervous fibres, and that touch is exercised by another, although both are inclosed in a common sheath ; and it is also an indisputable

fact, that frequently the most exquisite sensibility of touch co-exists with great deficiency of muscular energy; besides, that the one occasionally remains unimpaired, when the other is entirely destroyed by disease. Hence, reasoning, even from the analogy of the hand, we should be led to conclude, that wherever mental affections are dissimilar, and disproportionate in natural intensity, they will be manifested by different organs.

Dr BARCLAY next proceeds to deny the existence of a plurality of organs in the brain, because, says he, we have no ocular demonstration of their existence; for "on opening the skull, and examining the brain towards the surface, where these organs are *said* to be situated, it seems to require no small share of creative fancy to see any thing more than a number of *almost similar* convolutions, all composed of cineritious and medullary substance, very nearly in the same proportions, and all exhibiting as little difference in their form and structure as the convolutions of the intestine; nay all, when unfolded, according to SPURZHEIM, in cases of hydrocephalus internus, presenting but one uniform web of cineritious and medullary matter. No phrenologist has ever yet observed the supposed lines of distinction between them; and no phrenologist, therefore, has ventured, in the course of his dissections, to divide a hemisphere of the brain accurately into any such number of well marked and specific organs. But, suppose it divided, and each organ or system of organs to be presented to another professed adept in the science, would he venture, were they presented promiscuously, to distinguish, merely by their form and structure, an organ of one propensity from another; an organ of propensity from an organ of sentiment, an organ of sentiment from an organ of knowledge, or an organ of knowledge from an organ of reflection? He would be a hardy phrenologist if he did, as these organs are not distinguishable by any characteristic appearance like the organs of sense.—On seeing an ear, an eye, a nostril, a hand, or a tongue, no anatomist requires to be informed what these are, where they were situated, or how they were connected, to be able to say in what functions it had been employed. Their marked peculiarities speak for themselves. No such differences appear among the organs assigned to the brain."

Admitting, for the sake of argument, that what Dr BAR-

CLAY here advances is strictly true, yet, it does not, in the slightest degree, impugn the validity of the fact observed by the phrenologists, that a particular power of the mind is always found in connection with, and in proportion to, the size and healthy state of a particular portion of the brain. It therefore ought to have no weight as an objection. If Dr GALL had said, I perceive, in the anterior lobe of the brain, a certain kind of structure, and I *therefore* assign to it the reflecting faculties; in the middle lobe another kind, and I therefore assign to it the sentiments; and in the posterior lobe a third kind, which I conceive is best adapted to the propensities; Dr BARCLAY's objection, that the form and structure of the whole brain were so exactly similar, that it was impossible by these indications alone to distinguish one part from another, would be insuperable; it would overturn the very basis of the system, and explode the whole doctrines on the subject. But, as already mentioned, Dr GALL did not found on such a basis; for the facts observed by him, and out of which Phrenology arose, were numerous and apparently well established, long before the idea of connecting them by a theory appeared practicable. I might almost say, that even now, in his hands, Phrenology still retains much more the appearance of an interesting collection of observations on the connexion between mind and organisation, than that of a system of the philosophy of mind.

But in reality, Dr BARCLAY's objection is not altogether borne out by the structure of the brain itself. Dr SPURZHEIM, in a letter to my brother, containing some remarks on Dr BARCLAY's book, speaks directly to the point, whether it is possible to distinguish the different organs, an organ of a propensity from an organ of sentiment, or of intellect, &c. "Is it really true," says he, "that it seems to require no small share of creative fancy, to see any thing

more than a number of almost similar convolutions, and that the organs are not distinguishable by any characteristic appearance?" "Dr BARCLAY," continues Dr SPURZHEIM, "has my esteem as an anatomist in general. His skill as a teacher of anatomy also cannot be called in question, and there is no doubt that he has paid more attention than any other man of science in Edinburgh to comparative anatomy. But as to the structure of the brain, he, like many other anatomists, may be excused for having been less attentive to it. I cannot help blaming him, however, for deciding that such a thing is impossible, merely because he has not examined it with due attention in nature. Phrenologists, in comparing the relations between anatomy and physiology, admit as a fundamental principle, that the anatomy of any part never indicates the nature of its functions. The function of every organic part must be determined by observation, and by observation alone. The only question then is, Whether the individual organs of the mind are distinguishable by any characteristic appearance, so as to render it possible to compare them with individual sorts of mental operations. I cannot say what Dr BARCLAY is able to do; but it is certainly easy to distinguish the anterior, the middle, and the posterior lobes of the human brain from each other; and were they shewn to me separately, I should never take one for the other. In the same way, I should never confound the organ of *amativeness* with that of *philoprogenitiveness*; or *philoprogenitiveness* with that of *secretiveness*; or the organ of the desire to acquire with that of *benevolence* or *veneration*; and Dr BARCLAY may be sure, that, if he make it a study to compare the configurations of the cerebral convolutions, and of the different organs, he will find great differences, which he has hitherto overlooked. Moreover, when he shall see, besides, the different forms of the organs, that they are frequently developed in different proportions, that of *benevolence*, for instance, large, when *veneration* is small, or *vice versa*, he will have an additional proof that the brain consists of a congeries of parts performing different mental functions. It will not be denied that frequently some convolutions of the brain are much more developed than others; and in these cases Dr BARCLAY ought to observe, whether the functions which phrenologists ascribe to the different parts, are not more vigorously performed by the larger than the smaller organs."

To shew that Dr SPURZHEIM is able to distinguish one organ from another in the brain itself, without the intermedium of the skull,—“an organ of propensity, for example, “from an organ of sentiment, and an organ of sentiment

“from an organ of knowledge,”—I shall shortly state a case in which, without having seen the skull, he pointed out the different degrees of development of the different organs, from an examination of the size and appearance of the brain and its convolutions.

On 1st December 1818, when engaged in the first course which he gave after his return to Paris, a brain was handed in to him during lecture, with a request that he would say what characteristic dispositions it indicated; and he would then be informed to whom it had belonged, and how far he was correct.

Dr SPURZHEIM said, that in such a case two things should always be attended to; 1st, That as brains of every size are subject to disease, and many natural imperfections common to them with other organized parts, we must either be previously informed of the temperament and health of the individual, or we must draw our conclusions with the proviso, that they will hold good only on the supposition of his having enjoyed such a state of health and activity as were necessary for the due operation of the mental faculties; 2dly, We ought to state distinctly, that, by development alone, we can never predicate a man's actions; as these must necessarily vary according to circumstances. We can only speak as to his natural dispositions and talents.

Having premised this, Dr SPURZHEIM proceeded to point out the peculiarities of the development, although from lying on a flat dish, the brain had considerably changed its shape. He desired his auditors to remark the size of the cerebellum, and the great development of the posterior, and of part of the middle lobes of the brain, the convolutions of which were large and rounded, forming a contrast with the deficient size of the anterior lobes. The convolutions situated under the vertex, and towards the top of the head,

belonging to the organs of *self-esteem* and *firmness* were also very large, while those of *veneration* and *benevolence* were small. These peculiarities were so well marked, that Dr SPURZHEIM felt no difficulty in inferring from the large size of the cerebellum, that the individual would have "des dispositions fortes à l'amour physique." From the large development of the convolutions belonging to the organs of the lower propensities, common to men and animals, and from the small endowment of intellect and moral sentiments or restraining powers, he inferred that "his natural tendencies would not be towards virtue;" that he would be what is familiarly expressed in French by "un mauvais sujet," being a very comprehensive term for every variety of bad dispositions, and that "he would be one to whom the law would be necessary as a guide;" but not knowing the circumstances in which he had been placed, he could not say what his actions might have been.

At the conclusion of the lecture, a young man, an "élève interne" of the Hôtel Dieu, came forward and said, that the brain was that of a *suicide*, who had died in that hospital, and that the dispositions inferred by Dr SPURZHEIM coincided perfectly with those manifested during life. As I happened at that time to follow the very interesting clinique of the justly celebrated DUPUYTREN, surgeon of that Hospital, whose patient he was, and as the case was interesting both in a surgical and phrenological point of view, my attention had been particularly directed to this very individual from the day of his entrance to that of his death. I was thus better able to appreciate the perfect accuracy of Dr SPURZHEIM's conclusions, than if I had merely trusted to the report of the *élève*. To enable others to judge how much they coincided with the truth, it may be worth while to enter into a short detail of the man's history.

The man had been a soldier; and, for some crime or

fault which he would never name, he was subjected to a "*peine infamante*," and banished from Paris to Orleans. He there tried to obtain employment in his own trade, that of a barber; but the news of his disgrace having reached the place, no one would receive him. He then suspected his wife, who remained in Paris, of having concerted his banishment with the Police, and of having entered into a plot to keep him at a distance. He thereupon resolved to return and to kill her, and then to slay himself. He set out accordingly; and, as he affirmed, walked the whole distance, without stopping more than a few minutes at a time. He saw his wife, and attacked her with a knife; but, from her greater strength, she succeeded in defending herself, and escaped. He then plunged the knife into his own side, and inflicted a deep wound between the seventh and eighth ribs; and, on that account, was brought to the Hôtel Dieu. During his illness, he shewed the most determined obstinacy, and indulged himself in abuse against every one, and particularly against his wife, and declared that he would still like to kill her.

In his clinical lectures, DUPUYTREN often mentioned and laid stress upon the "*mauvais moral*" of the man, which, he said, rendered the danger ten times greater. He added, that "*Le malade s'impatientait contre tous les remèdes, était très impérieux, et donnait un négatif direct aux prescriptions.*" The first three days he was obliged in consequence to put him in a strait waistcoat; and, at the end of that time, he begged to have one hand left at liberty, to take snuff, which was granted. He instantly tore away the dressings, and was again confined. He was brought to the hospital on 14th, and died on 29th November.

On the morning of the 1st December, the cavities of the thorax and abdomen were opened, but the head was left untouched. When, on the evening of that day, the brain

was given in to Dr SPURZHEIM, as I knew that one of the élèves from the Hôtel Dieu attended his course, my first impression was that this must be the brain of the suicide; but, upon looking at it for a moment, I observed to a friend beside me, that it could not be the same; for the head of the suicide seemed to be a small one, whereas this brain was a large one. But I soon perceived the cause of the apparent difference. During his illness, the patient lay always on his back, with the occiput sunk in the pillow, leaving the forehead alone visible; and, as he could not be disturbed during all that time, we saw nothing more than the front. But, on examining the brain before us, the anterior lobes, or those which lie under the frontal bone, and which we saw, were found to be in reality *very small*; while the posterior, which were covered with the pillow, were, as already mentioned, very large. It was the large development of the posterior portion which gave the appearance of size to the whole brain*.

If any one, with the view of ascertaining the appearances of the convolutions, will carefully examine a variety of brains, I believe he will not afterwards be disposed to assert, that there is really so little difference among them as he would be led to expect from Dr BARCLAY'S statement. Before my attention was directed particularly to this subject, although I had then seen many brains, I would have been disposed implicitly to assent to his opinion. But, after carefully comparing a great number, with the view of satisfying my own mind, I perceived the characteristic differences pointed out by Dr SPURZHEIM, to which I had

* A notice of this case appeared in my Brother's "Essays on Phrenology;" but the letter from which it was taken, having been written for his private information, and not intended for publication, it was necessarily imperfect. The account here given is translated from notes taken at the time, of what I either saw or heard from the individuals themselves.

not previously attended. It is stated, for example, that the anterior lobe of the brain uniformly presents convolutions different in appearance, direction, and size, from those of the middle lobe; while the latter, towards the coronal surface, uniformly presents convolutions differing in appearance and direction from those of the posterior lobe; and, above all, that the cerebellum, or organ of *amativeness*, is not only widely different in structure, but is separated by a strong membrane from all other organs, and can never be mistaken for any of them. Dr BARCLAY sometimes accuses the phrenologists of using their *oculi interni*, instead of their external senses; but these differences in the appearance of the different parts of the brain, have been pointed out to so many individuals in the dissections given along with my Brother's Lectures on Phrenology, that their existence cannot easily be denied. Indeed the careful inspection of a few brains will soon satisfy any one, that such differences actually exist in the different parts of the brain, which, joined to the fact of the development of no one of these parts bearing any relation ~~whatever~~ to the development of the others, would lead us to infer that each had a distinct function, even although we had not the analogy of other parts of the nervous system to support us. Has it not, as already mentioned, been lately proved by Mr C. BELL and MAGENDIE, that nerves, which, from their similarity of appearance, had for ages been regarded as possessing similar functions, in point of fact, had functions totally distinct and different?

When Dr BARCLAY says, that "on seeing an eye, an ear, a nostril, a hand, or a tongue, no anatomist requires to be informed what these are, where they were situated, or how they were connected, to be able to say in what functions it had been employed," and that "their marked peculiarities speak for themselves," he appears to overlook the fact, that it is only in consequence of prior observations that

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the anatomist does not require to be so informed. The uses of these parts were not discovered by intuition, nor by a process of reasoning upon the mere presentment of the object; for no man who saw an eye, an ear, or a nostril, for the first time (supposing it were possible for a man to be so situated) could, merely by looking at it, infer its function. In proof of this, I am much mistaken if Dr BARCLAY himself, on merely seeing an isolated branch of any of the cervical nerves, for example, or of the fifth or ninth pair, for the first, or even for the tenth time, could inform us "where they had been situated," or "how connected," or "in what functions employed," or if he could point out any "marked peculiarities which would speak for themselves;" and yet these parts are admitted to perform different functions.

But Dr BARCLAY's argument fails in another respect, that there is one at least of the phrenological organs which it is impossible to mistake in any situation. I allude to the cerebellum, which is as easily recognised as an eye or an ear, by him who has seen it once. And, if the brain lay as much open to observation as the hand, the eye, or the ear, I have no doubt that the differences which characterize its different parts, and the function which each performs, would have been discovered long ago. But the cases are widely different: for, even the anatomist, who confines his attention to his own science, has but few opportunities of minutely inspecting the brain; and, having hitherto had no particular motive for doing so, these opportunities were not, in every instance, embraced. The phrenologist, then, in endeavouring to discover the functions of the different parts of the brain, by the observation of the relations existing between these parts and particular mental faculties, is only following the same course which proved to us that the eye was the organ of sight, the liver the secreter of the bile, or

the kidneys the secreters of the urine. And, by a close adherence to observation, he hopes at last to be able to pronounce as certainly upon the functions of the component parts of the brain, as he is now able to do upon those of the parts alluded to. Dr BARCLAY proceeds:

" Perhaps this circumstance may be adduced as one of the reasons why these organs have remained in concealment for so many ages; and yet this reason is scarcely admissible, considering especially, that these organs are never *found at the base of the cranium*, nor in any place *where they cannot at all times be easily seen*; nay, it appears that they so affect conspicuous situations, and so prone are they to obtrude themselves on the notice of the senses, that there is not any visible part on the crown of the head, on the frontal bone, on the occiput, or the temples, where, according to phrenologists, they do not exhibit, even through the hardest and the thickest skulls, undeniable proofs of their actual presence. Is it, then, in order to be always within the sphere of physiognomic and phrenological investigation, that they equally avoid the central parts of the cerebral substance? But, if always thus confined to the surface, and to the convolutions, for the sake of being seen, what becomes of the *corpus callosum*, the *septum lucidum*, the *fornix*, the *infundibulum*, the *two commissures*, the *corpora striata*, the *corpora quadrigemina*, the *pineal gland*, the *cornua ammonis*, and the *four ventricles*? Are these to be excluded from the number of organs, and not to be permitted to have any influence on the propensities?" &c.

The whole of this paragraph affords ample proof, if such were necessary, of what I advanced at the beginning of this paper, viz. that Dr BARCLAY uniformly writes under the impression, that the doctrines of Phrenology are the mere invention of Drs GALL and SPURZHEIM, and that they, and not Nature, have assigned particular functions to particular parts of the brain, and that it is therefore unnecessary to inquire whether the facts stated by them are true or false.

So far from refusing to examine any new truth which is alleged to have been discovered, on the ground that a *part cannot be true*, until the *whole* is made known, I would be inclined to put more faith in the veracity of the discoverer, for not having claimed too much. In like manner, I regard the fact of Drs GALL and SPURZHEIM not having assigned

functions to parts which are inaccessible to observation during life, in so far as it goes, as an irrefragable proof of their good faith and sincerity, since, by confining their attention to the observation of what is visible to all, they lay themselves completely open to refutation, if their observations are in the least erroneous; whereas, if the whole science were a mere invention of their fancies, no portion of the brain could be conceived more appropriate, or better fitted, for the purpose of being divided into imaginary organs, than those very parts alluded to by Dr BARCLAY, because, being hid from our view, neither he nor any other person could have had it in his power to verify or refute, from experience, the functions assigned them. If Dr BARCLAY had kept in mind, that Dr GALL discovered the functions of the brain, by comparing the development of its particular parts with the natural dispositions and talents of individuals, he would have seen the impossibility of assigning functions to parts, of the development of which he had no means of judging, during life; so much so, that had Dr GALL assigned particular functions to every part, whether hidden or exposed, then I conceive Dr BARCLAY would have been perfectly justified in concluding, that Phrenology was a mere fiction or theory of its founder, which he endeavoured to establish, by appealing to such experience as "bends and accommodates itself" to his views. So much, then, for the proneness of the organs "to obtrude themselves on the notice of the senses." As, from Dr BARCLAY's statement, however, one might be led to suppose, that the phrenologists *deny* the existence of any organs of mental faculties at the base of the brain, it may be proper to observe, that, in their writings, they expressly mention their belief of the connection of some mental powers with these parts, although, from their position in the living subject, no decisive observations have yet been made to determine their nature and number.

NOR is Dr BARCLAY altogether correct when he says, that there is no visible part on the crown of the head,—on the frontal bone,—on the occiput, or the temples, where these organs do not exhibit themselves; or when he says, that they are always confined to the surface, and avoid the central parts. For even in the latest phrenological plates and casts of the head, published in this country, a blank space is perceptible between the organs marked 16. and 33., the function of which has been but lately discovered; and the latest publications state, that the functions of No. 3. are still undetermined. It might be unnecessary to notice this fact, did not Dr BARCLAY's statement lead to the idea, that all the organs and faculties were marked out as they now stand from the very beginning, instead of being successively discovered, as mentioned in the preliminary dissertation. As to the organs being confined to the surface, Dr SPURZHEIM expressly and repeatedly mentions, and gives his reasons for believing, that they extend from the pyramidal bundles of the medulla oblongata, to the external surface of the convolutions; and he cautions his readers against falling into the common mistake, of supposing them confined to the surface. He, consequently, proposes estimating the length of the fibre, by that of a line drawn from the opening of the ear to the circumference in the direction of the organ, as the ear is found to be very nearly on a line with the upper part of the medulla oblongata. Dr SPURZHEIM, too, very justly remarks, that even if the organs *were* confined to the convolutions, and the energy of any mental faculty depended on their size; that *fact* would remain entirely unaffected by our ignorance of the functions of the central parts.

Farther, even supposing that we were entirely ignorant of the uses of the *corpus callosum*, &c. the inference which Dr BARCLAY wishes to be deduced, that we must there-

fore be ignorant of the functions of all the other parts of the brain, appears to be singularly illogical, as will be still more apparent, by the application of such a principle to the other organs of the body. Would Dr BARCLAY, for example, consent to be held ignorant of the uses of the lungs, because he, in common with other anatomists, remains ignorant of those of the mesenteric or thymus glands? Would he consent to be held ignorant of the use of the optic nerves, because he is ignorant of the functions of the ganglia of the sympathetic? Most assuredly not. Then, why refuse to receive or examine the discovery of the functions of certain parts of the brain, on the plea that we still remain ignorant of those of some other parts?

Even supposing the inference, that we must be ignorant in whole, because we are ignorant in part, to be strictly logical, I fear that we must weaken Dr BARCLAY's premises, by diminishing the number of the high sounding and formidable-looking, but really little things, upon which that extraordinary argument is founded. We begin by subtracting the *infundibulum*, and *four* ventricles, which, being mere *holes* or *cavities* in the brain, and not substances, cannot consistently be called organs of mental faculties, by any one who has even the most superficial acquaintance with the first principles of Phrenology. No one who had the slightest idea of the new system, could possibly express his surprise at *cavities* or *holes* not being received into the number of cerebral organs, destined for the operations of the mental faculties, "Nous ne cherchons pas les fonctions particulieres du cerveau *dans le vide*, mais *dans les organes eux-memes*," said GALL and SPURZHEIM on a similar occasion*. Of the four *corpora quadrigemina*, two are known and admitted to be the origin of

* Recherches sur le Systeme Nerveux, &c. p. 165.

the optic nerves; but the uses of the inferior two, each as large as a small bean, are still unknown. The *corpora striata* appear to constitute a part of the organs themselves, as the fibres forming the latter run through, and are increased by, and in proportion to, the grey matter contained in these bodies. The phrenologists, however, having no means of making any physiological observations on the uses of the other parts, viz. the *corpus callosum*, &c. are obliged as yet to content themselves with what information can be derived from an anatomical investigation of their structure. An outline of this information may be given from an unbiased authority, that of the French anatomist CLOQUET, whose work is in the hands of every student.

At p. 549. of his "Anatomie Descriptive," he says, "We have just seen how the hemispheres of the brain are formed by the diverging fibres; but *all the parts of each of these hemispheres* are put in communication with the analogous parts of the other hemisphere, by a new order of medullary white and converging fibres, which arise from the grey matter covering the external surface of the convolutions, and constitute *different commissures*. It is these we now proceed to study." He then describes as the first of these the *corpus callosum*, of which he tells us, p. 551, that the *cornu ammonis* is merely a reflected portion. CUVIER also speaks of one hemisphere "uniting with that of the opposite side by one or more commissures or bundles of transverse fibres, of which the most considerable takes the name of *corpus callosum*." *Revue Encyclopedique*, Nov. 1822, p. 258. As to the *septum lucidum*, CLOQUET describes it as formed by the fibres of the *corpus callosum*, which turn downwards at the *raphé*, and "the *fornix* is formed by the converging fibres of the posterior convolutions of the middle lobe;" and in this account he is supported by most of the French anatomists of the present day, whose au-

thority, from the facilities which they enjoy of procuring fresh brains, and the use they have made of them, cannot easily be called in question.

The phrenologists, in common with other anatomists, give their reasons for believing these parts to belong to the system of commissures, without attempting to explain how they act; and not having sufficient data, they neither profess "to exclude" the former from the "number of organs," nor attempt to explain what "influence they may have on "the propensities or sentiments." It may, however, be worth while to state, that the *pineal gland*, the *inferior corpora quadrigemina*, and *septum lucidum*, with the *fornix* and *cornu ammonis* to boot, would with difficulty fill up little more than a *cubic inch* of space; so that if the public judge of their importance by the length of their names, the estimate will be a very erroneous one.

The next quotation which we shall give, affords another example of Dr BARCLAY'S excessive liking for analogies, which, however, owing to a much greater facility which he possesses of perceiving resemblances than of distinguishing differences, are too often vague, inconclusive, and inapplicable. He says, "Another question also occurs, how does it happen, that these organs (*i. e.* cerebral organs), seem to be destitute of muscular action? One should imagine, that those faculties of which they are the residence would, beside deliberative organs, require corresponding executive organs, to bring their intentions, their resolutions, or their suggestions, when it is requisite, into visible operation. But where, it may be asked, are these corresponding executive organs? To this question no answer has been given; and should it be said that the muscles of the face, of the head, neck, trunk and extremities, may, by varying their infinite number of powers and of combinations, be sufficient for all executive purposes, will not such an answer lead to the conjecture, that a small number of parts in the brain may, by similar combinations, suffice for all the species of propensities, the species of sentiments, and the several faculties of knowledge and reflection? That State, he continues, certainly is not much to be envied, where there are more to advise than to listen, and more to command than are willing to obey. In all well regulated fleets and armies," &c.

In answer to the first question, I confess, I cannot see what need the brain has of *muscular action*, on the supposition of its being a congeries of several organs, any more than on that of its being in itself a single organ. If Dr BARCLAY could shew, that, as a single organ, it *has* muscular action, and that it loses it as a compound one, then his question would be quite to the point. The answer to the second question is, that, in truth, the muscles of the head, neck, trunk and extremities, act the part of the executive organs; because, without them, the mind is incapable of acting upon the external world. In this instance, therefore, and for the first time, Dr BARCLAY's analogy holds good, without his being aware that it does so. The "deliberative bodies," which ought to be *few* in number, amount in the phrenological system to betwixt thirty and forty faculties; and the executive, which he infers ought to be much more numerous, are so in reality;—they include all the muscles of voluntary motion, amounting to upwards of 220 *pairs*, the bones, ligaments and cartilages, all of which are obviously essential to the performance of any act prompted by the will. Here, then, to use Dr BARCLAY's own words, there are evidently *few* to *advise* and *many* to *listen*, *few* to *command* and *many* to *obey*.

Having now examined in detail, the whole of Dr BARCLAY's objections, and shewn, that they are not supported by a single fact, observation, sound argument, or correct analogy, I may, with propriety, proceed to make a few general observations on the respective merits of the theory of unity, and of the phrenological view of a plurality of mental organs. Dr BARCLAY, indeed, does not very distinctly announce any theory of his own, concerning the organs of the mind; but as he evidently admits the existence of some organic medium, while he argues against the notion of the organs being several, it seems a fair inference to suppose,

that he espouses the idea of unity as the more philosophical of the two. The proper way to attain conviction of the truth of either, is carefully to examine Nature, and compare the result; but as Dr BARCLAY seems to have an aversion to this mode of enquiry, I shall at present follow more closely his own method, and proceed to consider what presumptive evidence may be drawn from sound analogies in favour of either side of the question. I do this chiefly in deference to Dr BARCLAY, who appears unwilling to repeat our observations for himself; and, therefore, has recourse to argument, founded on analogies, in order to disprove their accuracy. If Phrenology, however, has a real foundation in Nature, all sound arguments and correct analogies ought to coincide with and support it; and, therefore, we have no reason to fear the one mode of investigation more than the other. We prefer the method of observation simply because it leads to demonstration; whereas the other at best leads only to probability.

To ascertain, then, in the way alluded to, as far as possible, whether it is Dr BARCLAY himself or the phrenologists, who have really been guilty "of forsaking Nature," and "of taking their model from art," I propose to apply his view and that of the phrenologists to such phenomena of mind as are universally admitted, in order to discover which of the two best accords with and explains them. This line of argument is fair to both; for, as Nature must ever be consistent with herself, and as the two views are so opposite in themselves that the same facts cannot tally equally with both, we may fairly presume, that the one which appears best to harmonize with and explain these facts regarding the mind, will be the true one.

First, Then, it is an undisputed truth, that the various mental powers of man appear in succession, and as a ge-

neral rule, that the reflecting or reasoning faculties are those which arrive latest at perfection. In the child, the powers of observing the existence and qualities of external objects, arrive much sooner at their maturity than the reasoning faculties. Daily observation shews, that the brain undergoes a corresponding change; whereas we have no evidence that the immaterial principle varies in its powers from year to year. If the brain, as a whole, is the organ of the mind, this successive development of faculties is utterly at variance with what we should expect *a priori*; because, if the general organ is fitted for manifesting with success one mental faculty, it, one should think, ought to be equally so for the operation of all, which we see is not the case. The phrenologist, who observes different faculties to depend for the means of manifesting themselves on different parts of the brain, has no difficulty in reconciling and explaining the fact by his system; for one of these parts may be prematurely, and another lately, developed, accompanied with a corresponding development of faculty. Observation, indeed, shews, that different parts of the brain are really developed at different periods of life. In infancy, according to CHAUSSIER, the cerebellum forms one-fifteenth of the encephalic mass; and in adult age, from one-sixth to one-eighth, its size being thus in strict accordance with the energy of the propensity of which it is the organ. In childhood, the middle and lower part of the forehead generally predominates; in later life, the upper lateral parts become more prominent, which facts also are in strict accordance with the periods of unfolding of the knowing and reasoning powers.

2d, Genius is almost always partial, which it ought not to be, if the organ of the mind were single. A genius for poetry, for mechanics, for music, or for mathematics, sometimes appears at a very early age in individuals, who, in

regard to all other pursuits, are mere ordinary men, and who, with every effort, can never attain to any thing above mediocrity. If Dr BARCLAY believes that these results may depend on some difference of the immaterial principle, then he must suppose the latter to undergo a change, which is generally reckoned inconsistent with its nature.

3dly, The phenomena of dreaming are at variance with the supposition of the mind manifesting all its faculties by means of a single organ, while they are quite consistent with, and explicable by, that of a plurality of organs. In dreaming, the mind experiences numerous vivid emotions, such as those of fear, joy, affection, arising, succeeding one another, and departing without controul from the intellectual powers;—or, it is filled with a thousand varied conceptions, sometimes connected and rational, but more frequently disjointed and absurd,—and all differing widely from the waking operations of the mind, in wanting harmony, consistency, and sense. These phenomena harmonize remarkably with the notion of a variety of faculties and organs, some of which being active, would communicate these ideas and feelings which constitute a dream, while others remaining asleep, would, by their inactivity, permit that disordered action which characterise the pictures formed by the fancy during sleep.

In some individuals, of whom CONDILLAC was one, certain faculties act with greater energy during sleep than awake, because attention is not then distracted by the activity of the other powers. Were the organ of mind single, it is clear that all the faculties should be asleep or awake to the same extent at the same time; or, in other words, that no such thing as dreaming could take place. Somnambulism, although in itself a species of dreaming, affords a still stronger illustration. In that state one or more of the external, as well as internal, senses are awake, while

the others are dormant. In this instance we *see* that the organs asleep and awake are different, as when a person walks with his eyes shut; but let us suppose that they were as much hidden as the brain, would any man infer from the phenomena that sight, smell, taste, and voluntary motion, could be exercised by one and the same organ, when he finds all of them in different states and degrees of intensity in one individual at the same time? Never. Then, on what principle does any one draw a different inference from similar phenomena, when the internal faculties and organs are in question?

At present, however, it is chiefly to the admitted phenomena of what are called Partial Idiocy and Partial Insanity, that I am anxious to direct your attention; because these states of the mind are so plainly and strongly in contradiction with the notion of a single organ of mind, that PINEL himself, no friend to Phrenology, asks if their phenomena can be reconciled to such a conception.

Partial Idiocy is that state in which an individual manifests one or several powers of the mind with an ordinary degree of energy, while he is deprived to a greater or less extent of the power of manifesting all the others. PINEL, HASLAM, RUSH, ESQUIROL, and, in short, every writer on insanity, speaks of the partial development of certain mental powers in idiots; and RUSH in particular not only alludes to the powers of intellect, but also to the partial possession of the moral faculties. Some idiots, he observes, are as remarkable for correct moral feelings as some great geniuses are for the reverse. In his *Traité du Goitre et de la Crétinisme*, FODERE' thus speaks, p. 133., "It is remarked, that, by an *inexplicable singularity*, some of these individuals (cretins) endowed with so weak minds, are born with a particular talent for copying paintings, for rhyming, or for music. I have known several who

“taught themselves to play passably on the organ and
 “harpsichord; others who understood, without ever having
 “had a master, the repairing of watches, and the construc-
 “tion of some pieces of mechanism.” He adds, that these
 powers could not be attributed to the intellect, for “these
 “individuals not only could not read books which treated
 “of the principles of mechanics, but *ils etaient deroutés*
 “*lorsqu'on en parlait et ne se perfectionnaient jamais.*” It
 must be observed also, that these unfortunate individuals
 differ very much in the *kind* as well as quantity of mental
 power possessed. For example, an instance is given by
 PINEL, of an idiot girl who manifested a most wonderful
 propensity to imitate whatever she heard or saw, but who
 displayed no other intellectual faculty in a perceptible de-
 gree, and never attached an idea to the sound she uttered.
 Dr RUSH particularises one man who was remarkable for his
 religious feelings, although exceedingly deficient in intellec-
 tual power, and other moral sentiments; and among the cre-
 tins, many are to be found who scarcely manifest any other
 faculty of the mind except that of Amativeness. The above
 quotation from FODERE' also illustrates this fact. One is
 all kindness and good nature, another quarrelsome and mis-
 chievous. One has a lively perception of harmony in
 music, while another has none.

It ought also to be observed, that the characteristic fea-
 tures of each particular case are strictly permanent. The
 idiot, who to-day manifests the faculty of tune, the feel-
 ing of benevolence, of veneration, or of self-esteem, will not
 to-morrow, nor in a year, change the nature of his predo-
 minant manifestations. Were the deficiency of the single
 organ the cause of idiocy, these phenomena ought not to ap-
 pear; for the general organ being able to manifest one
 faculty, ought, according to the circumstances in which the
 individual is placed, to be equally able to manifest all

others, whose activity may be required, and thus the character of the idiocy ought to change with every passing event, which it never does. FODERE' calls these "inexplicable singularities," and, no doubt, on his and Dr BARCLAY's theory they truly are so. To the phrenologist, however, they offer no difficulty, for they are in perfect harmony with *his* views. Satisfied from observation that each mental faculty manifests itself through the medium of a separate organ, it is as easy and natural for him to conceive that one of these organs may be defective from birth, accompanied with a corresponding deficiency in the power of manifesting the faculty with which it is connected, as to conceive that the organ of an external sense, that of hearing, for instance, may be imperfect from birth, while those of sight, taste, smell, and touch, may either be unimpaired, or may be impaired to a less degree. The difference in the *kind* of powers manifested in cases of partial idiocy, between the capacity for mechanics, for instance, and the sentiment of veneration, self-esteem, or benevolence, is as great as between the sensations excited by the perception of a sound, a taste, or a smell. To infer, therefore, that one organ serves for the manifestation of all these faculties, is really much the same in point of logic, as if we were to suppose all the external senses to communicate with the mind through the medium of only one nerve, in spite of the facts of many individuals being blind who are not deaf, or deaf and still able to see and smell.

Although partial idiots manifest one or more faculties more powerfully than others, yet they seldom or never manifest any with the energy of a sound mind. Consequently, according to the phrenological system, we ought, in such cases, generally, to find the brain defective in size. Now, PINEL, and many other opponents, inform us, that this is precisely the case; and in the course of my own ob-

servations, both on the Continent and in this country, I have found the same fact to hold good in a considerable number of cases. It does not always occur, because, although small size is a frequent cause of idiocy, it is by no means the only one. I may farther mention, that phrenologists, by *actual observation*, have found in idiots those parts of the brain most fully developed, which corresponded to the organs of the faculties most strongly manifested by them; and observation also, has, in some instances, shewn the entire absence of those convolutions which form a part of the organs of certain faculties, in which they were deficient. Indeed, by comparing the brains and mental manifestations of some idiots with those of healthy individuals, the conviction of a plurality of organs is almost forced upon the mind, by the evident and distinctive characteristics of each. In the collection of the Society, there is a cast of the brain of an idiot girl, in which no trace of certain convolutions, which, in the ordinary state, indicate the development of the organs of *causality*, can be perceived; while others are distinctly recognisable. I have also seen in the possession of Dr SPURZHEIM, a cast of a brain, in which the organs of *veneration* were wanting, and a deep hollow existed in the corresponding situation.

We come now to the consideration of Partial Insanity, or that state in which one or more faculties of the mind are diseased, without affecting the integrity of the remainder. This state, which is also known by the name of *Monomania*, appears, equally with the former, to exclude the possibility of one organ executing the functions of all the mental faculties; for the argument constantly recurs, that if the organ be sufficiently sound to manifest one faculty in its perfect state, it ought to be equally capable of manifesting all; which, however, is known to be in direct opposition to fact. Having, in a former paper "On Insanity, as illus-

trated by Phrenology," laid before the Society a great variety of cases connected with the point now under discussion, I shall, on the present occasion, confine myself to the statement of a very few instances, merely in illustration of the proposition.

Of *folie raisonnante* PINEL thus speaks:—"Hospitals for the insane are never without some example of mania marked by acts of extravagance, or even of fury, with a kind of judgment preserved in all its integrity, if we judge of it by the conversation; the lunatic gives the most just and precise answers to the questions of the curious; no incoherence of ideas is discernible; he reads and writes letters as if his understanding were perfectly sound; and yet, by a singular contrast, he tears in pieces his clothes, and bed-covers, and always finds some plausible reason to justify his wandering, and his fury. This sort of mania is *so far from rare*, that the vulgar name of *folie raisonnante* has been given to it." Page 93.—A very striking instance of furious mania, with integrity of intellect, will be found, quoted from PINEL, in the Preliminary Dissertation, and which it is unnecessary for me to repeat. I shall, however, add another equally interesting case, from the same author. "On ne peut concevoir la nature d'une certaine aliénation, qui est comme un mélange de raison et d'extravagance, de discernement, et d'un vrai délire, *objets qui semblent s'exclure réciproquement*." "One lunatic," he continues, "whose malady is of seven years' standing, is perfectly aware of his state, and forms as sound a judgment of it as if it were a thing which did not immediately concern himself. He tries to make efforts to free himself from it: but, on the other hand, he is convinced that it is incurable. If any one remarks the incoherence in his ideas in his talking, he readily acknowledges it; but answers, that this inclination overpowers him so much, that he cannot but submit. He adds, that he does not guarantee the soundness of the judgments which he forms, but that it is not in his power to rectify them. His understanding is much more altered in another respect, that he believes himself above all ordinary rules; and he thinks, that if he once resolved to approximate to other men in his conduct, he must begin by doing most extraordinary things, from which the greatest evils and even atrocities would result to himself. He believes, for example, that if he wiped his nose, that organ would remain in his handkerchief; that if he shaved himself, he must, of neces-

sity, cut his throat, and that at the first attempt to walk, his legs would break like glass. He sometimes subjects himself to rigorous abstinence, for several days, under the impression, that if he took aliments, they would suffocate him. What are we to think of an aberration of intellect so regular and so singular?"—Page 94.

I may, for the sake of illustration, mention an instance of religious melancholy, which I saw, when attending ESQUIROL'S very interesting practice, at the Salpêtrière of Paris. It was that of a woman, who believed herself possessed of the devil, and devoted to hell-fire. No arguments, however forcible, could afford her any consolation, by shewing the error under which she laboured. She sat absorbed in melancholy at the prospect of future misery. If her attention, however, was called to any other subject, she talked not only with perfect soundness, but *with more than ordinary acuteness*; whenever any allusion was made to that single point, she became incoherent and agitated. ESQUIROL mentioned in his lectures a remarkable instance of the integrity of intellect, in a similar case. After endeavouring, by argument, to convince the patient of her mistake, she answered calmly, "*Je vous entends très bien, je comprends vos raisonnemens; mais si j'étais convaincue, je serais guérie.*"

Nothing is more common than to see patients diseased so far as to believe themselves kings, princes, generals, or even the Deity himself, and yet act and talk rationally and consistently, if their new dignity is not disputed. Some shew a talent for mechanics, for music, or for poetry, which they never possessed while in health; and yet, in other respects, are evidently insane. RUSH, PERFECT, CRICHTON, PINEL and ESQUIROL, all mention facts of this nature; and I have had an opportunity of seeing them myself. In some instances, from diseased activity of the intellectual faculties, the patient manifests an energy and scope of reasoning

powers, which he never before possessed. PINEL mentions cases of this kind, particularly that of a man, who longed, with impatience, for the accession of the paroxysm; for, during it, every thing appeared easy to him; and he discoursed on the political events of the day with great ease and profoundness. FODERE', in his *Traité du Delire*, has a passage which is worth quoting. "If," says he, "the imagination, for the most part, offers only disjointed sentences, and actions full of extravagance, one is astonished, at other times, with the elevation of ideas, with the propriety of language, with the force of reasoning, with the dignity of carriage, and with the expression of some madmen during the fit, who, in the intervals, however, are but ordinary men."

In some nervous diseases, the patient appears to manifest one or more faculties in perfection, while the others remain inactive. In the *Journal General de Médecine*, vol. xl. p. 155. the case of a young Englishman is related, who "had an attack every other day, during which, although he absolutely saw and heard nothing, as was repeatedly verified by experiment, yet he occupied himself particularly with mathematics, arithmetic, and logarithms, which were his favourite studies. His operations were rapid and just, although they required the most minute attention, and a strict sequence in the combinations. Every day new problems arose, which he resolved for the first time." I had frequent occasion to see a lady who suddenly became insensible from a nervous attack. After several hours she began to shew signs of returning sensibility, and at last began to speak. The first use she made of her tongue, was to give a very correct imitation of the favourite tones and expressions of her most intimate friends, many of whom at that time stood around her, lamenting her early fate, for they believed she was dying.

She was still insensible to any thing that was said to her, but yet imitated so perfectly the voice and expressions of each friend in succession, as to force laughter in the midst of tears. To her friends it was matter of no small astonishment to hear her mimick, as, when in health, she was never known to exhibit that power in any perceptible degree. I was aware, from a previous examination of her development, that she possessed the organ much above an average degree, but other faculties prevented any open manifestation of the power in the form of mimicry. On recovery, she retained no recollection of the exhibition she had made, but appeared to think it possible enough.

It would be easy for me to multiply such instances as these, of the partial affection of the mental faculties; but it is needless to occupy your time with more, and the above are amply sufficient to shew the nature and bearing of such cases. Here, again, the difficulty recurs, of reconciling such facts with the idea of one organ executing all the functions of the mind. How comes that organ to be able to manifest one, but *not all* the faculties? or, How does it happen that these affections retain the same characteristic features throughout? That the patient who labours under religious melancholy, is found the same to-day as yesterday, and will be found the same to-morrow, for a month, or for a year; or how does it happen that a person may be insane, and yet aware of being so? If the single organ were affected, surely all the faculties of mind, of which it is said to be the instrument, ought *in every case* to be equally deranged, and the patient ought to pass in one moment from an abyss of despondency to the abodes of bliss, from the state of listless apathy to that of demoniacal furor. We may be told that this is sometimes found actually to be the case, and no doubt it is so; but it is far more rare than the other state, and is easily explained on the phrenological

principles ; for, in such cases, the whole brain, including, of course, *all* the organs, is diseased. This state, therefore, affords a true picture of the nature of insanity, such as it would *necessarily* be in every instance, if the organ of mind were single. It must strike every one who has been at all in the habit of seeing cases of insanity, or of reading histories of them in books, that there is scarcely a single case to be met with, which is, I do not say explained by, but even consistent with, the division and functions of the faculties assigned by the metaphysicians. PINEL, CRICHTON, and many other very eminent and very philosophical men, have laboured to reconcile some species of insanity to the metaphysical systems, which they had severally adopted ; but, with all their genius, and with all their unwearied industry, they have hitherto laboured in vain. Whereas, not a single instance will be found, which is in contradiction with the principle of a plurality of organs, nor even, as far as I am aware, with the existence of such organs as we consider already ascertained.

Besides the phenomena of idiocy and insanity, there is also another class of facts (to which, however, I shall only allude) equally at variance with the supposition of a single organ of mind, viz. partial injuries of the brain, which are said to have occurred without injury to the mental faculties. Having in a former communication to the Society examined these cases in detail, I need not repeat them, but merely observe, that if every part of the brain is concerned in every mental act, it appears strange that all the processes of thought should be manifested with *equal success*, when a great part of the brain is injured or destroyed, as when its whole structure is sound and entire. If the fact were really as here stated, the brain would form an exception to the general laws of organic structure ; for although a part of the lungs may be sufficient to maintain respiration, or a

part of the stomach to execute digestion, in such a way as to support life, there is no instance in which these functions have been as successfully performed by impaired organs, as they would have been by lungs and stomach in their natural state of health and activity. The phrenologists are reduced to no such strait, to reconcile the occurrence of such cases with their system, for as soon as the principle of a plurality of organs is acknowledged, they admit of an easy and satisfactory explanation.

From the preceding considerations, then, it appears, that any theory, founded upon the notion of a single organ, is uniformly at variance with all that is ascertained to be fact in the philosophy of mind; and that, on the other hand, the phrenological principle of a plurality of organs, while it unsatisfactorily explains *most* of these facts, is consistent with *all* of them. Its truth is thus almost demonstrated, not by far-fetched, or pretended facts, which few can verify, but by facts which, to use Dr BARCLAY's own expression, daily "obtrude themselves upon the notice of the senses." This principle, indeed, bears on the face of it so much greater a degree of probability than the opposite one, as to have long since forced itself on the minds of many inquirers. FODERE' himself, a very zealous opponent of Phrenology, after recapitulating a great many reasons similar to those already mentioned, which had been employed by philosophers antecedent to GALL and SPURZHEIM, for believing in a plurality of mental organs, is constrained to admit, that "this kind of reasoning has been employed '*par la plupart des anatomistes,*' from the time of GALEN down to those of our own day, and even by the great HALLER, '*qui éprouvait le besoin d'assigner une fonction à chaque département du cerveau,*' &c. PINEL also, (in the article "Manie," in the Encyclopedie Methodique,) after relating some cases of partial insanity, asks, "*si tout cet ensemble de faits peut*

“ *se concilier avec l'opinion d'un siège ou d'un principe unique de l'entendement.*” If, then, the majority of anatomists, for the last 2000 years, and such illustrious physiologists as HALLER, and the others above referred to, were led to the belief of a plurality of mental organs, by a perception of the contradiction and inconsistency existing between the phenomena, and the supposition of the whole brain being the single organ of mind, I cannot be far wrong in saying, that the latter notion, although it may be adopted by Dr BARCLAY, so far from being self-evident, appears so improbable as to require even stronger facts to prove it than the phrenological view.

Truth alone can always be consistent. No wonder, then, that Dr BARCLAY, in his zeal to overturn our system, not unfrequently runs counter to his own tenets; for, after telling us that “ the phrenologists, in forming their system, “ seem to have forsaken nature entirely, and to have taken “ their model from art, and from art too in its most rude “ and incipient stages,” he adds, that “ to the observations “ made by phrenologists on the forms of the head, as indicative of the several powers and capacities of the animating principle, if made with sufficient caution and accuracy, and if the relations which they wish to demonstrate can be fairly established upon the broad principles “ of induction, there can be *no rational objection.*” Would it not, then, I beg to ask, have been much more philosophical on the part of Dr BARCLAY, instead of endeavouring to upset the evidence of *facts* by *à priori* reasoning, and inconclusive analogies, to have tried; whether the “ *observations* made by phrenologists on the forms of the “ head as indicative of the several powers, and capacities of the animating principle, *were* fairly established “ upon the broad principles of induction” or not? The phrenologists are well aware, from their own experience,

that no man can form an adequate idea, either of the solidity of foundation, or richness of superstructure of Phrenology, without having gone particularly and carefully over an extensive field of inquiry, and verified the results obtained by the founders of the science. They, therefore, cannot but regret that Dr BARCLAY, a gentleman remarkable for his learning and liberality, should have allowed himself to speak so decidedly on the merits of a subject with which he was obviously very imperfectly acquainted, and still more, that he should have done so, without having a single fact or solid argument to support his objections. They believe, that if he had kept in view the two leading principles; 1st, That dissection alone is insufficient to reveal the functions of an organ; and, 2d, That *consciousness* does not reveal even the existence of the brain, much less the functions of its parts; he would have *felt*, that if he did not chuse to refute by facts the doctrines of Phrenology, the only other way to produce conviction in the minds of such of his readers as were acquainted with that science, was to establish the ordinary theory of unity of organ, by a reference, at least, to such undisputed facts as were inconsistent with the opposite principle of a plurality of organs.

Notwithstanding his never having repeated "the observations made by phrenologists," with a view to ascertain their truth, Dr BARCLAY, in a passage immediately subsequent to the above, proceeds to assure us, that "their supposed organs rest upon a quite different foundation;" and that "not being demonstrable in form or in structure, they must ever remain the mere offspring of a hypothesis; and of a hypothesis, which may be disproved by a *reductio ad absurdum*." Keeping in view that the phrenologists employ the word "organ" to denote any corporeal part, (whatever its form and structure), *which serves as the instrument*, "or is necessary for the due manifes-

"tation of a mental faculty," it is difficult to perceive the consistency between this observation and the preceding. When the phrenologists assert, that a large projection caused by the brain, in the middle of the parietal bones, is indicative of a strong sentiment of caution, the Doctor sees "no rational objection" to the fact being so, and only requires evidence of its truth to believe it. When, however, in conformity with the above meaning, the phrenologists use the phrase "organ of *cautiousness*," to denote the *fact* of that connection between the feeling and the particular part of the brain, which observation has proved to exist, he objects to this, "as a hypothesis which may be disproved "by a *reductio ad absurdum*!" To me it appears a question of very secondary importance, whether the word "organ" is rightly used in this sense or not, since the phrenologists clearly define what they mean by it. If Dr BARCLAY, however, as there is much reason to suppose, applies that term only to parts connected or divided in a particular way from other parts, he is not on that account entitled to transfer his own meaning to the word as used by the phrenologists, and then accuse them of inventing what they had observed to exist in nature.

On perusing Dr BARCLAY'S observations, I at first thought they required no answer, but on reflection I was satisfied, that the authority of his name is justly so great as to induce many, especially of his numerous pupils, to rely implicitly on his judgment, without examining the subject for themselves; and it occurred that respect to him, as well as to the cause of truth, and the interests of our science, rendered it highly proper to prepare an answer to his objections. I was encouraged the more to undertake this duty, from the Doctor's professed respect for the phrenologists, while he opposes their views. He expresses his conviction, "that "they will not be offended at these remarks made upon

“ their system, but will acquiesce in them where they are
 “ just, and where they are otherwise, will be able to refute
 “ them, or be able to shew that he has misapprehended their
 “ meaning ;” from which, and from his well known candour
 and liberality, I conclude, that he will be pleased rather than
 offended with an examination of his opinions. The high
 respect which I have long felt for him, increased by every
 succeeding attendance on his lectures, would have effectually
 deterred me from entering the lists with him in a controversy
 on a question of mere opinion. But as Phrenology is not a
 matter of opinion, but of fact, and one of high importance,
 and as Dr BARCLAY's object and ours must necessarily be
 the same, the discovery of truth,—I have ventured, with
 much deference to his superior abilities and knowledge, to
 submit to the consideration of the Society, such remarks as
 appeared to be necessary, for forming a proper estimate of
 the value of his objections. One acknowledgment the phre-
 nologists owe to Dr BARCLAY, and I sincerely pay it. He
 has displayed a truly manly and independent spirit, in fair-
 ly committing to the press his objections, and publishing
 them with his name; instead of resorting to anonymous
 abuse, which he would be ashamed to acknowledge, as has
 been the practice of many of our opponents. His objections
 have been publicly offered to us for consideration, or refuta-
 tion; and he fairly trusts to the merits of his arguments for
 their success, and invites his reader to decide according to
 the preponderance of reason and of fact. Such conduct
 towards Phrenology is as rare as it is honourable.

