

PHRENOLOGY EXAMINED
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TO THE MEMORY OF DESCARTES

Author's Preface

HAVING been a witness to the progress of phrenology, I was led to the composition of the following treatise. Each succeeding age has a philosophy of its own. The seventeenth century recovered from the philosophy of Descartes; the eighteenth recovered from that of Locke and Condillac: is the nineteenth to recover from that of Gall? This is a really important question. . . .

1. Of Gall. Of his doctrine in general

The great work in which Gall sets forth his doctrine is well known. That work shall serve as the groundwork of my examination. I shall examine in succession each of the questions studied by the author; merely introducing some slight changes in the order in which they are arranged.

The entire doctrine of Gall is contained in two fundamental propositions, of which the first is, that understanding resides exclusively in the brain, and the second, that each particular faculty of the understanding is provided in the brain with an organ proper to itself. Now, of these two propositions, there is certainly nothing new in the first one, and perhaps nothing true in the second one.

Let us commence our examination with the first proposition. I say that in the first proposition, namely, that the brain is the exclusive seat of the understanding, there is nothing new. Gall himself admits this to be the case. "For a long time, says he, "both philosophers and physiologists, as well as physicians, have contended that the brain is the organ of the soul. The opinion that the brain, (as a whole, or such and such parts of the brain considered separately,) is the seat of the soul, is, in fact, as old as learning itself. Descartes placed the soul in the pineal gland, Willis in the corpora & triata, Lapeyronie in the corpus callosum, etc. etc.

As to the more recent authorities, Gall quotes Sœmmerring, who says precisely that, "the brain is the exclusive instrument of all sensation, all thought, and all will," etc. He quotes Haller, who proves (proves is the very expression made use of by Gall himself,) that "sensation does not take place at the point where the object touches the nerve, the point where the impression is made, but in the brain. He might have quoted many other authorities to the same effect. Were not Cabanis's writings anterior to the time of Gall? and did not say, "In order to obtain a just idea of those operations whose result is thought, the brain must be considered as a peculiar organ designed to produce it, just as the stomach and the bowels are designed to produce digestion, the liver to secrete the bile, etc.?" a proposition so extravagant as to become almost ridiculous, but which is in truth the very proposition of Gall himself, except as to some exaggeration in the terms employed.

Antecedently to the time of Gall, both Sœmmerring and Cuvier, in the comparative anatomy of the various classes of animals, had investigated the ratio existing between the development of the encephalon and that of the intellectual power. The following remarkable phrase is from the pen of Cuvier: "The proportion of the brain to the medulla oblongata, a proportion which is greater in man than in all other animals, is a very good index of the perfection of the creature's intelligence! because it is the best index of the preeminence of the organs of reflection above the organs of the

external senses. And this other still more remarkable phrase: "In animals the intelligence appears to be greater in proportion as the volume of the hemispheres is greater."!

Gall, in an especial manner, contends against the assertion of Bichat, who remarks that "The influence of the passions is exerted invariably upon the organic life, and not upon the animal life; all the signs that characterize them are referable to the former and not to the latter Gestures, which are the mute exponents of the sentiments and the understanding, afford a remarkable proof of this truth. When we wish to signify something relative to the memory, the imagination, to our perception, to the judgment, etc. the hand moves involuntarily towards the head: if we wish to express love, joy, grief, or hatred, it is directed towards the region of the heart, the stomach, or the bowels. Doubtless, there is much that might be criticised in the foregoing words of Bichat; nevertheless, to say that the passions expend their influences upon the organic life, is not the same thing as to say that they reside or exist there. Bichat had already remarked, that "Every species of sensation has its center in the brain, for sensation always supposes both impression and perception."! Furthermore, regarding this distinction, (which as yet has not been drawn with sufficient clearness,) between the parts that are the seats of the passions, and the parts that are affected by their action, Gall might have found in Descartes the following remark, which is not less judicious than acute. Although says he, writing to Leroy, "the spirits that move the muscles come from the brain, we must, nevertheless, assign as seats of the passions, the places that are most considerably affected by them; hence, I say, the principal seat of the passions, as far as they relate to the body, is the heart, because it is the bean that is most sensibly affected by them; but their place is in the brain, in as far as they affect the soul, for the soul cannot suffer immediately, otherwise than through the brain."

As I am quoting Descartes, who, I ask, more clearly than Descartes has perceived that the soul can have only a very circumscribed seat in the economy, and that that circumscribed seat is the brain itself?

"We know," says he, "that, properly speaking, it is not inasmuch as the soul is in the members that serve as organs to the exterior senses, that the soul feels, but inasmuch as she is in the brain, where she exercises the faculty denominated common sense."

He elsewhere observes: "Surprise is expressed because I do not recognize any other point of sensation except that which exists in the brain; but all physicians and surgeons will, I hope, assist me in proving this point, for they are aware of the common fact that a person who has been subjected to amputation of a limb, continues to feel pain in a part that he no longer possesses."! Here then, according to Descartes, we find that the soul is situated, that is to say, feels in the brain, and only in the brain. The following passage shows with what precision he excluded even the external senses from any participation with the functions of the soul: "I have shown" says he, "that size» distance, and form are perceived only by the reason; and that, by deducing them the one from the other."

"I cannot agree with the assertion that this error (the error caused by the bent appearance of a stick partly plunged into water,) is not corrected by the understanding but by the touch; for, although the sense in question makes us judge that the stick is straight, yet that cannot correct the error of vision; but furthermore, it is requisite that reason should teach us to confide, in this case, rather to our judgment after touching, than to the judgment that we come to after using our eyes; but this reason cannot be attributed to the sense, but to the understanding alone; and in this very example it is the understanding that corrects the error of the sense."

The brain, then, is the exclusive seat of the soul; and all sensation, even those operations that appear to depend upon the simple external sense, is function of the soul. Gall falls back upon Condillac, who, much less rigorous in this particular than Descartes, says, that "all our faculties proceed from the senses."! But when Condillac speaks thus, he evidently speaks by ellipsis, for he immediately adds these words: "The senses are only occasional causes. They do not feel; it is the soul that alone feels, through the medium of the organs."!

Now, if it be the soul only that feels, *a fortiori* it is the soul only that remember, that judges, that imagines, etc. Memory, judgment, imagination, etc., in a word, all our faculties, are therefore of the soul, and therefore come from the soul, and not from the senses.

There is no philosopher who has exaggerated more than Helvetius the influence of the senses upon the intelligence. But Helvetius says, "In whatsoever manner we interrogate experience, she always answers that any greater or lesser superiority of mind is independent of any greater or lesser perfection of the senses." But I leave Helvetius and Condillac, and I return to Descartes, to Willis, to Lapeyronie, to Haller, Sœmmerring, Cuvier, etc. They all perceived and all asserted that the brain is the seat of the soul, and that it is so to the exclusion of the senses. Therefore, the proposition that the brain is the exclusive seat of the soul is not a new proposition, and hence does not originate with Gall. It belonged to science before it appeared in his Doctrine. The merit of Gall, and it is by no means a slender merit, consists in his having understood better than any of his predecessors the whole of its importance, and in having devoted himself to its demonstration. It existed in science before Gall appeared—it may be said to reign there ever since his appearance. Taking each particular sense, he excluded them all, one after another, from all immediate participation in the functions of the understanding. Far from being developed in the direct ratio of the intellection, most of them are developed in an inverse ratio. Taste and smell are more developed in the quadruped than in man. Sight he very properly distinguishes the senses from the understanding; yet, as will be elsewhere seen, he endows each sense with all the attributes of the understanding. He escapes from error only to fall into another and hearing are more so in the bird than in die quadruped. The brain alone is in all classes developed in the ratio of the understanding. The loss of a sense does not lead to the loss of the intelligence. The understanding survives the loss of sight and hearing. It might survive the loss of all the senses. To interrupt the communication between the sense and the brain, is enough to insure the loss of the sense. The mere compression of the brain, which abolishes the intellection, abolishes all the senses. Far, therefore, from being organs of the intelligence, the organs of the senses are not even organs of the senses, they do not even exercise their functions as organs of the senses, except through the medium of the intelligence, and this intelligence resides only in the brain.

The brain alone, therefore, is the organ of the soul;—is it the whole brain—the brain taken en masse? Gall thought so, and Spurzheim followed Gall's opinion; and all the phrenologists who have come after them have followed the examples of Gall and Spurzheim. Yet, after all, it amounts to nothing. If we deprive an animal of its cerebellum, it loses only its locomotive action. If we deprive it of its tubercula quadrigemina, it loses its sight only; if we destroy its medulla oblongata, it loses its respiratory movements, and in consequence thereof, its life. Neither of these parts, therefore, that is to say, the cerebellum! the tubercula quadrigemina, and the medulla oblongata, is the organ of the understanding.

The brain, properly so called, is so, and it alone. If we remove from an animal the brain, properly so called, or the hemispheres, it immediately loses its understanding, and loses nothing but its understanding!

The brain, en masse, the encephalon, is then a multiple organ; and this multiple organ consists of four particular organs: the cerebellum, the seat of the principle that regulates the movements of locomotion; the tubercula quadrigemina, seats of the principle that regulates the sense of sight; the medulla oblongata, in which resides the principle that determines the respiratory motions; and the brain proper, the seat, and the exclusive seat of the intelligence.

Therefore, when the phrenologists promiscuously place the intellectual and moral faculties in the brain, considered en masse, they deceive themselves. Neither the cerebellum, the quadrigeminal tubercles, nor the medulla oblongata can be regarded as seats of these faculties. All these faculties dwell solely in the brain, properly so called, or the hemispheres.

The question as to the precise seat of the intelligence, has undergone a great change sine the time of Gall. Gall believed that the intelligence was seated indifferently in the whole encephalon, and it has been proved that it resides only in the hemispheres. Further, it is not the encephalon taken en masse that is developed in the ratio of the intelligence of the creature, but the hemispheres. The mammals are the animals most highly endowed with intelligence; they have, other things being equal, the most voluminous hemispheres. Birds are the animals most highly endowed with power of motion; their cerebellum is, other things being equal, the largest. Reptiles are the most torpid and apathetic of animals; they have the smallest brain, etc.

Every thing concurs then to prove, that the encephalon, in mass, is a multiple organ with multiple functions, consisting of different parts, of which some are destined to subserve the locomotive motions! others the motions of the respiration, etc., while one single one, the brain proper, is designed for the purposes of the intellection.

This being conceded, it is evident that the entire brain cannot be divided, as the phrenologists divide it, into a number of small organs, each of which is the seat of a distinct intellectual faculty; for the entire brain does not serve the purposes of what is called the intelligence. The hemispheres alone are the seats of the intellectual power; and consequently, the question as to whether the organ, the seat of the intelligence may be divided into several distinct organs, is a question relative solely to the uses and powers of the hemispheres.

Gall avers, and this is the second fundamental proposition of his doctrine, that the brain is divided into several organs, each one of which lodges a particular faculty of the soul. By the word brain, he understood the whole brain, and he thus deceived himself. Let us reduce the application of his proposition to the hemispheres alone, and we shall see that he has deceived himself again. He has been shown by my late experiments, that we may cut away, either in front) or behind, or above, or on one side, a very considerable slice of the hemisphere of the brain, without destroying the intelligence. Hence it appears, that quite a restricted portion of the hemispheres may suffice for the purposes of intellection in an animal.

On the other hand, in proportion as these reductions by slicing away the hemispheres are continued, the intelligence becomes enfeebled, and grows gradually less; and certain limits being passed, is wholly extinguished. Hence it appears, that the cerebral hemispheres concur, by their whole mass, in the foil and entire exercise of the intelligence! As soon as one sensation is lost, all sensation is lost; when one faculty disappears, all the faculties disappear. There are not, therefore, different seats for the different faculties, nor for the different sensations. The faculty of feeling, of judging, of willing any thing, resides in the same place as the faculty of feeling, judging, or willing any other thing, and consequently this faculty, essentially a unit, resides essentially in a single organ.

The understanding is, therefore, a unit.

According to Gall, there are as many particular kinds of intellect as there are distinct faculties of the mind. According to him, each faculty has its perception, its memory, its judgment, will, etc., that is to Bay, all the attributes of the understanding, properly so called,! From what I have now said, it clearly follows that the aperceptive faculty, the faculty of reminiscence, and that of all the intellectual faculties, says he, "are endowed with the perceptive faculty, with attention, recollection, memory, judgment, and imagination."

Thus each faculty perceives, remembers, judges, imagines, compares, creates; but these are trifles—for each faculty reasons. "Whenever," says Gall, "a faculty compares and judges of the relations of analogous or different ideas, there is an act of comparison, there is an act of judgment: a sequence of comparisons and judgments constitutes reasoning," etc. Therefore, each and every faculty is an understanding by itself, and Gall says so expressly. "There are," says he, "as many different kinds of intellect or understanding as memory are nothing but attributes common to all the fundamental faculties. All that I have just said, is also applicable to the judgment and the imagination. The fentiracnta and the propensities also have their judgment, their imagination, their recollection, and their memory. There are distinct faculties. "Each distinct faculty says he, further, "is intellect or understanding—each individual intelligence (the words are precise) has its proper organ." But, admitting all these kinds of intellects, all these individual understandings, where are we to seek for the General Intelligence, the understanding, properly so called? It must, as you may please, be either an attribute of each faculty, or the collective expression of all the faculties, or even the mere simple result of their common and simultaneous action; in one word, it cannot be that positive and single faculty which we understand, conceive of, and feel in ourselves, when we pronounce the word soul or understanding. "The intellectual faculty and all its subdivisions, such as perception, recollection, memory, judgment, imagination, etc. are not fundamental faculties but merely general attributes of them."

Now here is the sum and the substance of Gall's psychology. For the understanding, essentially a unit faculty, he substitutes a multitude of little understandings or faculties, distinct and isolate. And, as these faculties, which perform just as he wills them to do—which he multiplies according to his pleasure, seem in his eyes to explain certain phenomena which are not well explained by the lights of ordinary philosophy, he triumphs!

He does not perceive that an explanation, which is word? merely, adapts itself to any and to every thing. In the time of Malebranche, every thing was explained by animal spirits; Barthez explained every thing by his vital principle, etc. "This," says Gall, "explains how the same man may possess a judgment that is ready and mire as to certain objects, while it is imbecile as to certain others; how he may have the liveliest and most fruitful imagination upon some subjects, while it is cold and sterile upon others. "Grant," says he, further, "to the animals certain fundamental faculties, and you have the dog that follows the chase with passion; the weasel that strangles the poultry with rage; the nightingale that sings with fervor beside his mate, etc. No doubt of it. But what sort of philosophy is that, that thinks to explain a fact by a word? You observe such or such a penchant in an animal, such or such a taste or talent in a man; presto, a particular faculty is produced for each one of these peculiarities, and you suppose the whole matter to be settled. You deceive yourself if your faculty is only a word, —it is the name of the fact,—and all the difficulty remains just where it was before.

Besides, you speak only of the facts that you suppose yourself able to explain; you say nothing of those that you render by your system wholly inexplicable. You say not one word as to the unity of the understanding, the unity of the me, or you deny it. But the unity of the understanding, the unity of the me, is a fact of the conscious sense, and a» conscious sense is more powerful than all the philosophies together.

Gall is always talking about observation, and he was indeed, as an observer, full of ingenuity. But, in order to follow out an observation, it must be traced to the very end, and we must accept all that it yields to our research; and observation every where gives, and shows every where, and above all things else, the unity of the understanding, the unity of the me.

Gall's philosophy consists only in transmuting into a particular understanding each separate mode of the understanding, properly so called. Descartes had already said, "There are in us as many faculties as there are truths to be known. But I do not think that any useful application can be made of this way of thinking; and it seems to me rather more likely to be mischievous, by giving to the ignorant occasion for imagining an equal number of little entities in the soul.

It may well be supposed that Gall, who in the word understanding sees nothing but an abstract word, expressive of the sum of our intellectual faculties, would also, in the word will perceive nothing more than an abstract word, expressing the sum of our moral faculties. "I find in myself," says Descartes, some faculties of thought, that have each their own way. Whence I conclude, they are distinct from me, at modes are distinct from things."

He had given a definition of reason: "The result of the simultaneous action of all the intellectual faculties." In the same way he defined will to be "the result of the simultaneous action of the superior intellectual faculties."! But Gall always deceives himself; for reason and will are not results—they are powers, and primary powers of thought.

Gall, in a manner equally singular, defines moral liberty or free will. "Moral liberty," says he, "is nothing more than the faculty of being determined, and of determining under motive." Not so! Liberty is precisely the power to determine against all motive. Locke well defined liberty as power: to be determined, is to allow one's self to be determined—that is, to obey.

Gall says again, "Unlimited liberty supposes not only that man governs himself independently of all law, but that he is the creator of his own nature. Not at all; it supposes that he may have choice—and in fact he does choose.

Lastly, Gall says, "A phenomenon such as that of absolute liberty, would be a phenomenon occurring without any cause what ever." Why without cause? The cause is in the power of choosing—and this power is a fact. Gall's whole doctrine is one series of errors, which press upon each other cumulatively. He resolves that the part of the brain in which the understanding resides shall "be divided, into many small organs, distinct from each other"; a physiological error. He decries the unity of the understanding, and looks upon the will and the reason as mere results—psychological errors. In the free will he perceives merely a compulsory determination, and consequently a mere result—this is a moral error. Man's liberty is a positive faculty, and not the simple passive result of the preponderance of one motive over another motive, of one organ over another organ. Reason, will, liberty, are therefore, not as far Gall's doctrine, positive faculties, active powers; or rather, they are the understanding itself. Reason, will, liberty, are in fact the understanding, as conceiving, willing, choosing, or deliberating. The consciousness which feels itself to be one, feels itself free. And you will remark, that these two great facts given out by the inward

sense, the consciousness, to wit, the unity of the understanding and the positive power of the free will, are precisely the two first facts denied by the philosophy of Gall.

And take good care to observe further, that if there be in us any thing that belongs to the consciousness, it is evidently and par excellence the sense of our personal unity; or what is more, the consciousness of our moral liberty.

Man is a moral force, only inasmuch as he is a free force. Any philosophy that attempts the liberty of man, attempts, without knowing it, morals itself. Man then is free, and as he is a moral agent only in proportion as he is free, it would seem that his liberty is the only attribute of his soul from which Providence has designed to remove all the boundaries.

"What is here very remarkable," says Descartes, " is that, of all within me, there is not one thing so perfect or so great, but that I know it might be greater and more perfect Thus, for example, if I consider my faculty of conceiving, I find it of very small extent, and very limited. If, in the same manner, I examine the memory, the imagination, or any other one of my faculties, I find not one that is not very limited and very small. Within me there is only my will or my liberty of free will, which I feel to be so great that I conceive not the idea of another more full and of greater extent.