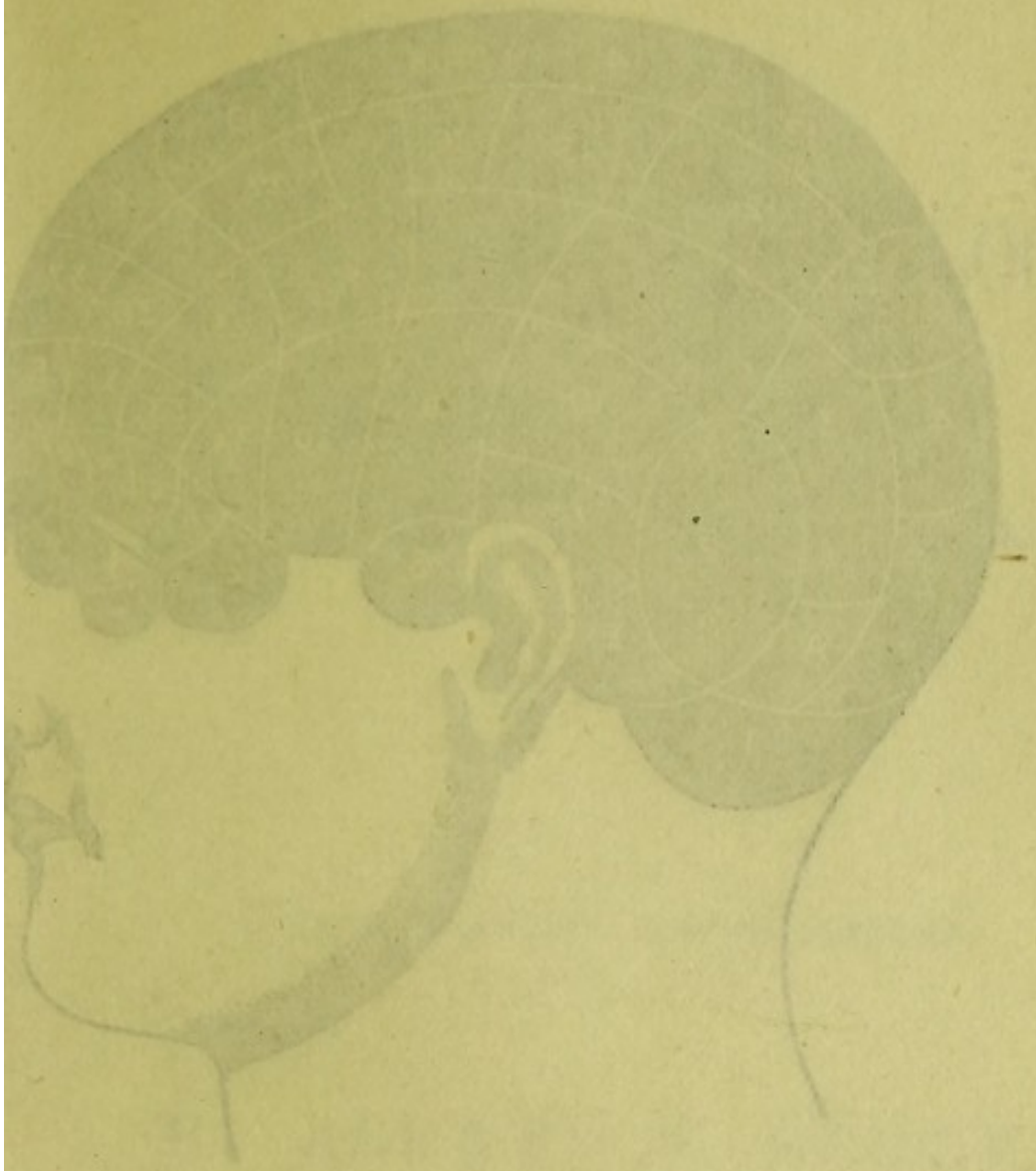
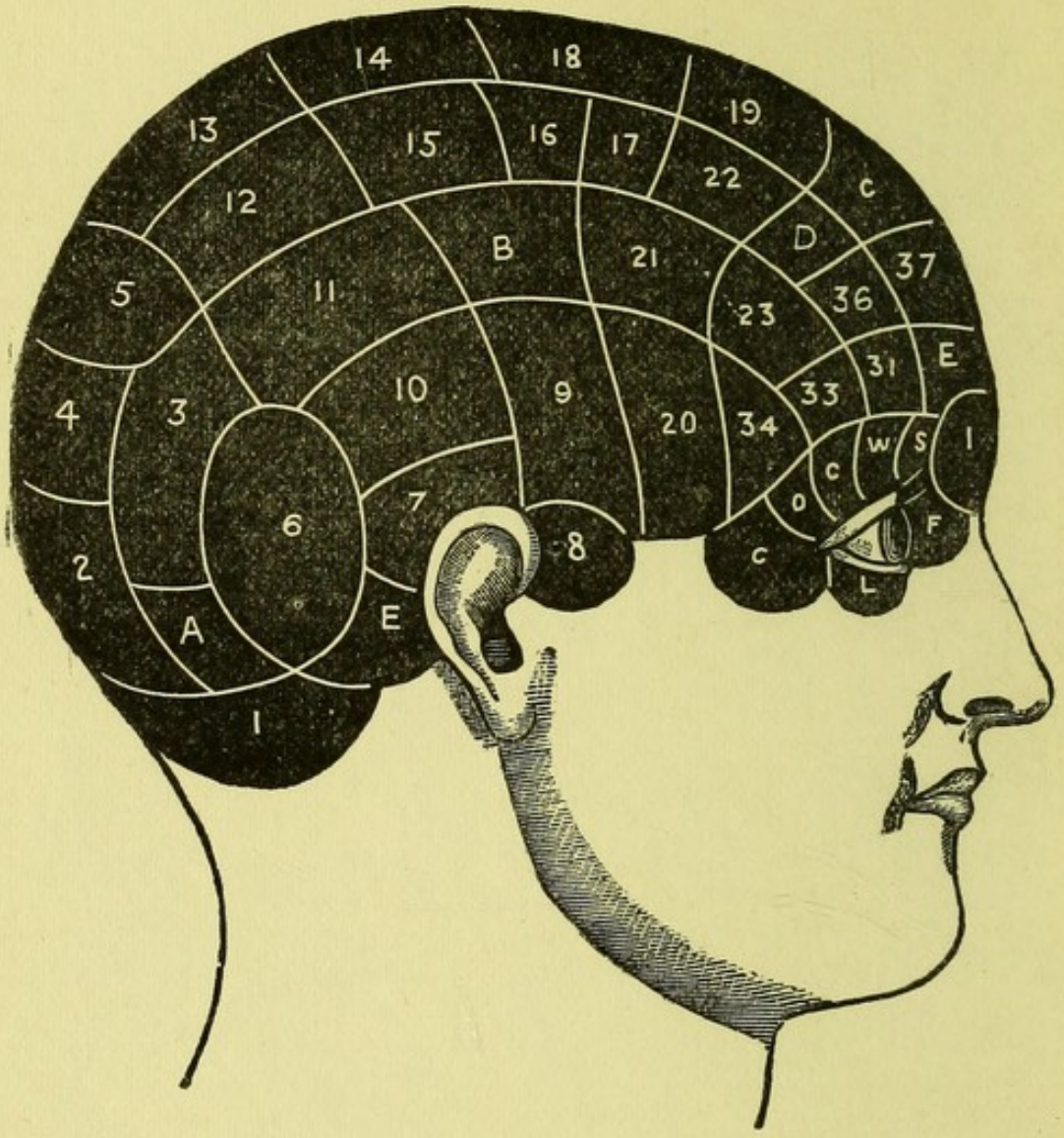
A manual of phrenology : designed for the use of teachers, students, and others / by Alfred T. Story.

MANUAL OF PHRENOLOGY.





NAMES OF THE ORGANS.

1. Amativenesss.
A. Conjugality.
2. Parental Love.
3. Friendship.
4. Inhabitiveness.
5. Continuity.
E. Vitativeness.
6. Combativeness.
7. Destructiveness.
8. Alimentiveness.
9. Acquisitiveness.
10. Secretiveness.
11. Cautiousness.
12. Approbativeness.
13. Self-Esteem.
14. Firmness.
15. Conscientiousness.
16. Hope.
17. Spirituality.
18. Veneration.
19. Benevolence.
20. Constructiveness.
21. Ideality.
B. Sublimity.
22. Imitation.
23. Mirthfulness.
24 (I). Individuality.
25 (F). Form.
26 (S). Size.
27 (W). Weight.
28 (C). Colour.
29 (O). Order.
30 (C). Calculation.
31. Locality.
32. Eventuality.
33. Time.
34. Tune.
35 (L). Language.
36. Causality.
37. Comparison.
C. Intuition.
D. Agreeableness.

A

MANUAL OF PHRENOLOGY,

DESIGNED FOR

THE USE OF TEACHERS, STUDENTS,

AND OTHERS.

WITH NUMEROUS ILLUSTRATIONS.

BY ALFRED T. STORY,

Editor of the "Phrenological Magazine."

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PREFACE.

I HAVE had the opportunity of reading the proof-sheets of "A Manual of Phrenology," and therefore of forming an opinion of it. For what it is designed to be — a Phrenological Primer for those who are interested in the study of the human mind—it is all that could be desired. Written in a clear and concise style, and presenting the truths of the Science of Phrenology in the form best calculated to impress those who have newly taken up the study, it cannot but be read with interest and profit. It is, indeed, better adapted to beginners in the investigation of Psychology than a larger and more comprehensive work would be, enabling, as it does, the reader to take in the leading principles and facts of the science at a grasp, and without confusion.

The illustrations are well-selected, and will materially aid the student to become familiar

with the location of the organs, as well as their definition.

The latest and most advanced ideas connected with the science are embodied in its pages, as well as some results of the author's own experience in the investigation of Phrenology, which render the work not only well adapted to the young and uninitiated reader, but also to the more advanced student.

L. N. FOWLER.

CONTENTS.

CHAPTER I.

INTRODUCTION.

In giving this little treatise on Phrenology to the public, it may be well to review briefly the rise and progress of the science. Phrenology (derived from the Greek words, *φρην*, mind, and *λογος*, discourse) professes to be a system of mental philosophy based on the physiology of the brain. But it professes also to be something more than this—to be, in short, a physiognomical system, whereby, judging from the contour of the head, as shaped by the brain, character and disposition may be read. Its founder, Dr. Gall, first brought the subject into public notice in the year 1796, though it was almost unheard of beyond the confines of the Continent until nearly twenty years later. Like other discoverers of new and startling truths, Dr. Gall met with violent opposition, although his system was based on observation and experiment. His most inveterate opponents were found among those who had been educated in the belief in a different system of mental philosophy, and who were therefore disinclined to give up notions that had become, as it were, a part of their intellectual endowment. But there were others whose opposition arose from a

feeling that the new doctrine made the philosophy of mind altogether too simple a matter. There appears still to be some such notion in the blind antagonism to phrenology which is so often manifested at the present day among scientific and pseudo-scientific men. One of the latter class not long ago confessed that if phrenology were true, "mind could no longer be regarded as a mystery." That seems to be his chief concern—lest the mind should come to be understood. And yet to unravel somewhat the mystery that enshrouds the mind and its action has been the aim and effort of generation after generation of philosophers and thinkers. They have perceived that, to understand man aright, and to rightly develop his nature and point his destiny, they must arrive at a true perception of the principles of his being. How they have laboured, and what progress they have made, it is for the history of philosophy to say; but to the majority of mankind the true philosophy of mind has yet to be discovered.

It is hardly possible to over-estimate the importance of a true system of the mind. Man, if considered merely as the highest of living beings, ought to interest every reflecting mind. As, moreover, says Dr. Spurzheim (whose name is so intimately associated with that of Dr. Gall in the history of phrenological science), we ourselves belong to this species of being, it must be of the utmost importance to all to know its nature. To the Greeks, who were the most practical of all ancient peoples, self-knowledge seemed the highest kind of know-

ledge, and on their chief temple they inscribed the precept, "Know Thyself."

We must know ourselves in order to know others; and until we know others, we cannot influence and direct them aright, either as guardians and teachers, or as legislators. "All institutions," says Spurzheim, "must be calculated upon a knowledge of human nature, otherwise they cannot be permanent." Mr. Herbert Spencer recognises the same truth in his "Principles of Sociology."

Reflecting men in all ages, indeed, have deemed the study of man especially worthy of attention, considering that his proper development and happiness depend on a right understanding of his nature. They have inquired into his structure and powers; they have tried to analyse his various faculties; and they have invented systems to account for his actions; sometimes, in despair of finding nearer causes, having recourse to astral, demoniacal, and other theories in explanation of his conduct and abilities. But if the dabblers in occult science have failed utterly to throw any light on the nature of man, the labours of the metaphysicians have not been rewarded with much more success. One system of mental philosophy has followed another in quick succession, but has added little to the sum of our knowledge of the mind.

The causes of failure are not far to seek. The metaphysician studies the mind for the most part by reflecting on his own consciousness. He turns his attention inwards, observes the phenomena of his own faculties, and records them as metaphysical

science. The imperfection of this method of investigation accounts for the contradictory representation of the human mind given by different thinkers.

According to some ancient philosophers, and chiefly Plato, all ideas are innate, and only excited by the external senses. Aristotle, however, the great pupil of the latter, differed from his master in regard to the nature of ideas, claiming that they are impressions made on the mind through the medium of the external senses. According to this view the mind of a child is like a clean waxen tablet, or a sheet of blank paper, and the perfect manifestation of the intellectual faculties depend on the perfection of the external senses. For centuries the upholders of these rival theories formed themselves into hostile camps, and carried on an intellectual strife under the banners of their respective leaders. Since the times of Bacon and Locke, however, the majority of philosophical systems rest upon the teachings of Aristotle, though there is a class of philosophers who maintain that the mind acts independently of all organisation, and that the senses are impediments to, rather than instruments of, action.

During the latter half of the eighteenth century a school of philosophical thinkers arose, chiefly in Scotland, who founded their systems upon common sense, and admitted some of the principle emotions and sentiments, such as love, fear, and hatred, justice, veneration, and admiration, as primitive faculties or impulses of the mind. They strongly opposed the so-called "sceptical" views—then so

widely prevalent—of the German metaphysical school, at the head of which stands the name of Kant, who advanced the theory that "All our knowledge begins with sense, proceeds thence to understanding, and ends with reason, beyond which nothing higher can be discovered in the human mind for elaborating the matter of intuition and subjecting it to the highest unity of thought."

George Combe, who was one of the first in Great Britain to take up, investigate, and teach the phrenological doctrine, which he learned from Dr. Spurzheim, says, referring to the efforts of the above-mentioned common-sense philosophers: "From the days of Aristotle to the present time, the most powerful intellects have been directed with the most persevering industry to this department of science; and system after system has flourished, fallen and been forgotten in rapid and melancholy succession. To confine ourselves to modern times, Dr. Reid overturned the philosophy of Locke and Hume. Mr. Stewart, while he illustrated Reid, yet differed from him in many important particulars; and recently Dr. Thos. Brown has attacked, with powerful eloquence and philosophical profundity, the fabric of Stewart, which already totters to its fall. The very existence of the most common and familiar faculties of the mind is debated among these philosophers. Mr. Stewart maintains Attention to be a faculty; but this is denied by Dr. Brown. Others, again, state Imagination to be a primitive power of mind, while Mr. Stewart informs us that 'What we call the power of imagination is

not the gift of nature, but the result of acquired habits aided by favourable circumstances.' Common observation informs us that a taste for music, and a genius for poetry and painting, are gifts of nature bestowed only on a few; but Mr. Stewart, by dint of his philosophy, has discovered that these powers, and also a genius for mathematics, 'are gradually formed by particular habits of study or business.' On the other hand, he treats of Perception, Conception, and Memory, as original powers; while Dr. Thomas Brown denies their title to that appellation. Reid, Stewart, and Brown admit the existence of moral emotions; but Hobbes, Mandeville, Paley, and many others resolve the sentiments of right and wrong into a regard to our own good, perception of utility, and obedience to the Divine command."

Such is a fair specimen of the way in which metaphysicians and others have been stumbling and groping about in their vain endeavours to arrive at a philosophy of mind. They disdained to take the simple facts of nature as their guide, and so were led into endless labyrinths of theory and speculation; and even now, when patient observation and critical analysis has placed an array of facts before them, indicating the basis whereon a true system of mental philosophy must be founded, they still turn away with something like supercilious indifference. Still it is a hopeful sign to see a new school arising, which recognises that biological and physiological data are of importance in the study of man, and that there must be a phrenological science, even though it has

not yet been discovered. Mr. Herbert Spencer, though he thinks the "hypothesis of a localisation of faculties" "quite indefensible under the form given to it by phrenologists," yet acknowledges that "whoever calmly considers the question cannot long resist the conviction that different parts of the cerebrum must, in some way or other, subserve different kinds of mental action."

Perhaps in the course of another twenty or twenty-five years these closet philosophers will begin to perceive that, even under its present form, phrenology is not quite so indefensible as they would make it appear. It is now, as Lewes acknowledges, the only system of psychology "which counts any considerable mass of adherents," and the number increases yearly. As, moreover, these adherents are to be found chiefly among the intelligent middle classes, who are accustomed to look at things from a practical utilitarian point of view, it may be taken for granted that the science has fully established itself in their minds as a system that can be beneficially applied to the great question of human happiness and human development, which is, after all, the only crucial test of a system of mental philosophy.

CHAPTER II.

GENERAL PRINCIPLES OF PHRENOLOGY.

Of the mind itself we do not know enough to affirm anything positively. According to some it is a spiritual entity, having nothing in common with what we understand as matter. Dr. Maudsley and others regard the mind as "the highest development of force, to whose existence all the lower natural forces are indispensably prerequisite." Into this disputed point it is not necessary to enter here. Phrenology starts by affirming that the brain is the organ of the mind, or, in other words, that it is the function of the brain to manifest mind; but it does not affirm that the force or effect we call mind is generated by the brain. Neither does it aver the contrary. It is for the biologist to say, if he can, what life and mind are. Phrenology merely asserts that there is no manifestation of mind save through brain.

For a long time, in consequence of the erroneous notions of many philosophers, such as Locke, Hume, Reid, Stewart, and others, a prejudice arose against the study of man physiologically, as if the mind were degraded by our contemplating it in connexion with matter. But seeing that all we know of mind

is what we see of it as manifested through matter, it is difficult to perceive how we can study it except in connexion with that through which it is manifested.

We know of no exhibition of mind except by means of nerve-substance. All the instincts, propensities, sentiments, and intellectual faculties, all the affections and passions, all the characteristics of humanity, are manifested through the nervous system, and through it alone. Hence we must acknowledge that without the physiology of the nervous system there can be neither a correct psychology nor any true system of mental philosophy. The mind itself has no consciousness of organs. All that consciousness reveals is that the mind inhabits the head; but it does not inform us what material substances the head contains. It was therefore no more possible for the metaphysician to discover the organs of the mind by his method of procedure than for the philosopher to evolve the true system of the universe out of his own consciousness. That could only be done by observing and gradually accumulating facts, and from them reasoning out one law after another. So it must be in regard to mind. Patient observation and inference can alone lead us to a correct system of philosophy of the human mind.

In laying claim to having laid the foundation of such a system, phrenology does not put forth unreasonable pretentions. It does not pretend to have perfected anything; it simply professes, by observation and analysis, to have arrived at certain facts,

and to have drawn certain legitimate conclusions therefrom. It confesses that there is yet much to be learned—that those who have laboured in its investigation have, like a seeker in another line of study, simply picked a few pebbles upon the sea-shore, while the ocean of truth lies vast and unfathomed beyond.

There are probably few at the present time who deny that the brain is the organ of the mind; though there was a time, and that not long past, when philosophers and scientists believed that the mind had its seat in the stomach, the heart, and other viscera. Anatomy, however, has proved beyond doubt that it is the function of the brain to evolve mind. By means employed by the anatomist, "we arrive," says Mr. Huxley, "at the remarkable result that the brain is the seat of all sensation and mental action, and the primary source of all voluntary muscular contraction;" and there is probably no physiologist of any repute but takes this view.

The phrenologist, however, goes further than this, and affirms that the brain is composed of a congeries of parts or organs, each having its special function, and that these functions are to manifest the separate mental faculties. There are those who believe that the brain, as a whole, is the source of mentality as a whole; or, in other words, that there are no separate cerebral centres for the production of distinct mental acts. Analogy, however, would lead us to look for an opposite state of things. Different bodily functions are never performed by the same organ, but each function has an organ to

itself, as that of breathing, the lungs; that of seeing, the eyes; hearing, the ears, and so on. Even where the function is compound, as in the tongue, where feeling, taste, and motion are combined, we find a separate nerve for each function. The same differentiation of function and organ occurs in the eye, where one form of nerve has to do with the transmission of light, and another with the transmission of colour.

There are a multitude of facts which, independently of the discoveries of phrenology, point to the existence of a plurality of primary mental faculties. No one will deny that the various mental powers appear in succession, and that, as a general rule, the reflective or reasoning faculties are those which arrive latest at maturity. Some mental qualities appear strongly in childhood and youth, while others do not manifest themselves until years later. Then there is the greatest possible difference in the mental endowments of children, for which education and training will not account. For instance, some children show an innate talent for arithmetic, while others with the greatest difficulty learn to use the multiplication table; some evince the most remarkable faculty for music, whereas others, after years of training, can hardly distinguish one tune from another. The vagaries of genius afford other instances in point. Great geniuses are almost always as remarkable for their weakness in some directions as for their strength in others, which would not be if the organ of the mind were single.

The same truth is pointed to by the peculiarities

of idiocy. It is a fact beyond dispute that idiots frequently develop striking aptitudes in special directions, while totally incapable of manifesting the slightest intelligence in others. Some remarkable instances of the kind are recorded in the *Phrenological Magazine* for February, 1880, and many more cases might be given. Observations on the insane afford other proofs. Some mentally alienated persons are as sane on general subjects as the majority of people, and they may be talked to for hours without their exhibiting the slightest sign of weakness; but touch the right chord, and it is soon visible what "mars the music." Could this be if the brain as a whole manifested mentality as a whole?

So we might go on, and give fact after fact pointing to the conclusion that the brain is made up of a multiple of organs for the manifestation of the manifold faculties of which the mind is composed, sufficient, one would think, to convince any reasonable mind. Physiologists, however, have denied that such is the case with the utmost persistency; although the more recent physiological researches bring the science nearer and nearer into accord with the so-called "assumptions" of the phrenologists. They prove beyond doubt that special portions of the brain are allocated to certain functions, and if this is the case in one instance, why not in others?

Another fundamental principle of phrenology is that size—other things being equal—is a measure of power; in other words, that, when the conditions

are the same, the larger a brain is, the more powerful it will be; and, as a natural corollary, that the larger the portion of brain concerned in the manifestation of a given power of mind, the stronger will be that manifestation. The fact that a marked deficiency of brain invariably accompanies a low degree of mental power is a matter of general observation. In the lowest class of idiots the circumference of the head, above the ears, measures from 12 to 13 inches; in a full-sized head the measurement is from 22 to 22½ inches. The same difference is manifest in the relative measurements of the head from the root of the nose to the occipital spine. The brains of savage or barbarous races are smaller than those of the civilised. The head of a bushwoman, says Schmidt, normally efficient after the manner of her tribe, amounted to 2lb. 4oz., while that of Cuvier weighed 4lb. 4oz. The average of the Caucasian brain is about 3lb. 4oz.

The same rule obtains in the lower ranks of the animal kingdom—each individual and species ranks in the scale of creation according to the ratio of brain-development. Desmoulins and Magendie stated that in numerous examinations of the brains of almost every genus of mammalia, they found a nearly constant relation between the extent of surface presented by the brain in each genus and the amount of intelligence displayed by it. Later observers have verified this statement. Professor Graves, of Dublin, says: "We find that exactly in proportion as the encephalic portion of the nervous system is developed in the vertebrated animals, we

can trace the appearance of new faculties, which, few and obscure in the lower species, become, as we ascend, more and more distinct, until we arrive at man, in whom the brain attains a degree of pre-eminence sufficient to place him far above all other species of mammalia."

It is often urged as an objection to phrenology, that some animals with large brains have less intelligence than others which have small ones. The objection, however, instead of telling against the science, is an argument in its favour, for the simple reason that it depends upon the part where the brain chiefly lies what form mental manifestation will take. An animal, like a man, may have a large mass of brain, and yet not manifest much intelligence; but both will exhibit power in one form or another. If the basilar regions of the brain predominate, there will be a preponderate exhibition of the lower instincts and propensities. Those animals that live by preying upon others have more brain between the ears than those that simply eat vegetable products, as the sheep, the ox, and the zebra. In other words, the organ of Destructiveness is larger in the carnivora than in the graminivora.

In like manner the character of men is in accordance with the proportional development of the different regions of the brain, and the organs of which they are composed. What is true of the brain as a whole is true of its parts. The greater the size of an organ, the stronger will be the faculty manifested through it, and *vice versâ*. In other words,

the size of an organ is its measure of power, other conditions being the same. This fact is exemplified by the eye and the other organs of the external senses. The visual organs of those birds that are endowed with extraordinary sight, as the falconidæ, are developed to an unusual extent. The surface of the retina, which is merely an expansion of the optic nerve, is increased in eagles and vultures, and others of the same order, by being thrown into folds; while in animals of ordinary sight there is no such arrangement. A similar difference is manifest between the size of the olfactory nerves in those animals that are noted for their keen sense of smell and those not so characterised.

In regarding size as a measure of power, however, it is necessary to take into account a number of other things, without which it is impossible to arrive at a just estimate of mental power. Some of these conditions will be treated of in the next chapter.

CHAPTER III.

BODILY CONDITIONS AS INFLUENCING MENTAL MANIFESTATIONS.

The influence of the body on the mind is of so much weight that it cannot be overlooked in treating of the subject of psychology. Those influences are generally spoken of under the head of Temperament, although what is generally understood by that term does not include all those bodily states or conditions which affect mental action.

Temperament may be defined as the condition of constitution resulting from the predominance of one or other parts or functions of the organisation. The ancients divided the temperaments into three: the sanguine, the phlegmatic, and the melancholic—based on the relative preponderance of the various "humours" of the body. This division did not recognise the influence of brain and nerve, and therefore Gall and Spurzheim made a classification which has largely prevailed, among phrenologists especially, to the present day. They recognised four temperaments: the Lymphatic, the Sanguine, the Bilious, and the Nervous; and described persons as of one or the other, according as the stomach, the lungs, the liver, or the brain were predominant in power. This classification, although generally

correct and valuable, has been largely superseded by one based on a clearer perception of physiological principles, which regards the body as composed of three distinct systems of organs—namely, the Motive or Mechanical system, the Vital or Nutritive system, and the Mental or Nervous system—and derives the temperaments accordingly.

Fig. 1. HUGHES CAPET. Motive Temperament.

The Motive Temperament is determined by the bony framework of the body, modified by the muscular fibres and cellular tissues which overlay it. It constitutes the mechanical and locomotive apparatus, and its influence on character will be readily perceived when it is understood that it confers power of constitution and strength of character and feeling, combined with a predilection for restless activity. The characteristic of restless-

ness is more particularly an accompaniment of what may be called the muscular type of the motive temperament—that is, where muscle predominates over bone. A large development of the mere bony framework often predisposes to extreme lethargy. It takes a great deal to fully rouse persons so constituted; but when they are thoroughly started they are excessively energetic, driving everything before them. Men of this type are frequently very awkward and cumbersome in their movements. Where, however, there is more harmony between the development of bone and muscle the utmost grace and agility are generally combined with great strength.

The influence of this temperament is to give strength, power, and efficiency to thought, feeling, and emotion, at times not uncombined with harshness and coarseness, especially where the other temperaments are less potential. Individuals with this form of constitution predominant are generally thoroughgoing, strongly marked in character as in form and feature, and not unfrequently idiosyncratic. It communicates a certain ruggedness of thought and massiveness of character to the individual possessed of it that is given by no other temperamental condition. Mr. Gladstone is a good type of this temperament, united with a large development of the Nervous or Mental. Livingstone affords another good specimen of the same combination.

The Vital Temperament is dependent on the predominance of those functions of the system

which chiefly contribute to the nourishment of the body. They consist of those performed by the organs contained in the two great cavities of the trunk—namely, the thorax and the abdomen. In the former are the heart and lungs, on which depend the functions of respiration and circulation; in the latter, those organs that are chiefly concerned in the absorption and assimilation of nutriment.

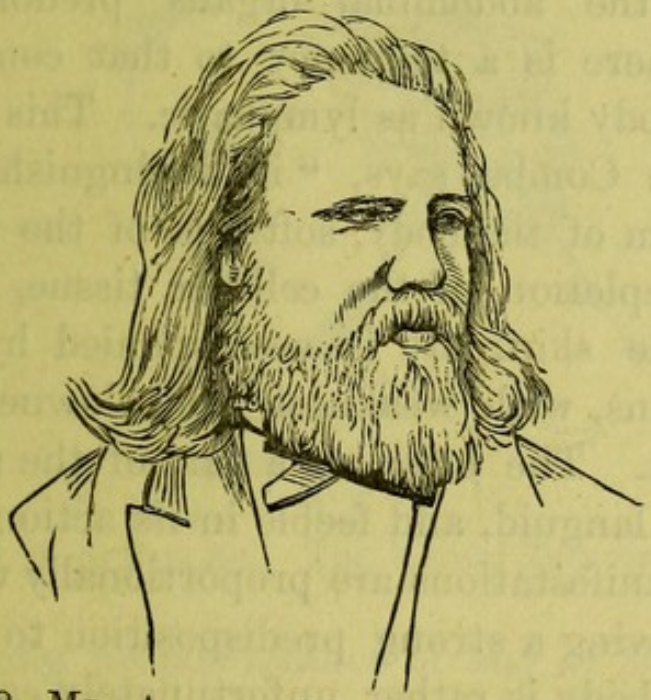


Fig. 2. Mr. A——. The Vital Temperament.

The thoracic organs, when largely developed, give that constitutional bias which, in the old classification of temperaments, was designated the Sanguine, and which Combe describes as "indicated by well-defined forms, moderate plumpness of person, tolerable firmness of flesh, light hair inclining to chestnut, blue eyes, and fair complexion, with ruddiness of countenance. It is marked by great activity of the blood-vessels, fondness for exercise, and an animated countenance. The

brain partakes of the general state, and is active." Persons with a marked degree of this temperamental condition are generally possessed of a good deal of vivacity and sprightliness; their feelings are easily aroused; and, from the ardour and impulsiveness of their disposition, they are liable to be carried to excess in the indulgence of their propensities.

When the abdominal organs predominate in activity there is a tendency to that condition or habit of body known as lymphatic. This temperament, Mr. Combe says, "is distinguishable by a round form of the body, softness of the muscular system, repletion of the cellular tissue, fair hair, and a pale skin. It is accompanied by languid vital actions, with weakness and slowness in the circulation. The brain, as a part of the system, is also slow, languid, and feeble in its action, and the mental manifestations are proportionally weak." A person having a strong predisposition to this condition of body is rather unfortunately constituted, as it is not only a disqualification for vigorous mental labour, but very liable to result in disease, from the indifference to physical activity to which it gives rise, combined with a strong leaning to the pleasures of the table.

The Nervous or Mental Temperament is determined by a predominance of brain and nerve over the other constituents of the system. It is characterised by a frame relatively slight, and a head relatively large, "by fine, thin hair, thin skin, small, thin muscles, quickness in muscular motion, pale-

ness of countenance, and often delicate health." Add to this that the expression of the face is animated and full of intelligence, and the picture of a pure mental temperament is complete. Persons so constituted are refined and sensitive in feeling, clear and vivid in thought and conception, and intense in their mental operations generally.

Fig. 3. SCHILLER. The Mental Temperament.

A strong preponderance of any of the temperaments is not conducive to mental balance or harmony of character. An equable development of the various conditions which go to make up what we call the temperaments is better in every way, being more helpful to uniformity of power, to health, and consequently to happiness.

In judging of the influence of body on brain, several other conditions need to be taken into account, as, for instance, quality of organisation, health, culture, &c., all of which have a decided and important influence on the mind.

CHAPTER IV.

THE BRAIN AND THE SKULL.

A DESCRIPTION of the brain, though not indispensable to a proper comprehension of phrenology, will be found advantageous to the student. The brain is a complex organ, consisting of several parts, the hindermost of which is called the *medulla oblongata*, and is generally recognised as the medium of communication between the brain and the body. It passes insensibly into the spinal cord, which, in its lower part, it is like in structure. Above, however, it widens out, and the central canal, spreading out, becomes a broad cavity, termed the *fourth ventricle*. Overhanging this ventricle is the great laminated mass of the cerebellum. On each side this organ sends down several layers of transverse fibres, which cross the brain and meet in the middle line of its base, forming a kind of bridge in front of the medulla oblongata. It is called the *Pons Varolii*. The longitudinal nerve fibres of the medulla oblongata pass forwards, among and between those layers of transverse fibres, and become visible in front of the Pons Varolii, as two broad diverging bundles called *crura cerebri*. Above the latter lies

a mass of nervous matter raised up into four hemispherical elevations, termed *corpora quadrigemina*. Between these and the crura cerebri is a narrow passage leading from the fourth ventricle into what is termed the third ventricle of the brain. This is a narrow cavity between two great masses of nervous matter called *optic thalami*, into which the crura cerebri pass.

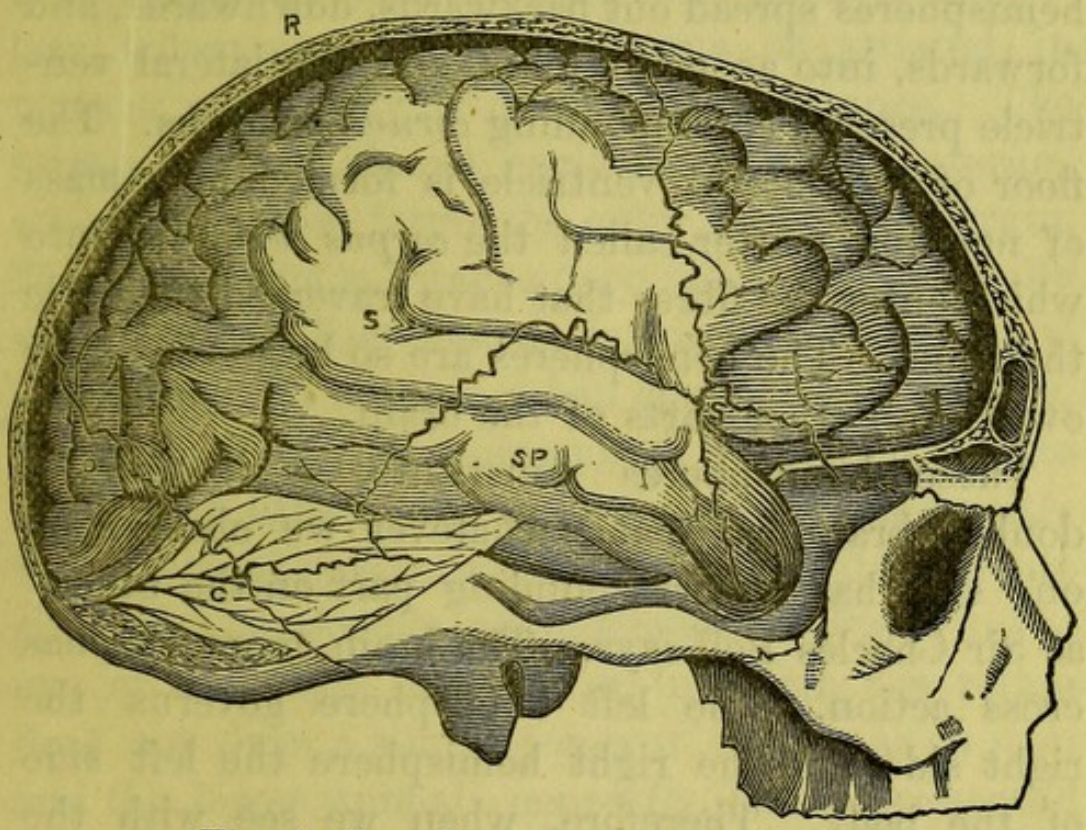


Fig. 4. THE BRAIN AND THE SKULL.

C, the Cerebellum ; O, the Occipital Region ; S, the Fissure of Silvius ; R, the Fissure of Rolando ; SP, the Temporal Region. The zigzag lines mark the course of the cranial sutures in relation to the brain.

The roof of the third ventricle is merely membranous, and a peculiar organ, called the *pineal gland*, whose function is a mystery, is connected with it. The floor of the third ventricle is shaped

into a sort of funnel, which terminates in another organ of unknown function, the *pituitary body*.

The third ventricle is closed in front by a thin layer of nervous matter; but, behind this, on each side, there is an opening in the boundary wall of the ventricle leading into a large cavity known as the lateral ventricle, which has prolongations into each hemisphere of the cerebrum, or large brain. The hemispheres spread out backwards, downwards, and forwards, into as many lobes, and the lateral ventricle presents corresponding *cornua* or horns. The floor of the lateral ventricle is formed by a mass of nervous matter called the *corpus striatum*, into which enter the fibres that have traversed the optic thalamus. The hemispheres are so large they they overlap all other parts of the brain.

These hemispheres constitute, as it were, a double brain, so that "whatever we observe on one side has a corresponding part on the other," as Sir Charles Bell says. The brain, moreover, has cross action. The left hemisphere governs the right side, and the right hemisphere the left side of the body. Therefore, when we see with the right eye we see with the left side of the brain, and when we see with the left eye we see with the right side of the brain. Another curious and exceedingly important fact is that though an animal be rendered blind by the destruction of the sight convolution on one side, its blindness is only temporary. Very soon the other hemisphere can take up the function, and then vision is possible with both eyes as before. Total blindness only ensues when

there is disorganisation of the same part in both hemispheres.* This accounts for many peculiar cases that have puzzled anatomists, and have been brought forward as death-blows to phrenology, wherein the destruction of a portion or the whole of one of the hemispheres has been followed by no noticeable diminution of mental power.

The mass of the brain is soft and insensible, and is composed of two substances—a white or medullary substance, which is fibrous or striated in texture, and a grey or cineritious substance. The former is found almost exclusively in the interior, while the latter forms the outer part of the brain. The cineritious substance does not blend gradually with the medullary matter, but is distinctly divided therefrom. It is arranged in convolutions or folds, for the purpose, it is supposed, of increasing the superficial extent of the brain, and consequently its functional power, without enlarging its absolute size. An analogous arrangement is found in the eye of the eagle and falcon, in which the retina does not form a simple concave surface as in man and the lower animals generally, but is presented in folds to the rays of light, whereby the power of sight is increased in proportion to the extent of nervous surface exposed to their influence. That there is a correspondence between extent of convoluted surface and mental power seems evident from the fact that the folds increase as we ascend in the scale of beings. In many of the lower animals they are absent; they come nearest to

* Professor Ferrier.

man in the higher apes, as the orang and chimpanzee, and in some dogs, especially those employed in hunting; but in none do they really approach man as regards the extent of convoluted surface. Even among human beings great difference is found in this respect, and the difference corresponds with the degree of mental power.

With reference to the respective functions performed by the medullary and the cineritious substances in the manifestation of mind very much has yet to be learned; but it is thought that the latter, or cortical substance, is more particularly concerned in the manifestation of mind, and that the fibrous medullary substance serves as a medium of communication between the different parts of the brain.

The cerebellum is composed of the same kind of nervous matter as the cerebrum; but it differs from it in that it is disposed in laminar folds, quite different from the convolutions of the cerebral hemispheres.

The surface of the brain is covered by a thin transparent membrane called the *pia mater*, which sinks down into the convolutions and serves to convey the blood-vessels to its different parts. Immediately above the pia mater are two layers of a still thinner membrane, called from its resemblance to a spider's web, *tunica arachnoidea*. It covers the surface of the brain without passing into its folds. A fluid secretion takes place from the opposed surfaces of this membrane, by which they are prevented from adhering to each other.

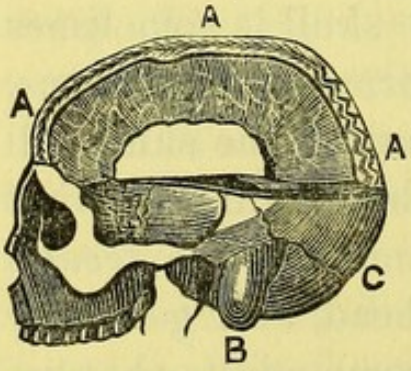
Above this is a thin but strong and opaque membrane, called the *dura mater*, which lines and adheres strongly to the inner surface of the skull, and secretes the bony material of the skull. The brain, enclosed in these membranes, exactly fills the interior of the skull, so that a plaster cast of the interior exactly represents the brain covered by the dura mater.

The popular opinion is that the skull is a hard, unyielding barrier, confining the brain within specific limits, whereas the truth is that, though a strong, it is a changeable covering, and that while it shields it from injury, it accommodates itself to the exigencies of growth and development. It increases in size as the brain increases, and alters its shape with every change of the encephalon. When, moreover, the cerebral mass suffers diminution in size, as happens not infrequently in old age and disease, the skull diminishes. A process of absorption and deposition is constantly taking place in its substance, so that if the brain presses from within the renewing particles arrange themselves according to this pressure, and thus the form of the brain and of the skull in general correspond. In cases of hydrocephalus the skull is sometimes enlarged by this process to enormous dimensions.

A brief description of the bones of the skull will help the student to a better understanding of what follows. They are nine in number: two *frontal* bones, which compose the forehead, and generally soon unite into one, though in some adults they remain double; two *parietal* bones, forming the greater

part of the upper and side regions of the skull; two *temporal*, forming the sides of the skull above and in front of the ears; one *sphenoid*, or wedge-like bone, in the anterior part of the basilar region; one *occipital*, in the back and under part of the skull, immediately above the neck; and one *ethmoid*, at the base behind the nose. The lines of junction of these bones are termed sutures, and form, in most parts, a sort of dovetailing. The chief sutures are the *sagittal*, separating the two parietal bones at the middle of the top of the head; the *coronal*, dividing the frontal from the parietal bones; the *lambdoidal*, from the Greek letter Lambda, between the occipital bone and the two parietals; the *temporal*, named also the *squamous*, from its scaly appearance, dividing the temporal bones from the parietal, and to some extent from the occipital and sphenoid; and the *frontal*, separating the two frontal bones when not conjoined.

Most parts of the skull consist of two plates, called the outer and the inner table. They contain between them a cellular or sponge-like substance, called the *diploë*. The annexed figure represents a skull with the two sides cut away, leaving a narrow ridge in the middle standing. A A A is the edge of the skull, resembling an arch. It is represented thicker than it really is in nature, in order to show the diploë. From the centre depends the delicately



veined membrane which separates the two hemispheres of the brain. It is a continuation of the dura mater, and is called the falciform process. The two hemispheres are completely separated, as far as this membrane is seen to extend downwards in the engraving. Below it they are connected by the corpus callosum. On reaching the point C, the membrane spreads out to the right and left, and runs forward so as to separate the cerebellum, which lies at B C, from the cerebrum. B represents the *mastoid process*, or bone to which the sterno-mastoid muscle is attached.

As the diploë—except in the parts hereafter to be mentioned—is of almost uniform thickness, it follows that the outer and inner tables of the skull are nearly parallel to each other. The internal table, it is true, bears some slight impressions of blood-vessels, glands, and the like, which do not appear externally, but these are so small as not to interfere with phrenological observations. "The departure from perfect parellelism," says Combe, "where it occurs, is limited to a line, one-tenth or one-eighth of an inch, according to the age and health of the individual. The difference in development between a large and a small organ of the propensities and some of the sentiments amount to an inch and upwards, and to a quarter of an inch in the organs of intellect, which are naturally smaller than the others."

Portions of the temporal bones are much thinner than other parts of the skull; but as this is the case in all heads, the phrenologist is not misled by

it. Every skull, moreover, is thick at the ridge of the frontal bone, and the transverse ridge of the occipital, and very thin in the middle of the occipital fossæ. It was a fact observed by Dr. Gall, and since by many other phrenologists, that the skulls of very stupid people are exceedingly thick. In savages, too, the skull is often of great thickness.

The integuments which cover the external surface of the skull are so uniform in thickness as to exhibit under ordinary circumstances its true figure. The muscles lie somewhat thicker upon the temples and the occiput than upon the other parts, and the phrenologist makes allowance for this fact in making his observations.

Thus the obstacles to the discovery of the shape of the brain from the contour of the skull are in general but slight. This fact has been recognised by some of the best physiologists. Magendie says that "The only way of estimating the volume of the brain in a living person is to measure the dimensions of the skull; every other means, even that proposed by Camper, is uncertain." Sir Charles Bell also states that "The bones of the head are moulded to the brain and the peculiar shapes of the bones of the head are determined by the original peculiarity in the shape of the brain."

There are, however, some difficulties in the way of arriving at an accurate judgment as to the amount of brain present in all parts; and these, by opponents of phrenology, have been made the most of. The sutures, for instance, interrupt the absolute parallelism of the interior and exterior tables

of the skull. Only the lambdoidal, however, offers any difficulty to the student. In some individuals it presents, at the part where it passes over the organ of Concentrativeness, a bony excrescence, which may be mistaken for a large development of that organ; but the projection is generally sharp and angular, whereas the contour presented when the organ is large is one of fulness and roundness. The sagittal and frontal sutures, extending longitudinally from the back part of the crown of the head forwards and downwards, sometimes to the top of the nose occasionally present a narrow prominent ridge, which is not unfrequently taken for development of the organs of Self-Esteem, Firmness, Veneration, and Benevolence. It is easily distinguishable, however, by its narrowness from the fuller and broader swell of cerebral development.

The mastoid process—in anatomy projecting bony points are called "processes"—has been referred to. Another process called the spinous process of the transverse ridge of the occipital bone, or, shortly, the occipital spine, is sometimes mistaken for the organ of Philoprogenitiveness. But its sharpness and angularity are such that it need present no difficulty to anyone.

The only part of the skull where any real difficulty exists in judging exactly of the size of the underlying parts of the brain from external configuration, is in the frontal bone immediately above the top of the nose. Here a divergence from parallelism is sometimes produced by the existence

of a small cavity called the *frontal sinus*, the position of which is shown in the annexed cut. It is sometimes larger, but generally smaller than the proportion here represented. It is formed between the two tables of the bone, either by the outer table swelling out, or by the inner table sinking in a little. In such cases, of course, the external surface does not indicate the exact degree of brain development beneath. The frontal sinus has been made the most of by opponents of phrenology, many advancing it as an insuperable objection to the science. Phrenologists acknowledge the difficulty of this sinus; but they contend that, granting that it is an obstacle to ascertaining the development of the organs over which it is situated, in ordinary cases, it interferes with but a few, namely, Individuality, Form, Size, Weight, and Locality, though it may in some cases extend to Order; and that, even though it should at times include all the perceptives, it no more stands in the way of an accurate estimate of the other organs than the occultation of Sirius prevents our seeing all the other stars in the firmament.

It is not everybody who has a frontal sinus, and those who have it is easy to discover. Combe says that "below the age of twelve or fourteen the sinus, if it exists at all, rarely extends so high as the base of the frontal lobe of the brain." In adults, he adds, it frequently occurs to the extent represented above; while "in old age and in diseases such as chronic idiocy and insanity it is

often of very great extent, owing to the brain diminishing in size, and the inner table of the skull following it, while the outer remains stationary." These cases are not difficult to judge of. Where a prominence exists in the skull from a large frontal sinus the elevations are abrupt and angular, and lack the even swell indicative of cerebral development. The voice, too, affords a good indication. "A person," says Mr. Fowler, "who has a clear, sharp, shrill voice, that can be easily heard and distinctly understood, has but little of the frontal sinus."

Sometimes there is an irregularity between the development of the two sides of the head, the manifestation of an organ being less on one side of the head than the other. This may arise from various causes, but it need present no particular difficulty to observers, as the larger development may be taken as an indication of the power of the organ.

CHAPTER V.

CLASSIFICATION OF THE FACULTIES.

Dr. Spurzheim, to whom we owe the first attempt to systematise the results of phrenological discovery, divided the powers of the mind into two orders—Feeling and Intellect, or Affective and Intellectual Faculties. The feelings he subdivided into two genera: Propensities and Sentiments. By the name Propensities he indicated certain internal impulses which invite only to certain actions, as, for instance, Secretiveness, to hide. By the term Sentiments he designated other feelings, not limited to inclination only, but which have an emotion of a peculiar kind superadded, like Veneration, which not only produces a feeling to worship, but is accompanied by a particular emotion.

The second order of faculties, the Intellectual, makes us acquainted with objects that exist, and their qualities and relations. These were subdivided by Dr. Spurzheim into four genera, the first comprising the external senses; the second the internal powers or senses, which make us acquainted with external objects and their physical qualities; the third, those powers which perceive

the relations of objects in general. These three genera he names the Perceptive Faculties. The fourth genus comprises the powers which produce the higher intellectual qualities—such as Discrimination, Judgment, Reason—and are called the Reflective faculties.

Combe followed this classification; but a more practical division has been made by the brothers O. S. and L. N. Fowler, and is the one now generally followed by phrenologists. According to this classification, the affective faculties are subdivided into three groups or genera, denominated respectively the Selfish Propensities, the Social Affections or Instincts, and the Moral Sentiments. This arrangement has been followed, with some slight modification, in the ensuing pages. It should be borne in mind, however, that at best these divisions and classifications are somewhat arbitrary, there being in nature no such strict line of demarcation between one set of faculties and another, as a too rigid acceptance of the above nomenclature would lead one to suppose. For instance, Cautiousness is generally classed among the Selfish Propensities, and yet it is probably as much a moral as a purely selfish faculty. Constructiveness, too, though generally placed among the Propensities, is closely allied to intellect. A similar criticism would apply to many other faculties.

SYNOPSIS OF THE FACULTIES.

Order I.—The Affective Faculties.

The essential nature of these various powers, according to Spurzheim, is to manifest a sentiment or impulse of the mind. It should be understood that there are no such things as *bad* organs. All the faculties are given for a wise purpose, and we fulfil the ends of our being by exercising them properly and in due season. Badness simply arises from their perversion and abuse.

Genus I.—*The Social Affections.*

1. Amativeness, love between the sexes.
a. Conjugality, the pairing instinct.
2. Philoprogenitiveness, love of children.
3. Adhesiveness, friendship.
4. Inhabitiveness, love of home and place.

Genus II.—*The Selfish Propensities, or Self-Protecting Faculties.*

e. Vitativeness, love of life.
6. Combativeness, resistance, courage.
7. Destructiveness, force, executiveness.
8. Alimentiveness, appetite, desire for food.
9. Acquisitiveness, the desire to accumulate.
10. Secretiveness, the power to conceal.
11. Cautiousness, watchfulness, fear.

Genus III.—*The Sentiments.*

This class may be conveniently subdivided into three sub-groups or genera—the Egoistic, Moral, and Æsthetic.

(1) *The Egoistic Faculties.*

5. Continuity, application.
12. Approbativeness, love of display, ambition.
13. Self-Esteem, pride, dignity.
14. Firmness, stability, will, perseverance.

(2) *The Moral Sentiments.*

15. Conscientiousness, sense of justice, right.
16. Hope, anticipation of the future.
17. Spirituality, faith.
18. Veneration, worship, respect.
19. Benevolence, kindness, sympathy.

(3) *The Æsthetic Sentiments.*

20. Constructiveness, ingenuity.
21. Ideality, love of the beautiful.
B. Sublimity, sense of the grand and infinite.
22. Imitation, the copying instinct.

Genus IV.—*The Intellectual Powers.*

These powers may be divided into the Perceptive, the Reflective, and the Intuitive faculties.

(1) *The Perceptive Faculties.*

24. Individuality, observation.
25. Form, perception of shape.
26. Size, relative dimension.
27. Weight, balance.
28. Colour, sense of colour.

29. Order, power to arrange.
30. Calculation, arithmetic.
31. Locality, memory of places.
32. Eventuality, memory of events.
33. Time, cognisance of duration.
34. Tune, sense of harmony.
35. Language, speech.

(2) *The Reflective Powers.*

36. Causality, perception of causation.
37. Comparison, analogical reasoning.
23. Mirthfulness, perception of the incongruous.

(3) *The Intuitive Powers.*

C. Intuition or Human Nature, perception of character.

D. Agreeableness, suavity, courtesy.

These are the constituents recognised by phrenologists as entering into the composition of the human mind. It is not presumed that their analysis has yet reached all the elements of mind or that in their definitions they have always hit the primitive function of an organ. Their nomenclature, too, may be open to criticism and their classification faulty; it would, indeed, be a marvel if they were not, seeing the short time that has elapsed since Gall first announced his discovery; but with patience and observation these defects may be overcome, and will be when but a fraction of the time and attention which have been given to other systems of the mind has been devoted to phrenology.

CHAPTER VI.

OF THE SOCIAL AFFECTIONS.

The faculties coming under this head are common to man with the lower animals. Their function is to manifest a propensity of a specific kind.

Amativeness.

This organ gives rise to the sexual instinct, to love between man and woman, and is adapted to the continuance of the species. The cerebellum is supposed to be the seat of this propensity, and in proportion to the development of the head in that region is the manifestation of the faculty. The external sign of the organ is a fulness of the skull between the mastoid process on each side and the occipital spine. Its size is indicated by the thickness of the neck between the ears, and by the extension of the lower surface of the occipital bone backward. In some individuals there is downward convexity, rather than a lateral expansion, of the occipital bone.

In newly-born children the cerebellum is the least developed of all the cerebral parts. "The weight of the cerebellum," says Combe, "is, then,

to that of the brain as one to thirteen, fifteen, or twenty. In adults it is as one to six, seven, or eight." It is usually less in women than in men.

M. Flurens, and more recently Dr. Ferrier, have endeavoured to demonstrate that the cerebellum serves for the regulation of muscular motion, and that it has no relation to the function of reproduction; but the facts in support of the phrenological theory are too important to be easily set aside.

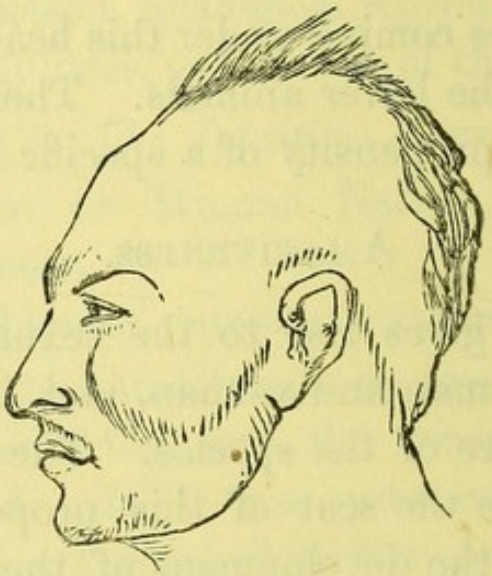


Fig. 5. INDIAN. Amativeness small.

This faculty is one of the most important and influential in the human economy, and is therefore deserving of special attention. Like everything that forms part of the system of nature, says a writer in the Edinburgh *Phrenological Journal*, "it bears the stamp of wisdom and excellence in itself, although liable to abuse. It exerts a quiet but effectual influence in the general intercourse between the sexes, giving rise in each to a sort of kindly interest in all that concerns the other. This disposition to mutual kindness between the sexes does

not arise from Benevolence or Adhesiveness, nor any other sentiment or propensity alone, because, if such were its exclusive sources, it would be equally displayed in the intercourse of the individuals of each sex among themselves, which it is not. In this quiet and unobtrusive state of the feeling," the writer proceeds, "there is nothing in the least gross or offensive to the most sensitive delicacy. So far the contrary that the want of some feeling of this sort is regarded, wherever it appears, as a very palpable defect and a most unamiable trait in the character. It softens all the proud, irascible, and anti-social principles of our nature in everything which regards that sex which is the object of it, and it increases the activity and force of all the kindly and benevolent affections. This explains many facts which appear in the mutual regards of the sexes toward each other. Men are, generally speaking, more generous and kind, more benevolent and charitable, towards women than they are to men, or than women are to one another."

The abuse of Amativeness is the source of innumerable evils, many of which are fallen into through ignorance, and it is therefore of the utmost importance that those having the care and education of children should direct the feeling aright.

Conjugality.

The discovery of this organ is due to the American phrenologists since the time of Combe. It is, however, well established. Its location is below Adhesiveness and above Amativeness, and

between the organs of Philoprogenitiveness and Combativeness.

The function of the organ is to give the pairing instinct and desire to mate, to develop oneness of attachment, and to show fidelity in love. There is evidently a faculty of the mind which produces a love of one sex for the other apart from the instinct which presides over reproduction. It stimulates to companionship, to permanent union, to connubial friendship, and is the basis of the marriage relation. Some birds—as doves, eagles, geese, robins, and others—remain faithful to one mate. Some quadrupeds, too, show this peculiarity, especially several species of monkeys. Other animals associate promiscuously.

The feeling is one of the strongest and most beautiful in our nature, and has given the inspiration to many a love strain. It forms a marked feature in Petrarch's poetry, and is the leading motive in the following lines:—

"The more I wander in the world's rough ways—
The more o'er desert wastes my footstep strays—
The more my fancy her sweet form portrays.
Then, when the stern reality of truth
Destroys the visions of my fervent youth,
I sit, a dead upon a living stone,
As one who thinks and grieves, and writes alone."

Like the other impulses of our nature, Conjugality can be perverted and give rise to great evils. Its unrestrained action leads to a blind adoration of the object of attachment, and to an obliviousness to faults and imperfections; it causes

jealousy, and when not gratified leads to that state of mind which is called being "heart-broken." The doubt has often been expressed whether anyone ever died of a broken heart. But no one who observes, as an educated phrenologist is in the habit of observing, can question the fact. A year or two ago a case of this kind was reported in the newspapers. A servant girl had become attached to a young man, and he to her. Their circumstances were such that they could not marry; but they waited, hoping the day would come when they could be united in wedlock. Year after year sped away, however, and fortune seemed to become more and more adverse. At length the woman, in consequence of illness which caused her to lose her place, was obliged to seek refuge in the workhouse; and while there she heard of the death of her lover. She did not at first show a very marked degree of affliction outwardly, but was presently found crouched down in a corner, sobbing violently, and in this paroxysm of grief she died.

Animals have been known to show similar devotion of attachment, often pining away on the death of a mate.

When the organ is deficient there is not much stability of attachment, and the disposition to marry depends on the strength of Amativeness in combination with an active moral brain.

Philoprogenitiveness.

Philoprogenitiveness, which means love of offspring, is one of the most striking faculties of the

mind. It is possessed in a high degree by man, in common with many of the lower animals, and is, with the one as with the other, a pure instinct, and one of the most beautiful with which our common nature has been endowed. Who, for instance, can observe the attachment of some of the inferior animals to their young without admiration? How, under the influence of this tender passion, their intellects are sharpened and their instincts stimulated! Take a recent instance in point. A cat had three kittens. The housewife said to her servant, in the hearing of the mother, "We shall have to make away with two of those kittens; we cannot do with all three about." Shortly afterwards two of the kittens were missing, and could not be found. Several days elapsed, and though it was observed that Pussy carried food away, nothing was seen of the two kittens. Thinking she had here an instance of high intelligence combined with maternal affection, the lady said, in the hearing of the cat, "I think we might do with all three of the kittens if Puss would only keep them from under our feet." The housekeeper assented, and next morning the two missing kittens were found in the kitchen. Many similar instances could be given.

In human beings, as in the lower animals, the attachment of parents to offspring is the consequence of a similar innate feeling, though there are some who are of opinion that it is the result of a modification of benevolence or some other feeling, or even of reason. "That it does not

spring from reflection," says Mr. Combe, "is abundantly evident. Reason only investigates causes and effects, and decides on a comparison of facts. The mother, while she smiles with ineffable joy on her tender offspring, does not argue herself into the delightful emotion. The excitement is instantaneous; the object requires only to be presented to her eye or imagination and the whole impetus of parental love stirs the mind. Hence a distinct feeling is obviously the basis of the affection."

The organ is adapted to the care of the young. Were it not for the tender solicitude of parents for their children but few of the animal world would live to reach maturity, and of human beings none. Hence the ardency of the instinct, which often impels the parent to forfeit life for the little one's sake. During the period of helplessness, the duty of caring for the young chiefly depends on the mother, and we accordingly find that it is in the female that the organ is most strongly developed.

The organ of Philoprogenitiveness is one of the most conspicuous and easily distinguished in the head, particularly in the human species. It is situate immediately above the middle part of the cerebellum, and corresponds with the protuberance of the occiput. When largely developed it gives length to the head, measured from the ear backwards. A typical female head exhibits this peculiarity in a marked degree. There are, however, instances in which the organ is deficient in women

and others in which it is excessively developed in men.

The instinct in question, so necessary for the preservation and continuance of the species, is found strongly developed in the most savage tribes. It is generally large in negroes; and those who are best able to judge say that infanticide is almost unknown among that variety of the human species.

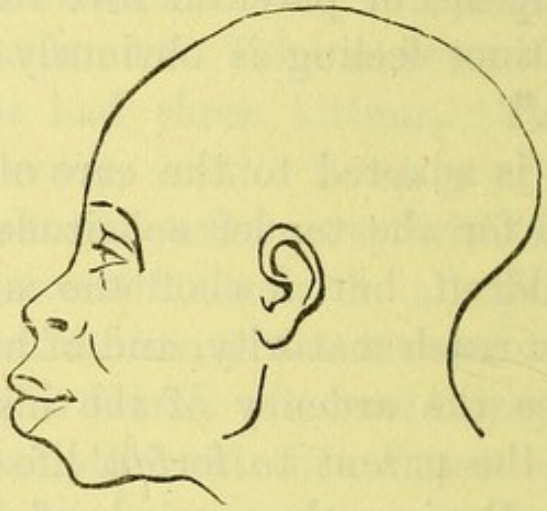


Fig. 6. NEGRO. Philoprogenitiveness large.

The faculty produces love of children generally, and a delight in all that is young. One in whom it is large will be fond of all kinds of pets. The abuse of the faculty leads to the pampering and spoiling of children, and, where there are no children, to an inordinate fondness for cats, dogs, birds, and the like.

ADHESIVENESS, OR FRIENDSHIP.

This organ is situate above Conjugality and on each side of the upper half of Philoprogenitiveness and Inhabitiveness. When it is very large two annular protuberances will be observed there, or

a general fulness if the neighbouring organs be large. When the organ is small that part of the head is narrow or depressed.

The function of the organ is to manifest feelings of friendship. It gives an instinctive tendency to make friends, and when very strongly developed leads to the formation of attachments like that of David to Jonathan. "There is nothing," says Montaigne, "to which nature seems to have more inclined us than society; and Aristotle says that the good legislators were more tender of friendship than justice." The same writer quotes some lines from Catullus, which breathe the very essence of friendship:—

"Ah? brother, what a life did I commence
From that sad day when thou wast snatched from hence!
Those joys are gone which, while thou tarri'dst here,
By thy reviving converse nourish'd were.
With thee departing, my good fortune fled:
And all my soul with thee was buried;
The Muses at thy funeral I forsook,
And of all joy my leave for ever took."

When the faculty is large in women it disposes them to cling to and embrace each other with great ardour. It gives a firm and hearty grasp in shaking hands.

"There is a great difference," says Combe, "among individuals in regard to the strength of this feeling. Some men have many acquaintances but no friends, while others remain attached to certain individuals during every change of circumstances, and do not readily enlarge the circle of

their intimates. When the organ is large, great delight is felt in friendship and attachment, the idea of distant friends often presents itself, and the glow of affection rushes into the mind with all the warmth and vivacity of a passion. Those in whom it is small care little for friendship. 'Out of sight out of mind' is their maxim."

In Mr. Fowler's new bust the upper part of the organ is marked "Gregariousness"; and the fact seems sufficiently well established that the company-loving disposition and the desire for general society depends on a full development of brain in that region. A deficiency there is generally accompanied with a love of solitude.

Some of the lower animals possess this instinct as well as man, and it is no doubt this faculty which causes some classes to live in herds. The faculty is remarkably strong in the dog, which shows the natural language of the faculty by rubbing the back of its head, where the organ lies, against its master's leg. Horses and oxen sometimes sicken and pine away when deprived of wonted companions.

Inhabitiveness.

This organ, sometimes called Love of Home, is situate immediately above Philoprogenitiveness and below Concentrativeness. The faculty is not peculiar to man, but is also possessed by the lower animals. It is the instinct which prompts to the selection of a dwelling-place or place of resort. Some animals show very strong likings for certain

localities. Cats, it is well known, are strongly attached to places, and will remain in a house after it has changed tenants. Some animals, in a wild state, have fixed places for feeding and for sleeping, and seldom go far from those localities, while others wander about and cannot be said to have any "local habitation." The same is true of peoples. Some nations are extremely attached to their country, while others are not. Many tribes of the American Indians and Tartars wander about without fixed habitations, while others have a settled home.

Fig. 7. GIFFORD. Inhabitiveness large.
(Compare with Fig. 5).

The facult is adapted to the necessity of men having settled habits. Had it not been for the instinct to settle in a place and concentrate his thoughts and his efforts there, man would not have developed the arts and sciences of civilised life. Nomadic peoples have never progressed much towards civilisa-

tion. The organ of Inhabitiveness is generally well developed in civilised nations, although it is more manifest in some than in others. In the French it is particularly strong, and they make the poorest emigrants. It is this element which has contributed very largely to that ardent patriotism for which they are noted, and which is well illustrated in the song of Chateaubriand's commencing—

"O joli lieu de ma naissance."

Inhabitiveness not only gives love of country and native place, but is the basis of the home-feeling, which is so strong in some persons that they cannot be comfortable away from their own fireside, and to change the old abode is exceedingly painful to them. It also leads to the formation of habits, such as, for instance, becoming accustomed to one particular room, to a certain seat, to a particular walk, and so on.

When the organ is small there is little of the home-feeling, and one place is liked as well as another so far as attachment is concerned.

CHAPTER VII.

THE SELFISH PROPENSITIES.

This group of faculties have for office the protection of the individual. They are adapted to man's animal existence and physical necessities, and may be regarded as phases of the self-preserving instincts.

Vitativeness.

The existence of an organ for the love of life was surmised many years before its location was actually determined. Spurzheim was disposed to admit the existence of the faculty, which he called Vitativeness, or the instinctive desire to live, and he looked for its organ at the base of the brain. Dr. Andrew Combe was also led to the supposition that there was such an organ from the dissection of the brain of an aged lady, who for many years had been remarkable for her continual anxiety about her own death. Later observers have established the function and location of the organ.

It is situate in the base of the brain behind the ear, and below Combativeness, and gives fulness and breadth to the head between the latter organ and the mastoid process of the temporal bone. Where the organ is large the ears stand out pro-

minently. Its function is to give love of existence for its own sake. To those with the faculty large the bare idea of death is fraught with terror. They desire life with such intensity that any amount of suffering and misery appears preferable to annihilation. They cling to life with the utmost tenacity, and are enabled through the sustaining power of Vitativeness to bear up against the assaults of time and disease where others would fail. It seems also to give recuperative energy.

Where the organ is less in development there is a proportionate indifference to life. Mere existence to persons so constituted is not a supreme good, and they can look upon the coming of death with calmness and fortitude, nay, in some cases, with positive pleasure. The organ is small in the Hindoos, and one of their most notable characteristics is their indifference to life. There is also a low degree of vital power, and an inability to become quickly re-energised.

It has been supposed that a deficiency of the organ predisposes to suicide, but the notion needs confirmation.

Combativeness.

The organ of this faculty is situate at the posterior-inferior angle of the parietal bone. A line drawn parallel to the top of the ear, and carried a little behind it reaches to about the middle of the organ. It gives breadth to the head at that part.

The function of the organ appears to be to give courage, intrepidity, daring, resistance, the dispo-

sition to encounter opposition, to defend one's self and belongings, and, when very large, to court difficulty and danger. Its deficiency occasions timidity, pusillanimity, and poltroonery. When unbridled and not under the control of other faculties, it gives rise to a contentious, disputatious, and contradictory spirit.

Though liable to abuse and misdirection, Combativeness is a faculty of great importance. It is often objected that the Creator could not have implanted in the mind an organ for fighting and contention. Persons who make such objections might as well argue that the Creator could not have endowed us with a faculty for gluttony. The legitimate function of the organ is not to give a love for fighting, but to confer energy, to overcome difficulties, just as Alimentiveness is designed to make us have a proper care for the nourishment of the body, and not to make us live for the mere sake of eating.

Dr. Thomas Brown gives a beautiful and accurate description of this faculty under the name of "Instant anger." "There is a principle in our mind," he says, "which is to us like a constant protector, which may slumber, indeed, but which slumbers only at seasons when its vigilance would be useless, which awakens therefore at the first appearance of unjust intention, and which becomes more watchful and more vigorous in proportion to the violence of the attack which it has to dread. What should we think of the Providence of nature, if, when aggression was threatened against the weak and unarmed

at a distance from the aid of others, there were instantly and uniformly, by the intervention of some wonder-working power, to rush into the hand of the defenceless, a sword or other weapon of defence? And yet this would be but a feeble assistance, if compared with that which we receive from those simple emotions which heaven has caused to rush as it were, into the mind, for repelling every attack."

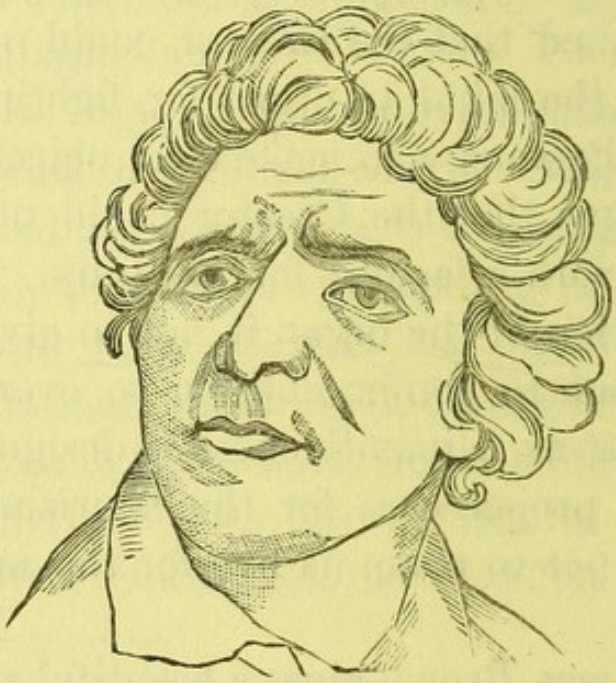


Fig. 8. MARAT. Combativeness and Destructiveness large.

This describes exactly the action of Combativeness, aided by Destructiveness, when excited by provocation. But it has a quiescent action equally potent with that which arises from its manifestation under attack. It is a necessary ingredient in every great and magnanimous character. Without a fair endowment of it the labours of the reformer and the philanthropist would speedily come to a standstill.

Like other faculties, Combativeness has a natural

language peculiarly its own. "When predominant," says Combe, "it gives a sharp expression to the lips, and the individual has the tendency to throw his head backward, and a little to the side, in the direction of the organ, or to assume the attitude of a boxer or fencer." It also gives a hard, resonant, and threatening intonation to the voice when active.

There is great difference in the development of this faculty among the lower animals, some, like the hare, having it very small, while others, as the bull-dog, have it large. "This also," says Spurzheim, "is an unfailing sign to recognise if a horse be shy and timid, or bold and sure. The same difference is observed in game-cocks and game-hens in comparison with domestic fowls."

The faculty needs to be guided rather than checked in children. Unrestrained it produces a bullying, hectoring disposition.

Destructiveness.

The locality of this organ is immediately above the ears, extending a little forwards and backwards of the external opening thereof. It corresponds to the lower portion of the squamous plate of the temporal bone. When it is excessive in development, there is considerable depression of the ear, caused by the great size of the cerebral convolutions which lie over the petrous portion of the temporal bone, and in the middle fossa of the skull.

A good deal of ridicule has been expended on this faculty, partly owing to the fact that Dr. Gall

named it "the propensity to kill" *(penchant au meurtre)*. Spurzheim came nearer the primitive function of the organ in the name Destructiveness, as it seems undoubtedly to adapt man to a condition which requires him to kill in order to live. Mr. Bridges, of Liverpool, divides the organ into two parts; the upper, of which he designates Preservativeness, and the lower Destructiveness. The latter he locates immediately above the external opening of the ear, extending a little backwards and forwards. Mr. L. N. Fowler, according to his new bust, regards the back part of the organ as giving a propensity to exterminate, while the forepart produces energy of a less destructive kind.

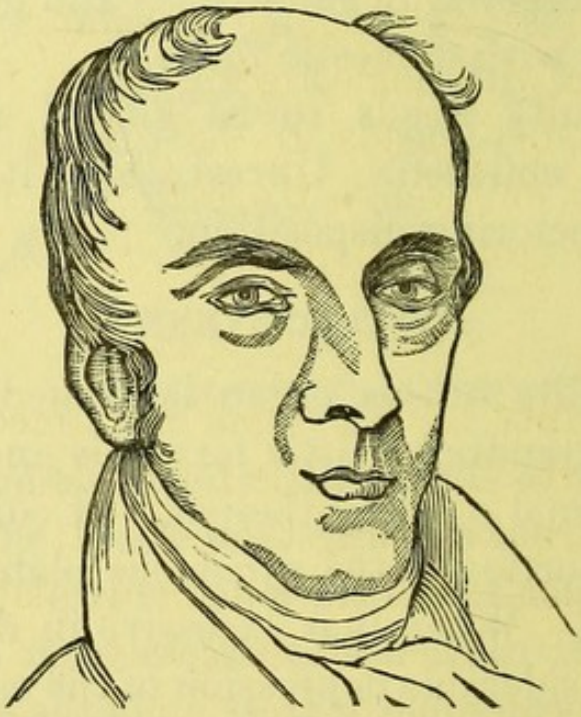


Fig. 9. Rev. R. Watson. Selfish Propensities small.

The organ is adapted to man's need of using force in order to hold his own, and enables him to kill in so doing if necessary. Without this faculty he would have been the helpless prey of every

ferocious animal in want of a meal, and would speedily have had to succumb before the inroads of devastating swarms of vermin. If he had not Destructiveness he would be unable to take the life of a rabbit that ate his crops, or entrap a rat that infested his house.

When the organ is very large and Benevolence moderate, indifference to pain, and even downright cruelty, is the result. Children with the faculty strongly developed love to destroy and break; they also show irritability and violence of temper. It gives boldness of character and prompts to mischief. Energetic play and work are the best means whereby children may throw off the surplus energy arising from this faculty.

Dr. Gall says that "the organ is not in all carnivorous animals, situated with rigorous exactness above the external opening of the ear. Among some species of birds—for example, the stork, the cormorant, the heron, the gull, &c.—the external opening of the ear is considerably removed back, and the organ of the propensity to kill is placed immediately behind the orbits, forming a large prominence upon each side, the size of which is found to bear a uniform proportion to the degree in which the animal manifests the propensity to kill. In comparing the crania of carnivorous birds with the skulls of those which can live indifferently upon either animals or vegetables, this prominence is found to be less conspicuous in the latter; in the duck, for example, and in the different species of thrushes; and it becomes less and less prominent,

in proportion as the birds exhibit a more distinct preference for vegetables, such as the swan, the goose," &c.

Dr. Joseph Vimont, in a memoir on Comparative Phrenology, says that all animals which live on flesh, or which have a propensity for destroying, have a particular part of the cranium whose development corresponds with that of Destructiveness. "Thus all the feræ, without exception, have the squamous portion of the temporal bone enlarged in a perceptible manner. We may cite, as examples, the tiger, the cat, the fox, the martin, the weasel, the ermine. In the carnivorous birds, properly so-called, the portion of the cranium situated behind the orbit corresponds with the organ of carnivorous instinct, and presents a remarkable development. In the omnivorous birds the enlargement is a little more posterior."

Alimentiveness.

This organ produces an instinct for nutrition, or desire for food, and is situate at the lower anterior part of the middle lobe, a little in front of Destructiveness and below Constructiveness. It gives fulness and breadth to the head in front of the upper part of the ear. (See Fig. 18 for the organ large.)

Dr. Hoppe, of Copenhagen, who was one of the first to discover the locality of this organ, says that the anterior convolutions of the middle lobes are developed from the earliest age, sooner than any other parts, and both in man and the lower animals

are proportionately larger in the young than in adults. "This propensity," he adds, "is particularly assisted by the smell, and the olfactory nerve is in all animals in the most intimate communication with the middle lobes, so much so that in the ox, sheep, horse, dog, fox, hare, rabbit, &c., the internal part of the middle lobes seem to be almost a continuation of the olfactory nerve. In man also the external and greater root of the olfactory nerve is in connexion with the anterior convolutions of the middle lobes. Further, the middle lobes are in particular communication with the nervous bundles which constitute the anterior lobes and the anterior external portion of the crura; in other words, the organs of the intellectual faculties, and the propensity to feed puts into action many of the perceptive powers, and the voluntary powers of many parts, before the food is transmitted to the stomach for digestion."

There is reason to believe that the function of the organ is not merely to give the propensity to eat and drink, but also to manifest the sense of taste. When very large it leads to an inordinate fondness for gustatory pleasures, and develops the character of the *gourmet* as well as that of the gourmand and the drunkard. Dr. Caldwell expressed the opinion years ago that the passion for intoxicating liquors arises from the derangement of Alimentiveness, and George Combe records the case of an old and confirmed drunkard, in whose brain they found a distinct erosion of the left organ of Alimentiveness.

Some observers, Mr. Fowler among the number, have been led to suppose that the anterior portion of the organ has to do with the appetite for liquors, and have in consequence named it Bibativeness.

Acquisitiveness.

The organ of this faculty is situate at the anterior-inferior angle of the parietal bone. It is in front of Secretiveness and the upper part of Destructiveness, and behind Constructiveness. When large it gives width and fulness to this part of the head.

The function of Acquisitiveness is to manifest the propensity to accumulate. This instinct is possessed by man in common with many of the inferior animals. It gives the impulse to hoard, lay by, and provide for the future, and is adapted to man's state in nature—one which makes it necessary for his own preservation that he should take thought for the coming day. The fruits of harvest are not always spontaneously at hand; they come in their season, and in order to enjoy them the year round it is necessary to store them up.

The mere instinctive impulse to accumulate, viewed by itself, may not seem a very ennobling propensity, and when linked to low desires it is mean and vulgar enough, but when we regard it in connexion with its results, it rises vastly in dignity and importance. It stimulates to industry and thrift, and is one of the first elements in the arts of peace and civilisation. "The first demand of nature is to live and to enjoy; and without Acqui-

sitiveness the other feelings of the mind would prompt man to kill and eat, or to weave and wear, for the satisfaction of his present wants. But if he bounded his industry by his necessities, and lolled in idleness while not employed in indispensable pursuits, although he might not starve while in the possession of health and strength, he would never become rich." The accumulation of wealth for its own sake may be but a poor end; but when we consider that all the most valuable fruits of civilisation are the outcome of wealth, books, paintings, statuary, works of art of every description, scientific collections, machinery, we obtain some idea of the weight of this faculty in the mental council. It is, however, in itself merely a propensity to hoard and accumulate; the bent it will take depends on other organs.

An excessive development of the organ leads to undue selfishness, and gives a greedy grasping disposition. When not counteracted by large Conscientiousness and the other moral organs, there is a tendency to accumulate by unjust gains, and to stint all impulse to deeds of charity or kindness. Dr. Gall was led to call it the organ of theft, because he found it uniformly large in the heads of thieves; but the thievish disposition does not depend on this propensity alone, but on its combination with large Secretiveness and on a low development of the higher faculties, though there are numberless cases on record in which persons of otherwise irreproachable characters manifest an uncontrollable propensity to "pick and steal." It

arises doubtless from a diseased state of the organ, as kleptomaniacs of this description are generally such as cannot be impelled to take things that do not belong to them from necessity. It is said that a prominent member of the aristocracy is afflicted with this failing, and that his friends have frequently to return the silver which he thus appropriates. His portrait indicates the organ very large. It is large in George Buchanan.

This propensity is found in some of the lower animals. The ant and the bee are striking instances, and they afford us beautiful examples of industry and thrift. "The cat and dog," says Combe, "in hiding food, to be used when hunger returns, and the squirrel, hamster, and jackdaw, which collect provisions for the winter, undoubtedly have the notion of property in the stores they accumulate."

Children with this organ and Secretiveness large cannot be too well watched, or too early put under the control of moral principles.

Secretiveness.

The situation of this organ is at the inferior edge of the parietal bone, immediately above Destructiveness and forward of Combativeness. Its function is to give an instinctive tendency to conceal, and the legitimate object of it appears to be to restrain the outward expression of our thought and emotions until the understanding shall have given judgment as to the propriety of their manifestation. If the mind comprised no such faculty every thought and feeling as they arose would be instantly manifested

without check or hindrance, and the result would be a state of society not pleasing to contemplate. It is not only necessary that the manifestation of passions and propensities should be kept under due restraint, but the perfection of our intellectual operations also seem to depend on concealment, or at all events the most perfect operations of the kind mature themselves in secrecy. Sometimes, too, the exercise of Secretiveness seems necessary to personal safety. Hence the legitimate function of this propensity.

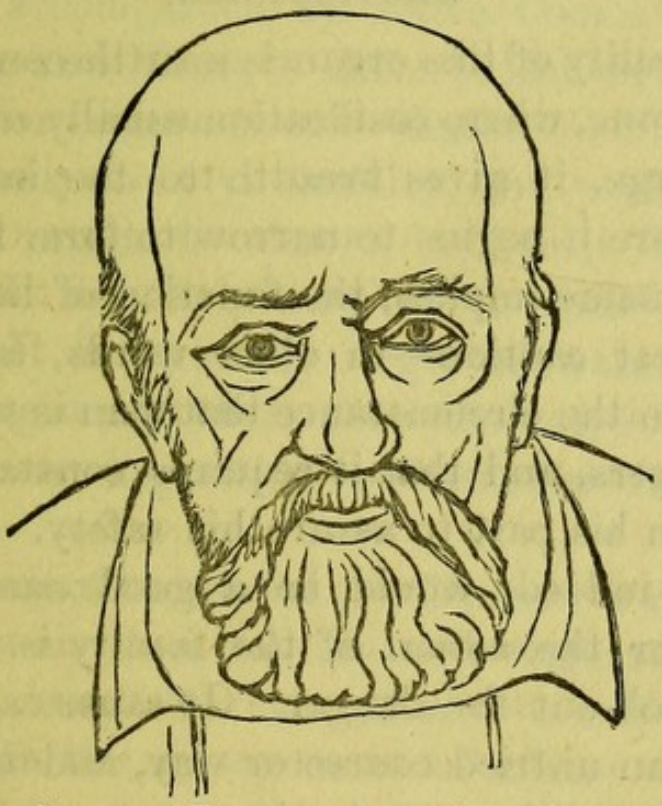


Fig. 10. GEORGE BUCHANAN. Acquisitiveness and Secretiveness large.

A moderate endowment of the faculty is highly essential. When too small there is a lack of prudence in keeping our affairs to ourselves, and discretion with reference to those of others. When excessive in development it leads to undue cunning,

duplicity, and falsehood, if not under the control of predominant moral feeling and intellect. Even with these to check unworthy action, there is a tendency to undue secrecy, shyness, and evasiveness.

The lower animals, as well as man, possess this faculty: some of them, as the fox, the cat, the squirrel, &c., in a very high degree, and the development of their skulls will be found in harmony with their dispositions in this respect.

Cautiousness.

The locality of this organ is near the centre of the parietal bone, where ossification usually commences. When large, it gives breadth to the head at the point where it begins to narrow to form the crown.

As its name implies, the function of the organ is to manifest caution—in other words, fear. It is adapted to the circumstance that man is surrounded with dangers, and that it requires constant watchfulness on his part to assure his safety. "Watchfulness," indeed, would be a good name for the organ; for the action of the faculty is to be ever on the look-out for danger. It causes a person to mistrust an untried course or way, and makes him hesitate before he acts, having an apprehension of consequences. Dr. Gall named the faculty "Circumspection, Foresight." Dr. Spurzheim, however, did not think that it did more than excite the intellect to reflection and forethought, by suggesting doubt and fear, and in this analysis he was doubtless correct; for in those in whom the organ

is very large no amount of reflection or resolution can overcome the feeling of nameless dread, which, from time to time—and, indeed, sometimes continuously—takes possession of the mind.

A full development of the faculty is essential to a prudent character. It produces a cautious, careful, and considerate cast of mind, and disposes the individual to make due provision for the future, especially when combined with full Acquisitiveness and Secretiveness. When the organ is too active it occasions doubt, irresolution, and vacillation; and, if not accompanied by active Combativeness, Self-Esteem, and Hope, is liable to lead to absolute incapacity for vigorous and decisive action. It excites to over-anxiety, timidity, and procrastination. The organ is almost uniformly large in children, and is wisely adapted to their helpless condition. It is generally larger in women than in men, and gives to them that anxious, solicitous, and care-taking disposition so characteristic of the matron.

A deficiency of the organ predisposes to rashness and precipitancy, to a careless and unguarded disposition, to thoughtlessness of action, and general imprudence in the management of affairs. A person with the faculty small and Hope large, is nearly always in hot water, especially if he have an active organ of Combativeness.

Many instances of morbid and diseased conditions of this organ are on record. Dr. Gall, Pinel, and others mention several. Some years ago the writer was introduced to a gentleman who

was suffering from extreme melancholy. The organ of Cautiousness was very large and Hope small. He talked quite rationally on most subjects; but directly religion was mentioned his countenance changed, beads of perspiration formed on his brow, and he swayed about in his chair or walked to and fro in an agitated manner. He thought he was doomed to perdition, and that nothing could save him. Reason and argument were of no effect. He would shake his head and answer: "Ah, I wish it were true; but nothing can save me from the torments of hell."

"A large development of this organ," says Combe, "combined with much Destructiveness, predisposes to self-destruction. Cautiousness does not produce suicide as a specific act; but the sentiment, when excited to excess by disease of the organs, gives rise to intense melancholy, anguish, and anxiety, and, by rendering life extremely miserable, indirectly prompts to this result." Dr. Andrew Combe examined a considerable number of suicides in the Morgue at Paris, and found Hope in them generally small, with Cautiousness and Destructiveness large.

The organ is possessed in a high degree by some of the lower animals, such as rabbits, hares, sheep, and those carnivora that seek their prey principally at night. The portrait of Tyndal (Fig. 21) indicates the organ large.

CHAPTER VIII.

THE EGOISTIC FACULTIES.

The four powers which form this subdivision, though not strictly selfish in the sense that the former group are, have not inappropriately been called the Selfish Sentiments. They are more intimately related to the individual—the *Ego* (I)—and his position as a sentient and responsible being than perhaps any other set of faculties. He is *individualised*, indeed, in proportion to their development.

Continuity.

This organ, also called Concentrativeness, is situate just above Inhabitiveness and below Self-esteem. A bony excrescence of the lambdoidal suture sometimes occurs at this part, and may, by the inexperienced, be mistaken for the organ of Concentrativeness. The protuberance, however, is narrower and more pointed than the elevation caused by the organ when large.

The function of the organ is to give continuity and connectedness to mental action. "Some persons," says Combe, "can detain their feeling and ideas in their minds, giving them the quality of continuity, while others cannot do this. The mind

of the latter may be compared to the surface of a mirror, on which each feeling and thought appears like the shadow of a moving object, making a momentary impression, and passing away. They experience great difficulty in detaining their emotions and ideas, so as to examine and compare them, and, in consequence, are little capable of taking systematic views of any subject, and of concentrating their powers to bear on one point. I have observed this organ to be large in the former, and small in the latter."

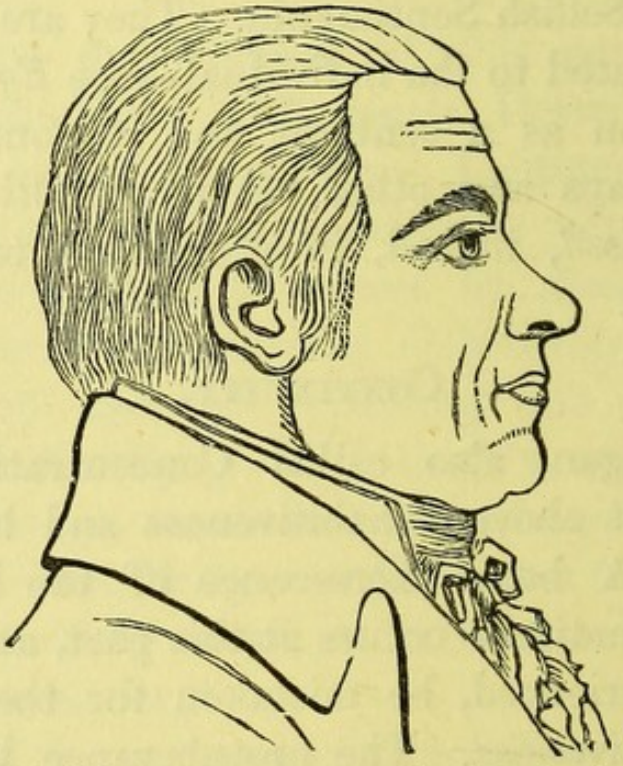


Fig. 11. MITSCHERLICH. Continuity large.

It is difficult to get at the real essence of this power of mind, partly because we have not yet observed it sufficiently to thoroughly analyze it, and partly, and for the same reason, because thought has not dwelt upon it with sufficient definiteness to give it name. But, so far as we at present know,

the function of the organ in question is to give sufficient protractedness to mental action to make it effective. We know that persons with this faculty small are liable to be flighty and superficial, to lack connectedness of thought and permanency of feeling, and to pass lightly from one idea or emotion to another; while those with it large exhibit great application and consecutiveness of mind. They dwell on a thing for a long time; complete one mental process before they begin another; and show patience in carrying out a chain of thought or reasoning. When very large it gives prolixity and tediousness, a disposition to pore too long over losses or bereavements, and an inability to change from one thing to another with sufficient rapidity. Its deficiency causes a person to begin many tasks and finish few; to pass from one thing to another too quickly; to know a little about many things, but few well. The mind is restless, for ever desirous of change, either in regard to occupation, study, or amusement.

A writer in the Edinburgh *Phrenological Journal* has some very apposite remarks on this organ. "What is the result," he says, "of extreme defect in this organ I have had no opportunity of knowing. Deficiency, in the more ordinary degrees, discovers itself in different ways, according to its combination with other faculties. In some individuals it produces an indisposition to settle into any regular plan of life; or, if this has been controlled by circumstances and other faculties, there may still be seen a want of method, forethought, and continuity

in the various concerns of intercourse or business. The individual does not appear like one driving constantly towards a particular object; his mind takes its direction from shifting circumstances, and, if other faculties conspire, he may be characterised by a sort of careless facility or vivacity of disposition. Should these appearances be restrained by large Cautiousness and Firmness, while the reflecting organs at the same time are full, the manifestations of the deficiency will be considerably different. There may be a propensity to reason, and possibly to deal in abstract speculation; while the individual will exhibit, in his attempts at argument, a degree of cloudiness and ambiguity of conception which evidently results from an incapacity of holding up distinctly before his mental vision the subject of thought."

The organ of Continuity is generally larger in women than in men, as is also the faculty for dwelling longer upon particular subjects. In some races it is more marked than in others. The Jews and the Negroes are noted for having it large.

Approbativeness.

This organ lies on each side of Self-esteem, and when large gives fulness and breadth to that part of the head. It is the cause of what is often called "a large crown."

The natural function of the organ is to produce the desire to act with a view to gaining the approval of others, and, like Self-esteem, is an element of strength in character when in due proportion to

other faculties, and under proper control. When in excess it leads to vanity, ambition, love of glory, and the like. Dr. Gall's observation on the organ led him to treat of the abuses of the sentiment rather than of its primitive function. It is to Spurzheim that, in this as in many other cases, we owe the elucidation of the ultimate principle of the faculty.

The object of its desire is approbation, admiration, praise, fame. Hence it generates an anxiety to please and to win approval. The direction in which it will seek gratification will depend on the powers of mind with which it happens to be combined. In conjunction with a good development of the coronal brain, it will prompt to moral and religious emulation; with a vigorous intellect, it will stimulate to excellence in that direction; with physical courage, to acts of daring, and so on. In some it simply creates a desire for adornment. The organ is generally larger in women than in men, although, according to Darwin and others, the latter possess as large a share of inherent vanity as the weaker sex. It is a marked feature in some barbarous and semi-civilised races, as, for instance, the Negroes, who manifest an inordinate desire for personal adornment.

It is this faculty which stimulates alike the savage to paint his body and wear feathers on his head, and the civilised man to take delight in "orders," stars, garters, gaudy and glittering uniforms, and similar badges and marks of distinction. It is the animating sentiment in nearly all contests for vic-

tory, whether physical or mental. The poet, the painter, the orator, the statesman, and the soldier are all animated by its influence. In some persons it reaches the height of a passion, and then fame or glory is pursued at the expense of almost every other consideration; and we see men disregarding comfort, health, wealth, and hazarding even life itself for "the bubble reputation." "Of all the follies of the world," says Montaigne, "that which is most universally received is the solicitude of reputation and glory, which we are fond of to that degree as to abandon riches, peace, life, and health, which are effectual and substantial goods, to pursue this vain phantom and empty word. And of all the irrational humours of men, it should seem that even the philosophers themselves have the most ado, and do the latest disengage themselves from this, as the most testy and obstinate of all human follies."

Although no faculty is more prone to run to excess than Approbativeness, a due endowment of it is essential to an amiable character. Those in whom the organ is small are careless about pleasing others, and so are liable to act with a selfish disregard of the feelings of those with whom they come in contact. It is a great mistake to try to check the promptings of this faculty in the young, but it is equally wrong to cultivate it too much in education, by making it the chief stimulus to exertion and good behaviour.

The organ is by no means wanting in the lower animals. It is a marked feature in dogs; horses

are exceedingly sensible of signs of appoval; and monkeys will give themselves a deal of trouble to attract attention.

Self-Esteem.

This organ is situate at the crown of the head, just where it begins to decline towards the occiput. It joins on the lower side the organ of Concentrativeness. A line drawn from the ear to the crown will point to the centre of Self-Esteem. When large it gives height to the head at this part.

The function of Self-Esteem is to imbue the individual with a due amount of the feeling of self-love. It is as essential for proper balance of mind to possess a reasonable degree of pride and dignity, as it is to have a clear perception of right and wrong. One, says a talented writer on mental science, who does not properly value himself is unable to put a just value on others. Haughtiness arrogance, conceit, egotism, all of which arise from Self-Esteem, in connection with other faculties, are not pleasing developments of character, but they indicate excess, and are no more to be deprecated than the opposite extremes of undue humility, lack of self-respect, and mean-spiritedness. A due endowment of the faculty produces only good results. "It imparts that degree of satisfaction with self which leaves the mind open to the enjoyment of the bounties of Providence, and the amenities of life; it inspires us with that degree of confidence which enables us to apply our powers to the best advantage in every situation in which we are placed.

It also aids in giving dignity in the eyes of others; and we shall find, in society, that that individual is uniformly treated with the most lasting and sincere respect who esteems himself so highly as to contemn every action that is mean or unworthy of an exalted mind."—(Combe). Adam Smith, in his *Theory of Moral Sentiments*, remarks that it is better, upon the whole, to have too much than too little of this feeling; because, if we pretend to more than we are entitled to, the world will give us credit for at least what we possess; whereas, if we pretend to less, we shall be taken at our word, and mankind will rarely have the justice to raise us to our true level. The truth of this opinion is abundantly exemplified in every-day life. When the organ is small there is a predisposition to too much humility, and the tendency is often the more marked when the deficiency is combined with real ability. Such a person often fails to do the good, and rank as high as he might, because he lacks confidence and a due sense of his own importance, he has no reliance upon himself, and is always looking to others for guidance. Inferior talents, combined with more Self-Esteem, are often crowned with far higher success than more splendid abilities united to a feeble development of this faculty.

It is only when the organ is in excess, and indulged without restraint from higher faculties, that it leads to bad results. With a deficiency of the moral powers it produces arrogance, superciliousness, hauteur, and a feeling of proud disdain. With Approbativeness small it prompts an indi-

vidual to measure himself by himself, and to contemn the opinions of all who differ from him. With Conscientiousness and Benevolence deficient, it gives a disposition to censoriousness and envy. When large in children the faculty leads to a pettish and disobedient disposition, unless counterbalanced by large Veneration; it makes them wilful and refractory, and unwilling to submit to due control. They early wish to be freed from parental control. It confers the feeling of independence.

The organ is generally larger in men than in women, and it is said that more males are insane through pride than females. It is larger in some peoples than in others. Combe was of opinion that the great Self-Esteem of the English, and their consequent innate aversion to all stretches of power, was probably one weighty cause of their political liberty. It is shown large in the portrait of Socrates (Fig. 20).

Firmness.

No organ is better established than this, and no mental faculty has a greater influence on character. Its location is at the posterior part of the coronal region of the head on the middle line, between Self-Esteem and Veneration. Its size is measured by the height of the head directly above the ear.

A difference of opinion has always existed among phrenologists in regard to this faculty, some regarding it as the source of volition, while others regard it as neither an inclination nor a power. Dr. Gall was of that opinion. "C'est une manière d'être," he says, "que donné à l'homme une em-

preinte particulière que l'on appelle le caractère," and adds that "he who is deficient in it is the sport of external circumstances and of communicated impressions." Spurzheim thought it a mistake to regard its effect as will, its function being to give fortitude, constancy, perseverance, and determination, and, when too energetic, obstinacy, stubbornness, and infatuation. It doubtless does all this, especially when allied with active Combativeness and Destructiveness; but it does more: it gives will-power, the ability to decide, to make up the mind, and to hold on to a course of action. This is its active manifestation. Its passive effects on character are shown in tenacity of will, stability, fixedness of purpose, and the unswerving pursuance of an object determined upon.

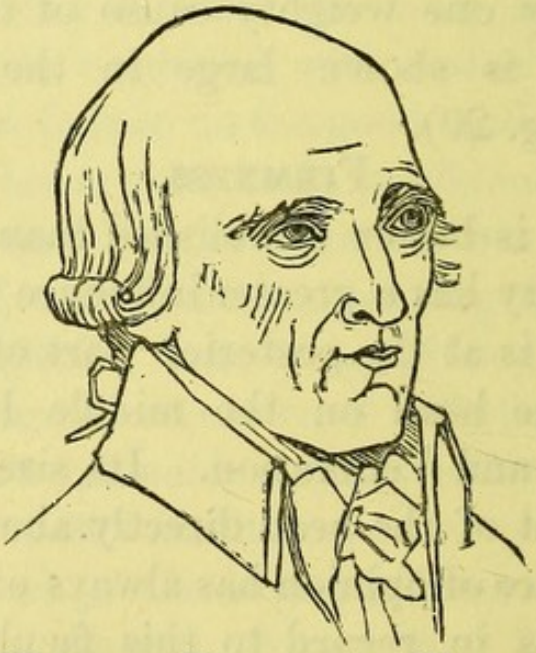


Fig. 12. WARREN HASTINGS. Firmness large.

Where the faculty is deficient there is a lack of these powers. The individual is neither able to will decisively nor to hold on to a determina-

tion; he is wavering, vacillating, and unstable, and can hardly be depended upon for fixity of purpose for an hour. Such a constitution of mind is the sign of a weak character, which nothing can strengthen. It is better to have a child stubborn and wilful than one in whom there is so little of this quality that he is docility or malleability itself.

All those men who have hewn out a place for themselves in the world, succeeded against great odds, or in any way made a lasting impression in any sphere of life, have been characterised by large Firmness. Combe expressed the opinion that the faculty has no relation to external objects, its influence terminating with the mind itself; and yet in the moral world there is perhaps no influence so strong as that of a firm man. The tone of his voice is a power; his command sways multitudes. Napoleon, in the zenith of his power, had but to say, "I will that such-and-such be," and not all the intellect or conscience of France could withstand his volition. An anecdote is told of him strikingly illustrative of his intense will-power. He was once thrown from his horse on to a post with such violence as to almost deprive him of life. For a moment or two he seemed on the point of death; then he straightened himself up and was himself again. But he told one of his generals that had it not been for the determined exercise of his will he would undoubtedly have succumbed.

The organ is large in the heads of Darwin, Sir Wilfrid Lawson, Stanley, and Charles Bradlaugh, and the faculty is a marked feature in their character.

CHAPTER IX.

THE MORAL SENTIMENTS.

These faculties constitute the noblest and most distinctive feature of man's nature. They render him an accountable and religious being, elevate and humanise his mind, and create those aspirations after truth, goodness, purity, and perfection, which constitute his highest attributes.

Conscientiousness.

The organ of this faculty is situate on each side of Firmness, and above Cautiousness. When large it gives height and fulness to the posterior and lateral parts of the coronal region of the brain. The merit of the discovery and analysis of the organ is due to Dr. Spurzheim, who clearly perceived that the sentiment of duty and obligation arises from a primitive power of mind. The organ is indicated very large in Tyndal (Fig. 21).

The most diverse opinions have prevailed among metaphysicians as to the origin of the moral sense whereon are founded our perceptions of virtue, some considering it the offspring of self-love, others of utility, pleasure, or the love of approbation. Others, however, and among them Reid and Stewart, recognise the existence of a faculty in man which produces the sentiment of justice independently of

any other consideration. The truth of this inference is proved by the observations of the phrenologists, who have abundantly established the fact that a faculty exists, the object of which is to confer the sense of right and wrong, or the feeling of duty and obligation, independently of selfishness, hope of reward, fear of punishment, or any extrinsic motive. The faculty itself does not form specific ideas of what is just; it simply produces an emotion or sentiment of justice or injustice, in accordance with the fact or assemblage of facts presented to it by the intellect. Hence we can understand how it is that such diverse notions of right and duty prevail, and how it arises, moreover, that the justice of one age is the rank injustice of another. Men did things in the name of conscience a century ago which we should now blush to own; and things are done to-day as right and just which the keener sense of a century hence will probably scarcely credit.

It is to the reciprocal action of conscience and intellect that we owe the ever-increasing freedom and toleration which characterises the relations of men to men, and which are constantly widening the bounds of happiness. The reasoning powers investigate the motives and consequences of actions, and the sources of power and authority, and then, having taken into council the faculty of Conscientiousness, a feeling of decided approval or condemnation, distinct from all other emotions, arises in the mind, and with it a sentiment of obligation or incumbency.

Conscientiousness is of the highest importance as a regulator of all the other faculties. It is a check on Acquisitiveness and on the other propensities and passions ; it is a necessary check even on Benevolence and Veneration : saying to that, "Be just before you are generous ;" to this, "Be sure and venerate only what is truthful." From this regulating and balancing quality Conscientiousness is an important element in constituting a practical judgment and an upright and consistent character. It prompts those in whom it is large to be just in judging of the conduct, the opinions, and the abilities of others. Such persons are keenly scrupulous, and as ready to condemn themselves as to find fault with others. They are strict, even to punctiliousness, in performing and requiring others to perform every tittle of duty, and are rigid disciplinarians, especially if Benevolence be a smaller quality.

A deficiency of the organ produces conduct exactly the reverse. "One so organised," says Combe, "is not scrupulous, and rarely condemns his own conduct or acknowledges himself in the wrong. Minds so constituted may be amiable, and may display many excellent qualities ; but they are never to be relied on where justice is concerned. As judges, their decisions are unsound ; as friends, they are liable to exact too much and perform too little ; as sellers, they are prone to misrepresent, adulterate, and overcharge ; as buyers, to depreciate quality and quantity, or to evade payment." The organ was small in the head of Napoleon, and

Madame de Stäel tells us that he was never so completely at fault in his estimate of character as when he met with opposition from a person actuated by the pure principle of integrity alone.

It is very essential that those having the training of children should make the inculcation of principles of right and justice a paramount consideration.

Hope.

The seat of this faculty is on each side of Veneration and the fore part of Firmness, and in front of Conscientiousness. A vertical line from the front of the ear to the top of the head will pass through the lateral part of the organ.

The function of the organ, as its name implies, is to buoy the mind up with the influences of hope. The old Greek myth represented Pandora's box as containing all the ills that beset human life, but, beneath them all, hope. And so we find it in actual life—no matter what the troubles, the difficulties, and the miseries that surround, hope still sheds its cheering, even though delusive, ray, and makes tolerable the way that would otherwise be insupportable.

"Hope springs eternal in the human breast," says the poet; and if it were not so existence would be wretched indeed. Half the stimulus to labour would be gone, and the first disappointment in life would be the last.

The faculty produces the sentiment of hope in general or the tendency to believe in and antici-

pate the future attainment of what the mind desires, but without giving the conviction thereof, which depends on the intellect. When large, it paints the future in gay and fascinating colours, looks forward to to-morrow with unbounded expectations, and builds a world of airy castles that melt but to rise again. One so constituted is not long cast down by disappointment, but soon renews his efforts. Sometimes when this faculty is predominant, and not duly counterbalanced by other organs it imparts a reckless and speculative turn—one that over-rates chances and discounts difficulties. When, on the other hand, the faculty is deficient, there is lack of buoyancy and elasticity of mind, an indisposition to venture much, and a general tendency to droop and despond.

Hope is generally an active organ in the young, and is adapted to the life that is all promise. As age advances it grows weaker, or rather changes its focus, fixing its regard on the far future instead of the near. Hence the feeling, in those in whom the faculty is prominent, that the unfulfilled promise of this will be realised in a future life.

Spirituality.

This organ which sometimes appears on the busts as Marvellousness, is one of the most extraordinary of the mental faculties with which we are acquainted, and is consequently difficult of exact analysis and definition. Its place in the brain is anterior to Hope, and a great development of the convolutions through which its func-

tions are manifested enlarges and elevates the skull on each side of Veneration.

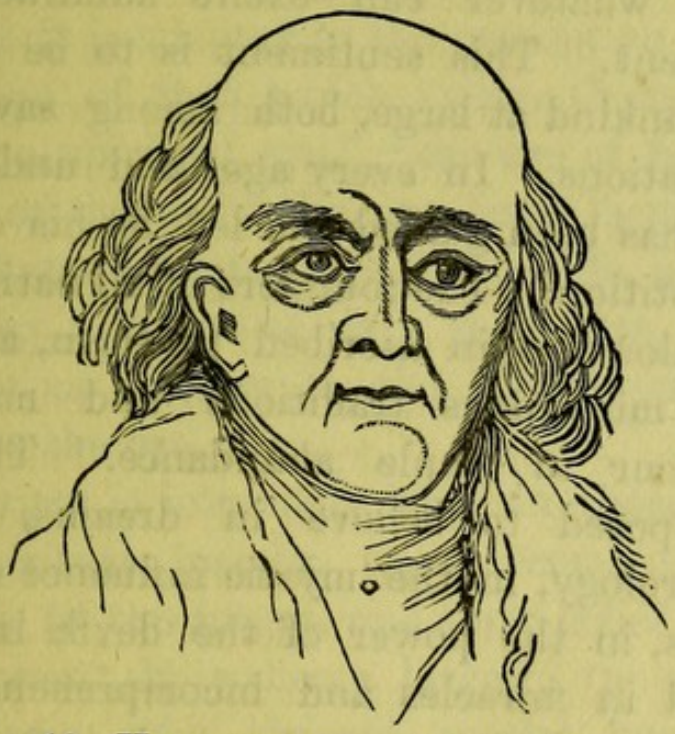


Fig. 13. HAHNEMANN. Spirituality large.

The name Spirituality, now generally given to the organ, recognises as a fact the existence of a spiritual state or condition of things, to which the faculty is adapted. But to say that its purpose or office is to relate the mind to a spiritual or supersensuous state of existence is to give but a moiety of its grasp. Dr. Spurzheim's views with reference to this faculty are much to the purpose. "There is still a sentiment," he says, "which exerts a very great influence over religious conceptions, and which, in my opinion, contributes more than Veneration to religious faith. Some find all things natural, and regulated by the laws of creation; many others are amused with fictions, tales of wonder, and miraculous occurrences.

They find in every passing event extraordinary and wonderful circumstances, and are constantly searching after whatever can excite admiration and astonishment. This sentiment is to be observed among mankind at large, both among savage and civilised nations. In every age, and under every sky, man has been guided and led by his credulity and superstition. The founders of all nations have had a fabulous origin ascribed to them, and in all countries miraculous traditions and marvellous stories occur in ample abundance. There are many disposed to believe in dreams, sorcery, magic, astrology, in the mystic influence of spirits and angels, in the power of the devil, in second sight, and in miracles and incomprehensible representations of all sorts. Some, also, are disposed to have visions and to see ghosts, demons, and phantoms. This sentiment gains credence to the true and also to the false prophet, aids superstition, but is also essential to faith and refined religion."

His observation of the effects of this organ led Spurzheim to determine at first to designate the sentiment by the name of "Supernaturality," seeing that it was "principally manifested by a belief in miraculous and supernatural circumstances," but further discrimination made him decide on the name "Marvellousness," because the emotion may be applied both to natural and supernatural events. This is a just estimate of the faculty, although it is probable that its application to natural occurrences arises from the inherent impulse given by a large development of the organs to see superhuman in-

tervention in all mundane affairs. Much is yet necessary for a thorough metaphysical analysis of the faculty; but facts seem to warrant the assumption that it is adapted to the perception and comprehension of that which exists, though unseen. It is "the spiritual eye," "the eye of faith," "the window of the soul," the prophetic faculty. If it does not stand related to a future life, as Hope is related to a future of days, it creates a state of existence as delusive to the higher sense as the mirage to the eye.

The organ is invariably large in those noted for their spiritual insight, their premonitions with reference to the future, and their belief in special providences. It is shown large in the portraits of Swedenborg, who claimed special knowledge of the spiritual world; of Ann Lee, the founder of Shakerism; of Quarles, the emblematist; of Bunyan, the "divine dreamer"; of Napoleon, the believer in "fate" and "lucky" days. It is also a prominent faculty in those poets characterised for their insight and creative genius, as, for instance, Shakespeare, Wordsworth, Milton, and Shelley. The quality of imagination, especially in its higher forms, is largely dependent on this faculty.

No power of mind needs more watching and more guidance in children than this, for when large, more particularly when combined with large Sublimity and small perceptives, it leads to romancing, and not unfrequently produces an actual inability to draw the line between the real and the imaginary. A friend of the author's, in whom

this organ is large, has often described to him imaginations and impressions which she has afterwards repeated as actual occurrences.

Many curious cases of disease of the organ are on record, and instances of its perversion, in giving extraordinary credulity, are of almost daily occurrence.

Veneration.

This organ has its seat in the middle of the coronal region of the brain, immediately behind Benevolence. It gives a rounded fulness to that part of the head when well developed.

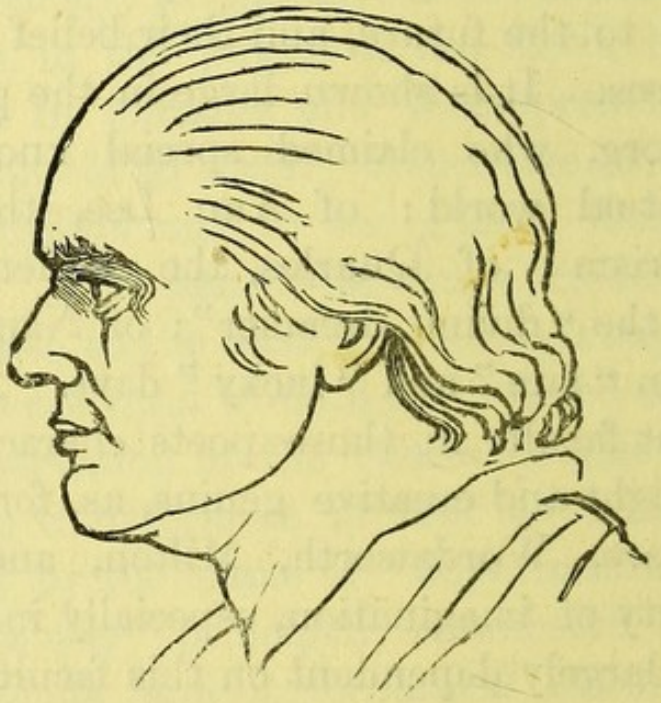


Fig. 14. Horne Tooke. Veneration large.

As its name implies, the faculty manifests the sentiment of veneration, and inclines to reverence and respect. It also gives the disposition to worship, and is doubtless a principal source of that natural religion which seems to be an inherent

quality of the mind, hardly a tribe of men having been met with wholly destitute of it. The conception of a Supreme and Creative Being is almost universal, although it assumes a very different form among different peoples—some grovelling in abject terror before the imagined presence of a powerful, malefic Deity; others supplicating as before an earthly king, possessed of sentiments of justice and goodness, but tyrannical and quick to anger; while still others simply adore a great and good Power, of whom the mind can conceive nothing, save as He is manifested to the eye through the created universe—His "vesture," as it has been called—or revealed to the spiritual sense. These different modes of conceiving the Divine Being, however, do not arise from Veneration. The faculty produces merely an emotion, and is dependent on intellect and the other sentiments for the form assumed by the object to which adoration or worship is directed. When not under the guidance of an enlightened intellect and cultivated feelings, it may lead to all kinds of religious absurdity—from the adoration of a tree or serpent to the worship of every power in nature.

Those in whom the organ is large and active manifest extreme ardour and delight in divine worship, and are pre-eminently fervent in prayer. Combined with an emotional temperament, it inclines to religious enthusiasm, especially in conjunction with Spirituality. The writer was struck with the almost uniform development of the organ among the members of the so-called "Salvation

Army," whose religion is almost purely emotional. A prominent organ of Veneration may exist along with scepticism, as in the case of Voltaire, who was, however, known for his great reverence for the Divine Mind.

Apart from religion, Veneration has a wide sphere of action in relation to mundane things. It produces the feeling of deference and respect towards persons, and forms an important ingredient in that deference for time-honoured forms, ceremonies, and institutions, and, indeed, for everything that bears the mark of age and authority, which is so striking a feature of the human mind. It is generally large in the antiquary. When the organ is small there is a tendency to cut away from the past, or at least to be influenced by it less—a desire to start anew and to make radical changes. There is also less deference for superiors in rank as well as in years, and no obsequious respect for authority. In children in whom the organ is small there may be love and affection; but there will be little of that deferential respect and filial piety which are such marked traits when it is large. If active Self-Esteem be combined with deficient Veneration, the child will be prone to disobey and to show a disregard of commands. It is of great importance that the faculty should be cultivated when small, and judiciously guided when predominant.

Veneration is generally larger in the female, than in the male head, and women are naturally more devotional and obedient than men.

Benevolence.

The situation of this organ is at the fore part of the top of the head. When large, it gives an arched appearance to the frontal bone, above the organ of Intuition; when small, the forehead is low and retreating. It is strongly marked in the head of Hahnemann (Fig. 13).

This faculty gives the desire to promote the happiness of others, and takes delight in the diffusion of enjoyment. It disposes to acts of kindness and humanity, and inclines the heart to tenderness and compassion. The charity which "suffereth long and is kind" arises from its active manifestation. It forms an important element in true politeness, and promotes generosity and neighbourliness of character.

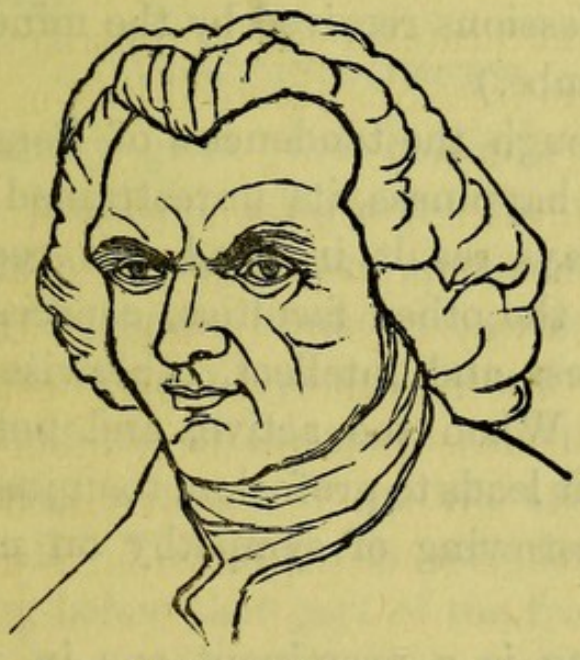


Fig. 15. J. J. Rousseau. Benevolence small.

When large, Benevolence produces liberality of feeling towards all mankind, a disposition to love them, and to dwell on their goodness rather than

the reverse. It gives a self-sacrificing disposition, and stimulates to active goodness. It is the animating faculty in the philanthropist, and in those who spend time, money, and energy in promoting the happiness and comfort of mankind.

Deficiency of the organ leads to a selfish disregard of the welfare of others. It does not produce cruelty, or predispose to badness of heart, but simply gives rise to an unsympathising cast of mind, and one little prone to pity. Individuals with a poor endowment of the faculty cannot enter into the happiness of others with the same zest as those who possess more of it; nor is their own enjoyment so great as it otherwise would be; for the faculty "is a great source of happiness to the possessor. It communicates a lively, amiable, delightful tinge to the impressions received by the mind from without." (Combe.)

But although the tendencies of Benevolence are to produce happiness, its unrestrained promptings do not always result in good. It requires to be directed by the other faculties, especially by Conscientiousness and intellect, otherwise it may produce evil. When too active, and not judiciously controlled, it leads to profusion, to unjust generosity, and the bestowing of sympathy on unworthy objects.

The organ is a prominent one in many of the lower animals, and is a marked feature in those noted for their mildness and docility, while those in which the faculty is wanting are almost untameable.

CHAPTER X.

THE ÆSTHETIC SENTIMENTS.

This group of faculties have been called "semi-intellectual"; they might, with equal appropriateness, be termed semi-moral, as they exert a powerful influence in impelling man to improve and perfect the conditions of his existence, beginning with his physical habitation and reaching up to his moral surroundings.

Constructiveness.

This faculty gives the building instinct, and, with that beautiful adaptation for which all the arrangements in nature are so marvellous, has its location in the space bounded on the one hand by the self-preserving propensities, and on the other by the intellect, while above are the perfecting faculties, thus seeming to partake somewhat of the natnre of all. The organ is situate in the convolution lying below that part of the frontal bone immediately above the spheno-temporal suture, and, when large, gives fulness and breadth to the head above the zygomatic arch. In some persons the organ appears a little higher than in others, and it is surmised by some phrenologists that this occurs

according as the faculty works with the perceptive or reflective intellect.*

Constructiveness is undoubtedly a primitive faculty of the mind, although by some the fact has been questioned. They argue that construction is a purely intellectual operation, dependent on the power to perceive the adaptation of things, and to apply them to certain ends. The answer to this is that if such were the case then those with the greatest intellect would uniformly be the greatest mechanical geniuses, which is decidedly not the case. For, in the first place, children often manifest constructive ability before the intellect generally is awakened. They will make carriages, boats, kites, model animals, or other objects in wax or clay, and construct machinery that the greatest scholars could ill imitate. Vaucanson as a youth made a wooden clock with an indifferent knife, after having seen it but once behind the glass of its case. Newton constructed a water-clock when he was thirteen. Sir Christopher Wren, the architect of St. Paul's, devised an ingenious machine at the same age, for representing the course of the planets. Again, insane persons have been known to manifest the greatest ingenuity in constructing things when otherwise they were incapable of a single consecutive intellectual operation. Not less remarkable is the development of the organ often present in idiots. Fouderé remarks†

* An ingenious friend of the author's suggested that the lower development of Constructiveness gives the farming instinct.

† "Traité du Goitre et de la Cretinisme."

"That by an inexplicable singularity, some of these individuals (Cretins), endowed with such 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 the harpsichord; others who understood, without ever having had a master, the repairing of watches and the construction of some piece of mechanism."

The faculty, moreover, is wonderfully exhibited in some of the lower animals, and being unaided by any but the merest scintillations of reflection, it is manifested in its purely instinctive form. The beaver always constructs a dwelling of a particular form. So with nest-building birds, with bees, with ants, and with other constructive animals, their structures are but slightly, if at all, modified by reflection or the power of amassing knowledge. These facts point unerringly to the faculty as a primitive power.

Constructiveness confers only the love and power of constructing in general; the results which it is capable of producing are influenced by other faculties. Thus with the self-preserving propensities large, it might be satisfied to simply construct a weather-tight abode, whereas with Ideality, it would want to beautify it. In combination with Weight, Order, and Calculation, machinery would probably be preferred; with Individuality, Form, and Size, sculpture; and with Eventuality superadded, painting. It is not, however, the province of Constructiveness to invent: that belongs more

to the reflective faculties; and yet it is probable that no great invention was ever made by one in whom Constructiveness was small.

Persons with the organ small show great clumsiness in doing anything requiring skill; they cannot learn the simplest trades, and are hard to teach the slightest deftness or handiness in the use of tools.

Ideality.

The location of this organ is in the temporal region of the frontal bone, immediately above Constructiveness. It gives lateral breadth to the head in this part. Dr. Gall found the organ large in those noted for possessing the poetic faculty and so called it "Poetry." Spurzheim, however, arrived at a more correct analysis of the faculty, and gave it the name which it now bears. He deemed it "impossible that poetry in general should be confined to one single organ; and I therefore thought that the name, 'Organ of Poetry,' did not indicate the essential faculty." His own name, "Ideality," fits the quality better, and yet exception has been taken to it. But it is difficult always to hit upon a word that covers the whole ground, and up to the present time no more appropriate designation has been found for the faculty. The function of the organ is really to give the æsthetic sense. It imparts an instinctive love of beauty and perfection, and forms an important element in the poetic gift. Combe thought it was this faculty which gives inspiration to the poet; but it appears extremely doubtful whether what we call inspiration arises

from one single faculty of the mind. That quality would rather seem to arise from different faculties or from a combination of them. It is true that the organ is almost invariably large in poets, but it is also large in persons who are not poets. Besides, there are some who write poetry, and who have large Ideality, whose writings betray no trace of inspiration. And in those whose productions manifest the true poetic inspiration, how different appear to be its source. In some love is the motive and inspiration, in others liberty, in others religion, in others beauty alone. Compare any of the poets and see how different is their inspiration. In one sensuous beauty is the controlling passion; another transports us into the region of ideas; a third is able to carry us

"... to the height of this great argument,
* * * * *
And justify the ways of God to men;"

while a fourth "dwells for ever on the simple tale of love." In the greatest poets the different faculties have each their due sway and influence, and in them alike "the meanest flower" or the highest human theme is capable of calling forth

"Thoughts that do often lie too deep for tears."

"This faculty," says Combe, "gives a peculiar tinge to all the other faculties. It makes them in everything aspire to Ideality.... Add a large development of this organ to the other propensities, sentiments, and reflecting powers, and it expands the field of their interest; carries them outwards, and

forwards, and upwards ; and causes them to delight in schemes of improvement."

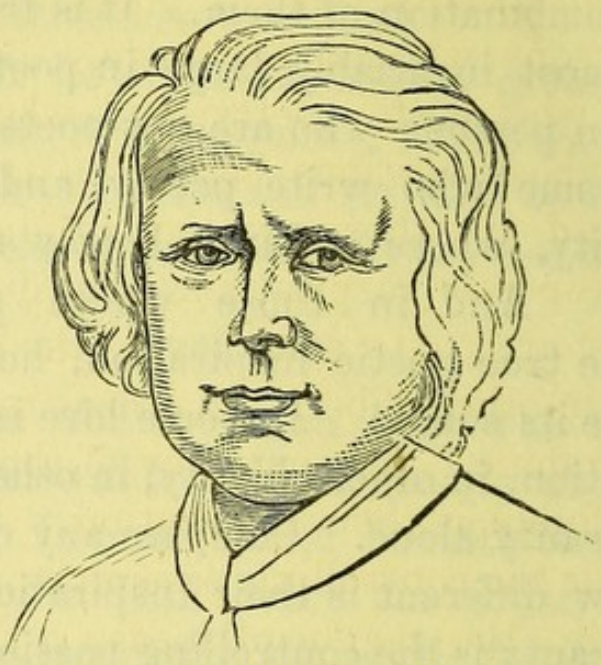


Fig. 16. Rosa Bonheur. Ideality large.

The organ is equally necessary to the artist, sculptor, composer, and orator, as to the poet. It gives perception of the beautiful, is a prominent element in taste and refinement, and stimulates to elegance of style and manners. Carried to excess it produces a finical and sickly refinement, and a fastidiousness that unfits for the soberer duties of life. An artist once told the writer that this faculty so dominated his mind as a young man that a beautiful young lady with whom he was in love effectually quenched his flame by exhibiting a healthy capacity to eat.

The organ is found to be deficient in all barbarous and rude tribes of mankind, and large in the nations which have made the highest advances in civilisation. It is also less developed in the lower than in the higher ranks of society, and the

nouveaux riches often fail to assimilate themselves to their new surroundings on account of the lack of this faculty in sufficient activity to enable them to become refined in their manners and tastes.

Sublimity.

This organ, which is situate backward of Ideality, and between it and Cautiousness (being bounded below by Acquisitiveness and above by Hope), is a later discovery. It was included by Combe and the earlier phrenologists in Ideality, though the former surmised that it was a distinct organ, and from its proximity to Cautiousness might have to do with the feeling of the sublime. In his definitions of the functions of Ideality he included emotions which have since been found to appertain to Sublimity. The former simply gives the sentiment of beauty, and in its cultivated state imparts taste and fancy; while to the latter belongs the power of developing imagination in its grander and more august forms. It is the sentiment of beauty mingled with awe; it imparts a sense of the vast, stupendous, and illimitable, and gives to the mind the power of enjoying nature in its ruggeder and more magnificent forms, even while the chill of fear creeps along the nerves.

The person in whom it is large and active delights to visit mountainous countries, to behold the beetling cliff, the roaring cataract, the towering summit—Pelion on Ossa, Ossa on Olympus piled—to roam along the sea-shore, and to mingle in emotion, as it were, with its wilder moods. The

emotion of the sublime is vividly displayed in Coleridge's poem on Mont Blanc—

"Hast thou a charm to stay the morning star
In his steep course? So long he seems to pause
On thy bald, awful head, O sovran Blanc!
The Arve and Arveiron at thy base
Rave ceaselessly; but thou, most awful Form,
Risest from forth thy silent sea of pines,
How silently! Around thee and above—
Deep is the air, and dark, substantial, black—
An ebon mass: methinks thou piercest it
As with a wedge! But when I look again
It is thine own calm home, thy crystal shrine,
Thy habitation from eternity!"

The faculty gives scope and expansiveness of mind, and has, perhaps, more to do with the poetic faculty in its higher form than Ideality. It confers depth and shade. Those in whom it predominates delight to depict scenes of gloom and terror; to delineate the darker passions of the soul; to paint, like Shelley, in "earthquake and eclipse." Such poets as Danté, Marlow, Milton, Byron, and painters like Martin, Turner, and Doré, manifest the faculty in a very marked degree. It is an almost essential faculty in the astronomer, to enable him to comprehend magnitude. The writer was never so much struck with the power of this faculty until he met with an English gentleman in Switzerland who had a perfect abhorrence of mountains, and whose most joyous anticipations of the millennial age were connected with the prospect of a perfectly flat earth. The same gentleman could not bear to hear astronomy mentioned, because, he said, if he thought on

the subject, it would drive him mad. His head was extremely narrow at this region.

Perverted, the faculty leads to bombast, exaggeration, and an inflated style.

Imitation.

The organ of this faculty is found in the convolutions between Benevolence and Ideality. When it and the organ of Benevolence are both large, the anterior portion of the coronal region of the head rises high above the eyes. If the latter be but moderate in development and Imitation large, the head is broad and flat at that part; while if the latter be small and Benevolence large, the skull has a slanting appearance, like the end of an egg.

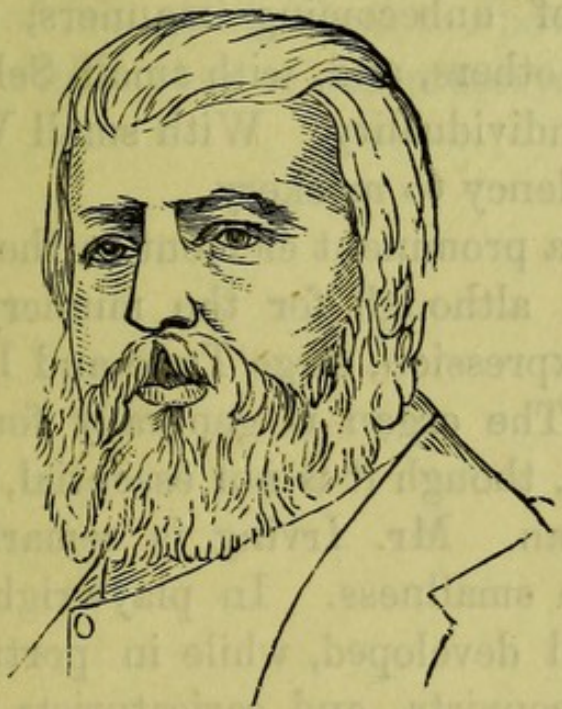


Fig. 17.—Meissonier. Imitation large.

As its name implies, the faculty gives the power to imitate and copy. It is of great importance in the mental economy, its legitimate function appear-

ing to be, as Dr. Brown observes, "the copying of virtuous actions and the enhancement of the effectual manifestation of the intellectual faculties." In the young it is usually more active than in grown persons. "Children," says Locke "(nay, men, too), do most from example; we are all a sort of chamelions, that take a tincture from things near us." Hence the necessity of good examples, both in regard to good manners and moral conduct, especially before children. Bad habits of speech, tricks of expression, uncouth gestures or modes of demeanour, copied in youth, are the hardest things to get rid of in after-life.

The faculty is one that may be abused. When large and not under proper restraint, it leads to the aping of unbecoming manners, to a slavish copying of others, and, with small Self-Esteem, to a lack of Individuality. With small Veneration it gives a tendency to mockery.

It forms a prominent element in the character of the mimic; although for the mimicry of tone of voice and expression, large Tune and Language are required. The organ is generally found large in good actors, though it is not essential, especially to the tragedian. Mr. Irving is remarkable for its comparative smallness. In playwrights also it is usually well developed, while in portrait-painters, sculptors, copyists, and caricaturists, it seems to be a necessary faculty. It forms, too, a large ingredient in the production of humour.

The organ is large in some of the lower animals especially in the monkey and the parrot. The

faculty is also possessed in a high degree by the mocking-bird (Turdus Polyglottus). "It's own natural note," says Dr. Good, "is delightfully musical and solemn; but, beyond this, it possesses an instinctive talent of imitating the note of every other kind of singing-bird, and even the voice of every bird of prey, so exactly as to deceive the very kind it attempts to mock. It is, moreover, playful enough to find amusement in the deception, and takes a pleasure in decoying smaller birds near it by mimicking their notes, when it frightens them almost to death, or drives them away with all speed, by pouring upon them the screams of such other birds of prey as they most dread." Imitation, too, forms a striking peculiarity of some of the lower forms of life, giving them the power to simulate objects, with a view to self-preservation.

CHAPTER XI.

THE PERCEPTIVE FACULTIES.

The office of these faculties is to take cognisance of the existence and qualities of external objects and their relation one to another. Eventuality, Time, Tune, and Language, from their having so much to do with the memory of events, dates, anecdotes, and the expression of ideas, are sometimes classed apart as the Literary Faculties.

Individuality.

This organ has its exterior manifestation in the middle of the lower part of the forehead, directly above the root of the nose. The central anterior convolution of the frontal lobe is its seat in the brain, and when large, it protrudes the skull, and gives breadth between the eyebrows. When small, the eyebrows approach each other very closely, and lie in a horizontal direction.

The function of the organ appears to be simply to individualise objects. Each of the perceptive faculties has a special duty to perform with reference to the perception of external things, according to their attributes or relations to other objects. Thus a thing may have size, weight, colour, form, or it may stand in the relation of order or time to others. It is the province of Individuality to notice objects as simply existing—as a tree, a ship, a man—

apart from their modes of action or the purposes they may subserve. It gives the desire to look, see, and observe. "Individuals in whom it is large," says Combe, "will observe and examine an object with intense delight, without the least con-

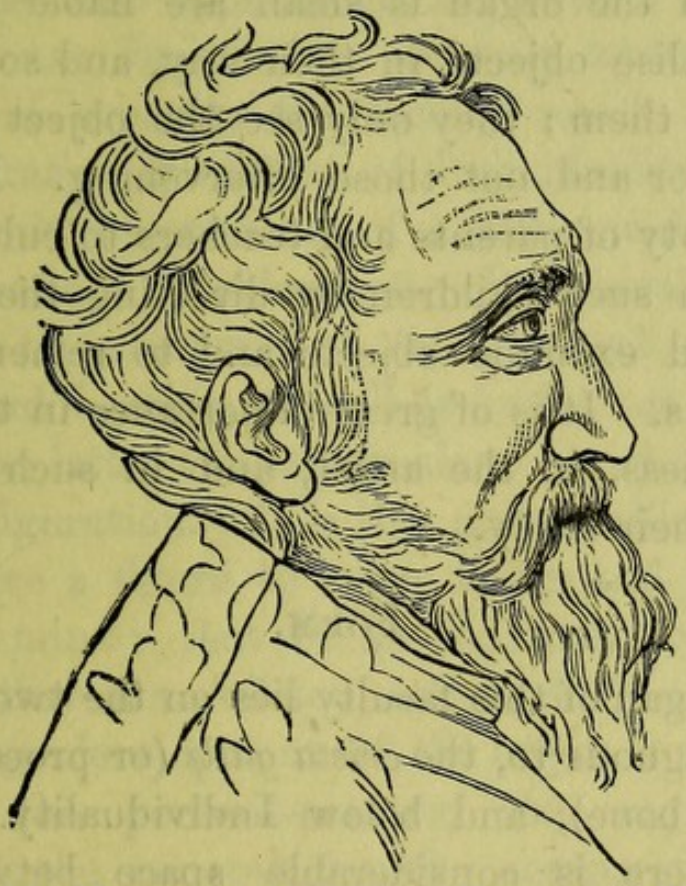


Fig. 18. MICHAEL ANGELO. Perceptives large.

sideration whence it has come, or to what it may be applied—a quality of mind which is almost incomprehensible to persons in whom the organ is small and Causality large. It prompts to observation, and is a great element in a genius for those sciences which consist in a knowledge of specific existences, such as natural history." It gives precision and minuteness to observation, and is remarkably manifest in the writings of Dickens, De Foe, John Stuart Mill, Ruskin, Darwin, and

others. Some persons, when they go out, see everything; others see nothing. There is a remarkable difference even in children in this respect. Some will come home from a walk full of what they have seen, while others can tell nothing. Children in whom the organ is small are liable to fail to individualise objects in their way, and so to stumble over them; they only see the object they are making for and not those intervening. It should be the duty of parents and teachers to cultivate the faculty in such children by directing them to observe and examine objects and to remember isolated facts. It is of great importance in those who do business, in the artist, and in such as make science their study.

Form.

The organ of this faculty lies on the two sides of, and contiguous to, the *crista galli* (or process of the ethmoid bone), and below Individuality. When large, there is considerable space between the orbitar plate and the crest, and great external breadth across the nose: when small, the width across the nose from eye to eye is small. A large development of the organ tends to force the eye downwards and outwards. (See Fig. 9 for the organ large.)

The function of the organ is to take cognisance of the forms, shapes, aud outlines of things. Dr. Gall designated it the organ of the Knowledge of Persons, because he found it large in those persons who had a special faculty for remembering faces.

Spurzheim, with his keener analytical mind, came nearer to a true appreciation of the function of the organ. "To me," he says, "there seems to exist an essential and fundamental power, which takes cognisance of configurations generally, and one of whose peculiar applications or offices is recollection of persons; for persons are only known by their forms. I separate the faculty which appreciates Configuration from that of Individuality, since we may admit the existence of a being without taking its figure into consideration. Individuality may be excited by everyone of the external senses—by smell and hearing, as well as by feeling and sight; while the latter two senses alone assist the faculty of Configuration. It is this power which disposes us to give a figure to every being and conception of our mind; that of an old man to God; to Death, that of a skeleton, and so on."

A large development of the organ is very essential to the portrait-painter, the engraver, the botanist, the mineralogist, the comparative anatomist. Cuvier owed much of his success to this organ; and of Bewick, the eminent wood-engraver, it was said by Audubon, that "his eyes were placed further apart than those of any man I have ever seen." Children in whom the organ is large learn to read with great ease.

Size.

It does not require much power of discrimination to perceive that form and size are two distinct qualities, as several things may be the same in

form but different in size. All eggs are very similar in shape, but present great variety as to size. Reasoning on this fact, Spurzheim inferred that there must be an organ with the function to perceive size, and observation has proved the soundness of this induction, for the situation assigned by him to the organ has been fully established by subsequent observation. The convolutions which constitute the organs of Size and Form are intimately connected. The locality of the organ is at the internal extremity of the arch of the eyebrow, on each side of Individuality. When large it causes the inner portion of the eyebrows to project outwards on the inner portion of the eyes, like the eaves of a house, giving to the eyes a sunken appearance.

The function of the organ is to give perception of size, quantity, dimension, and, with Form, of proportions. Combe made some interesting observations on this faculty, and came to the conclusion that it is "connected with the power of perceiving distance, and that it is a chief element in the talent for perspective."

A full development of this faculty is very essential to those who work by the eye, either as artists, sculptors, or architects, or as builders, machinists, or cabinet-makers. One with the organ large and active judges with surprising rapidity and accuracy of relative size, also of quality, texture, and so on.

The portraits of Reubens and Hogarth show the organ very large. It is also large in Rousseau (Fig. 15).

Weight.

The faculty to which the name Weight has been given has its seat in the frontal convolutions next to Size, and when large it gives an overhanging appearance to the eyebrow, a little outwards of that organ. An imaginary line drawn from the centre of the eye to the superciliary ridge divides the organ of Weight from that of Colour.

An exact definition of this faculty is more difficult than of some of the others, because it has so many phases of action. By the most eminent living phrenologists it has been described as an "intuitive perception and application of the laws of gravity, motion," &c., and a more concise definition could scarcely, perhaps, be formulated. It gives a sense of force and resistance as appertaining to objects, whether at rest or in motion. Persons who manifest great facility in judging of momentum and resistance in mechanics, who excel as marksmen or billiard players, or at quoits, or who readily perceive the plumb or perpendicularity of things, are found to have this part of the forehead prominent. The organ is also large in those who have a keen sense of equilibrium, or, in other words, the power of adapting motions to the law of gravitation. It is invariably found large in professional dancers and acrobats, also in good riders and skaters, and in seamen.

An active organ of Weight is very essential in conjunction with Constructiveness and the perceptive faculties generally, to the engineer and machinist, and indeed to most artisans who have to

work with or on resisting material. Children with the faculty weak are slow to walk, and when they do get on to their feet are inclined to stumble and fall. Persons with it large are graceful in carriage. It is large in Rosa Bonheur (Fig. 16).

Colour.

When large, this organ gives prominence and an arched appearance to the eyebrows, outwards from Weight. Its function is to perceive and recollect colours. When large and active the faculty gives delight in contemplating colours and a vivid feeling of their harmony or discord. Those in whom the organ is deficient take but little interest in colours and are almost insensible to difference of hue. The faculty is adapted to the circumstance that nature wears the most varied colours as signs and symbols.

Of late years considerable attention has been drawn to the colour-sense from the fact of so many persons being found to be colour-blind as it is called, that is, incapable of distinguishing between ordinary colours, although possessing perfectly good eyesight. The defect, when present in seamen, railway servants, &c., was found to lead to such serious accidents from the mistaking of signals, that in many services it was found necessary to put their employés through an examination, in order to test their ability to distinguish colours. These and other examinations have led to the discovery that upwards of 4·15 per cent. of males are deficient in the colour-sense; the proportion of women is much less. It is easy to understand this difference

when we consider that while females from infancy are accustomed to deal with colours, males are not. Energy of the organ gives a passion for colours though it may not be accompanied by correct taste, which seems to depend on other things.

The writer, from long observation, has been led to suppose that there is some connection between Colour and the development of the different regions of the brain. For instance, a basilar development seeks expression in "loud" colours, while the moral brain affects soberer hues. The idea was first suggested by a lady, in whom Colour is large, stating that, to her, particular mental qualities always appeared identified with certain colours. Further observation, however, is needed to confirm the supposition.

It is not without interest in connection with this subject to note the part that Colour plays in the life of birds.

Order.

The situation of the organ of Order is at the outer angle of the eyebrow, next to Colour. When large, the lower part of the forehead appears broad and square. It is a faculty of great importance in the mental constitution, disposing the individual in whom it is well developed to orderliness, method, and system—not only in mental, but in physical, matters. Much depends on habit and on the other faculties as to the way in which Order will be manifested in character. For instance, an individual may be personally untidy, and show dis-

orderliness about his room, books, &c., and yet be perfectly systematic in his business affairs and in the arrangement of his ideas. When the organ is very large and active, along with Ideality and Acquisitiveness, there is manifest great fastidiousness as to personal appearance and excessive neatness. The writer knew a professional gentleman in whom the organ was so large that it was a positive trouble to him. He was so sensitive to the least spot of grease or speck of dust that he was continually using his handkerchief to table, chair, or what not, in the presence of visitors.

When the organ is small, there is a lack of order and arrangement in everything. About one so constituted confusion is liable to reign supreme; everything is left about, and nothing is to be found when wanted. Such persons are liable to muddle in business and to muddle in study. It is very essential to cultivate the faculty in children where there is a deficiency.

Calculation.

The organ of Calculation—or Number, as it is sometimes called—is situate at the outer extremity of the superciliary ridge, adjoining Order. In proportion, as the eyebrows are long and extend outwards from the eye, will the organ be more or less developed. The function of the organ, as its name implies, is to compute. It is adapted to the numerical relation of things, and gives the talent for mental arithmetic. Dr. Gall called it *Le Sens de Nombres*, and regarded it as the organ of mathe-

matics in general. Spurzheim, however, limited its functions to arithmetic, algebra, and logarithms, and was of opinion that the other branches of mathematics, such as geometry, were not the simple results of this faculty: an analysis which was accepted by Combe. A fact recently came under the author's notice, which seems to bear out this observation. He was examining the head of an inventor, and told him that he was deficient in Calculation. "That is true," he said; "and yet how do you account for my being able to get right at a geometrical result when it takes my young men hours to work it out?" He had Locality and the reasoning brain large, with large Form, Size, and Individuality.

The organ of Calculation large, in conjunction with large Individuality, gives the talent for recollecting dates. Form also aids them in this, by retaining the idea of the printed numerals.

The faculty is almost invariably deficient, as is also that of Order, in savages, many races being unable to count beyond five or ten, or, at the outside, twenty. The organ is indicated small in the portraits of Zulus; and we are told that Zulu women lose count of their children's age after five years.

The question has been often discussed whether the lower animals can count, and to what extent. Dr. Vimont experimented with a dog to test its power of numeration, and came to the conclusion that it had an idea of number. Many facts have been observed which would lead to the same conclusion.

Locality.

The external manifestation of this organ is on the two sides of Individuality, immediately above Weight. When large it causes two marked prominences, running obliquely upwards and outwards from the sides of the former organ.

Dr. Gall was led to the discovery of this organ by observing, in the first place, that he found the greatest difficulty in remembering and retracing a path he had once trod, so that when he went on his natural-history expeditions he found it prudent to take with him a youth who was just the opposite of him in this respect, finding his way about the woods with the greatest facility. He subsequently came across other persons possessing the same peculiarity, and found in them the prominence above mentioned.

The function of Locality is to give cognisance of place, and of the relative position of objects. Those in whom it is large have an instinctive faculty of finding their way about; their memory of the features of a country and of landmarks is very great; they never lose themselves, either in the busy town or in the lonely country; and they have a passion for travelling and exploring. The faculty also gives a love of scenery and landscape, and is an important element in making a good geographer and astronomer. It is invariably found large in good pilots, navigators, and explorers; and is very strikingly indicated in the forehead of Livingstone, Cameron, and Stanley. Landscape painters and descriptive writers generally have it large. Combe

thinks that the faculty is essential to a good geometrician. "An opinion prevails," he says, "that mathematics afford exercise to the reflective faculties, and that their tendency, as a branch of education, is to cultivate the talent for general reasoning; some persons regard them as the best substitute for the useless logic of the schools. This idea appears to me to be erroneous. Geometry treats of the proportions of space, and algebra and arithmetic of the relations of numbers, and the three constitute the grand elements of the science of pure mathematics: for, judging of the proportion of space, the faculties of Size, Locality, and Individuality, aided by Comparison, are those essentially required; while the faculties of Number and Order, also aided by Comparison, are the chief powers necessary for dealing with the proportions of numbers. Causation always implies power, force, or agency; and the idea of causation or efficiency does not at all enter into the propositions of pure mathematics."

The faculty is generally weak in women in comparison with men, which may be accounted for by their generally relying on men to lead the way.

It is also a marked mental feature in some of the lower animals. In dogs especially there is manifest such a faculty for finding their way home that some naturalists have been led to admit an occult cause of this surprising instinct, and named it a sixth sense. There is no need for such an invention, however, the talent being explained by Locality. Dr. Gall attributes the migration of swal-

lows, nightingales, and other birds at certain seasons of the year to periodical and involuntary excitement of this organ. The organ is particularly large in Michael Angelo (Fig. 18).

Eventuality.

This organ is situate in the middle of the forehead, directly above Individuality. When large it gives prominence and fulness at that part, and is often a marked feature in children. The function of the organ is understood to give a consciousness of life, a delight in noting its endless concatenation of events, a sympathy and a curiosity with regard to each new development, and a vivid memory of every incident and scene in the moving panorama. The page of history, as a record of life, and the drama, as a representation of life, also appeal to this faculty. Scholarship having largely to do with the recorded experiences of life depends very much upon the same quality of mind.

Dr. Gall looked upon the part of the brain comprising this faculty and Individuality as the organ of "the sense of things" (*Sens des choses*), because he found persons prominently developed in this part of the forehead possessed a great memory of facts, a strong desire for information and instruction, and, in addition, considerable facility of apprehension. We owe to Dr. Spurzheim a more correct analysis of the two faculties, though he probably gave to it a too-extended activity. "It seems to me," he says, "that this faculty (Eventuality) recognises the activity of every other, whether

external or internal, and acts in its turn upon all of them. It desires to know everything by experience, and consequently excites all the other organs to activity. . . . is fond of general instruction, and inclined to the pursuit of practical knowledge, and is often styled *good sense* in our proceedings. It is essential to editors, secretaries, historians, and teachers."

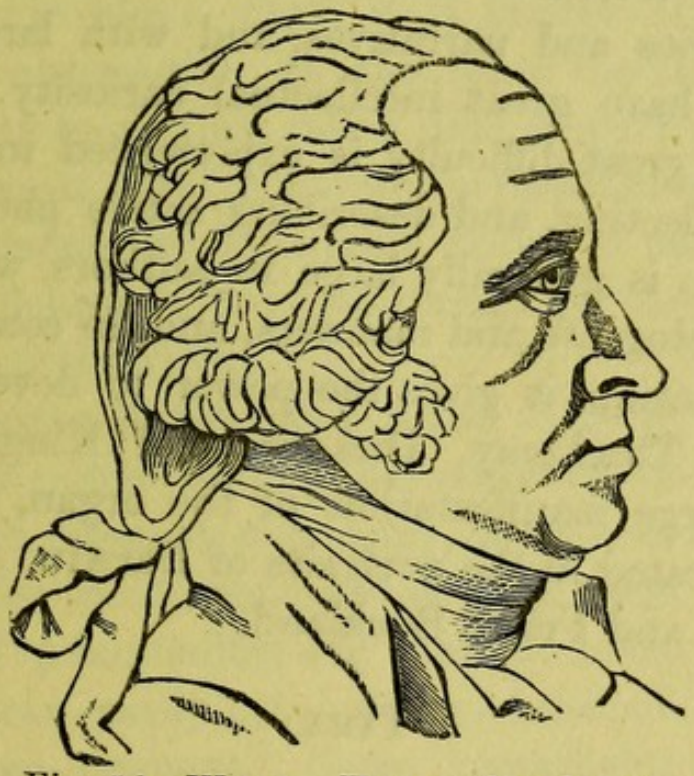


Fig. 19. West. Eventuality large.

Dr. Gall was of opinion that the development of the organ (including Individuality) gave educability or perfectibility in the lower animals. He forms a scale of the heads of animals—from the crocodile and frog up to man, with the view of proving that the more this part of the brain is developed in each species the higher are its natural susceptibilities of being tamed and taught. Dr. Spurzheim, while acknowledging the correctness of the facts stated by Gall, that tame animals have fuller foreheads

than wild ones; and that animals are generally tameable in proportion to the development of their foreheads, was of opinion that he erred in attributing to a single faculty manifestations which depend on the intellect as a whole.

Children in whom Eventuality is large are quick to learn, precocious in picking up information, and have retentive memories. They are delighted with stories and narratives, and with large Individuality have great intellectual curiosity. When deficient, great difficulty is experienced in observing, recollecting, and describing active phenomena. The organ is generally large in authors who excel in describing life and manners, and, in combination with Intuition, it gives the power to develop character. Thackeray, Dickens, and Kingsley had each a large manifestation of the organ, and it is also indicated in the portraits of Darwin, Alfred R. Wallace, and Frank Buckland.

Time.

Mr. Combe describes the function of this organ to be "the power of judging time, and of intervals of duration in general," and adds that "by giving the perception of measured cadence, it appears to me one source of pleasure in dancing." It is adapted to the measurement of time, and gives delight in rhythmical movements, like the measured tramp of marching men, the tact in music, and the harmonious flow of accents in versification.

A writer in the *Phrenological Journal* (quoted by Combe) says: "We have found the organ largely

developed in those who show an intuitive knowledge of the lapse of minutes and hours, so as to name the time of the day without having recourse to the clock; and also in those who perceive those minute divisions and their harmonious relations which constitute rhythm, and who, when they apply the tact to music, are called good timists—a distinct power from that of the mere melodist, and often wanting in him; while it is matter of the commonest observation, on the other hand, that this sensibility to rhythm, called time, is marked in those who have a very moderate perception of melody. Such persons are invariably accurate dancers, observing delicately the time though indifferent to the melody of the violin."

The organ is invariably found large in the heads of poets noted for the harmony of their versification, in eminent musicians, as well as in persons known for the diligent use of their time. It gives a love of punctuality, and those in whom the organ is large can easily get into the habit of waking at any given moment. Some remarkable instances are on record of persons who were enabled by this internal monitor to tell the hour of the day with the greatest exactness, and even to mark the minutest divisions of time by the same means. The faculty is also possessed by some of the lower animals, and many amusing and instructive anecdotes are told illustrative of it.

When the organ is small there is lack of a proper sense of the lapse of time, a tendency to unpunctuality and procrastination, as well as a want

of appreciation of tact in music and rhythm in poetry. The situation of the organ is outward from Locality, above the middle of the eyebrow, and, when large, it gives fulness to that part of the forehead. The portrait of Schiller (Fig. 3) shows the organ large.

Tune.

The organ of this faculty enlarges the lower lateral part of the forehead, immediately above the outer angle of the eyebrow. It adjoins Time, and when the two organs are large, they give breadth and fulness to the forehead at this part. When Tune is small a more marked angularity occurs at the lower lateral edge of the frontal bone. There is a difference however, in the manifestation of the organ. In some, as Mozart and Handel, it gives an enlarged, but rounded form to the temporal region; while in others, as Glück and Wagner, the organ has a pyramidical form.

This organ is the *pons asinorum* of young phrenologists, and of some old ones. A good deal of practice is necessary before it can be judged of with accuracy. "Beginners," says Combe, "should place together one person possessing a genius for music, and another who can scarcely distinguish between any two notes, and mark the difference of their heads. The superior development of the former will be perceptible at a glance."

The function of the faculty is to give sense of sounds, and appreciation of their harmonious and melodious relation. It is the musical faculty, and

forms an essential, though not the only ingredient in a genius for music. Time is necessary to give a just perception of rhythm; Ideality and Imitation to give refinement and expression; Individuality, Weight and Calculation to communicate the proper touch, expertness, and execution, and so forth. It is possible for persons to be tolerably good players, without a large development of the organ, Imitation and manual dexterity giving ability in this direction. Many persons have great love of melody, and the power to produce it, who are not, and could not become musicians. Melody arises from the succession of simple sounds suited to each other; harmony from a combination of sounds, or from several striking the ear simultaneously, as in an orchestra. The former requires a much smaller development of the organ of Tune than the other.

The organ is generally large in poets who are distinguished for the musical flow of their versification, and particularly in those noted for their lyrical talent. It is also an important item in the mental constitution of the orator, enabling him to communicate the proper pitch and cadence to his voice in order to give force to his periods.

The faculty is possessed by many of the lower animals, particularly by birds.

Language.

A large development of this organ is manifested by a prominence of the eyes and fulness of the under eyelids. This appearance is produced by cerebral convolutions situate on the lower side of the

anterior lobe, at the posterior part of the supra-orbital plate, pressing the latter, and with it the eyes, more or less forwards, downwards, or outwards according to the size of the convolution. These convolutions constitute the organ of Language, and are said to be peculiar to man, and, according to some anatomists, the higher apes, though in the latter they appear in a very rudimentary form.

A good deal of interest attaches to the organ of Language, because the most determined anatomical opponents of the phrenological doctrine of the division of the brain have been obliged to acknowledge the existence of a special cerebral organ for the manifestation of language. It has long been known that a diseased condition of a certain portion of the frontal lobe results in a loss of the power of speech; but it is only of late years that the fact has been fully recognised by anatomists. The disease is known as aphasia, and *post-mortem* examinations of such aphasic individuals have established beyond question or doubt that the convolutions immediately behind the supra-arbital plate are concerned in the production of speech. Dr. Althaus, in a recent article in the *Nineteenth Century*, says: "One of the most suggestive results of recent research has been to show that the faculty of intelligent language, as distinguished from simply articulate speech, is situated in that portion of the hemispheres which is called the third left frontal convolution, and its immediate neighbourhood."

The function of the organ appears to be to give expression to ideas by means of vocal and other

signs. While the conception and retention of ideas and emotions result from the action of other faculties, to Language belongs the province of inventing and employing symbols for communicating those states of mind. It is the naming faculty, and gives pleasure in the identification of things by name and epithet; it delights in the use of descriptive words and phrases; and, in combination with Mirthfulness, is the ruling principle in the creation of nicknames and slang.

Persons in whom the organ is large are characterised by their memory of vocables, and by their aptness and facility in the use of language. When excessive in development, or unrestrained by the other faculties, it gives rise to talkativeness, repetition, verbiage, and mere babble. Children with a good development of the organ learn to talk easily, learn foreign tongues readily, and use language with great aptitude. Those in whom it is small are backward in speech, and experience a difficulty in expressing their ideas.

It was the observation of the connection of a projecting eye with memory of words and facility of expression that started Dr. Gall on the track of investigation which led to the development of the phrenological system. He was of opinion that there were two organs of language, one giving a sense of words and verbal memory, and the other being connected with a talent for appreciating the spirit of languages, and for philology. The former he describes as lying on the posterior half of the supra-orbital plate, and, when large, pushing the

eye outwards ; it communicates ability for learning and recollecting words, and persons possessing it large recite long passages by heart after reading them once or twice. The other, he says, lies on the middle of the anterior part of the supra-orbital plate, and, when it is large, the eyeball not only projects, but is depressed. Persons possessing this form of eye manifest a particular disposition for the study of languages, and for the cultivation of literature in general. Both Spurzheim and Combe differed from Gall in respect to this duplicate character of Language ; but later phrenologists incline to the belief that there is foundation for the views of the latter. The organ is indicated large in Tyndal and Horne Tooke (Figs. 21 and 14).

CHAPTER XII.

THE REFLECTIVE AND INTUITIVE FACULTIES.

In no respect is man's superiority over the brute creation more fully exhibited than in those faculties which confer on him the power of reason and intuition. They enable him to pierce the veil of effects which surround him, and perceive the causes of things, thus allying him, as it were, to the creative mind. They also produce those intellectual qualities that are the most distinctively human.

Comparison.

When we come to the higher intellectual faculties, the difficulty of exact discrimination and description of function becomes greater. In the case of the perceptive faculties we find each organ adapted to some particular relation of the external world, as Individuality to objects, Eventuality to the phenomena of life, Form to the contour of things, and so on; but in the case of the reflective faculties we cannot so readily define any such special adaptation, though it doubtless exists. The functions of the organs become more abstract, and we can only describe them by observing the results of their action. Thus, in the case of Comparison, by the observation of those in whom the organ is large, we are led to infer that its primary office is to note

resemblances and differences, not merely in respect to one class of things, but as regards all that comes within the sphere of human cognition. Thus it compares and contrasts objects, actions, states, conditions, emotions, and ideas, and by noting minute differences and resemblances draws inferences with reference to them. It is the inductive faculty, and reasons by analogy and analysis from effect to cause; it confers the critical talent, and, with large perceptive powers, forms an important element in the scientific mind, disposing to the classification and systemisation of facts.

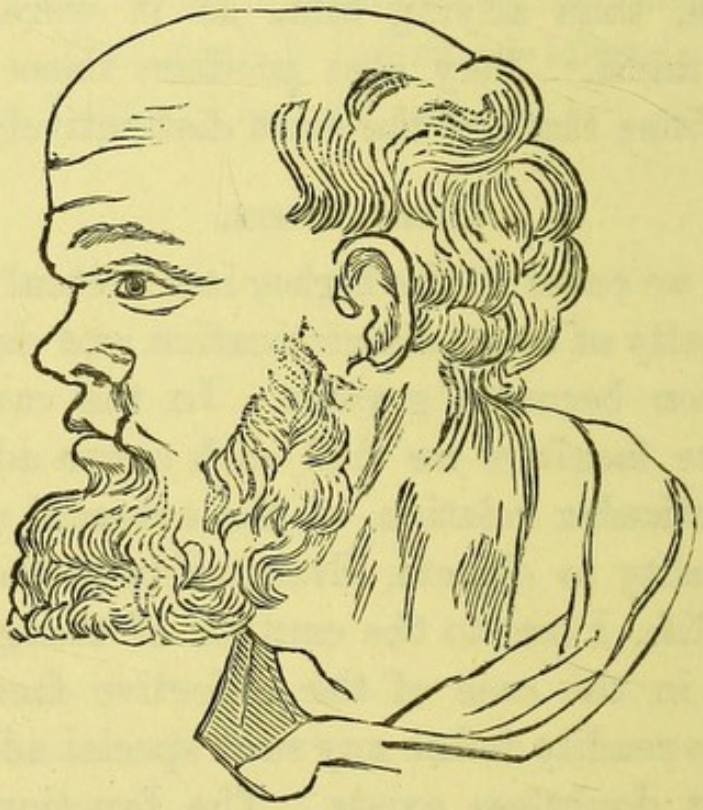


Fig. 20. SOCRATES. Reflectives large.

Persons in whom the organ is large are apt at illustration, much given to the use of simile and metaphor, and quick to perceive discrepancies and remote resemblances. With the intellect generally

and the moral brain well developed, it gives perspicacity, nice discrimination, and accurate generalisation. It is very essential in almost every sphere of life, giving practical judgment in business affairs, and readiness and aptitude in all that refers to art and scholarship.

The organ, when large, gives fulness and prominence to the upper middle portion of the forehead, immediately above Eventuality. It is particularly large in Socrates.

Causality.

The organ of this faculty is situate on each side of Comparison, and gives breadth and fulness to the upper part of the forehead. When the perceptive faculties are comparatively small, large Causality causes an overhanging forehead. The faculty is adapted to the perception of causation, and gives *à priori* reasoning power.

We say that Comparison draws inferences from phenomena, or effects, as to the causes of those effects, but it goes no further than is warranted by known facts. Causality, on the other hand, reasons from cause to effect. It seizes hold of abstract principles, and deduces effects from them. The action of the faculty is strikingly exemplified in Dr. Gall, the founder of phrenological science, in whom it was large. After having arrived, from some of his earlier observations, at the conclusion that the brain was a multiple organ, his subsequent practice was almost invariably to note people's peculiarities, and whenever he hit upon some quality so predo-

minant as to lead to the supposition that a trait thus marked must, according to his theory, be manifested with equal prominence on the skull, he took a cast of the individual's head and compared it with those of others exhibiting the same mental peculiarity, and was so led to the discovery of many of the organs.

The history of discovery is replete with instances of the kind, some far more striking than the one here adduced. The discovery of the real form of the Earth's orbit and that of the other planets, and the velocity with which they move in the various portions of those orbits, and their relative distances from the central body, was due to the exercise of abstract reasoning on the part of Kepler, and his portrait indicates a very prominent organ of Causality.

Dr. Gall noticed that in men distinguished for profound, penetrating, metaphysical talent, the parts of the brain lying on both sides of Comparison were very prominent. He found the development particulary marked in the heads of the most zealous disciples of Kant, and in a still more remarkable degree in that philosopher himself, whose mask he and Dr. Spurzheim subsequently examined. From observing the organ large in these and other men, like Fichte, noted for their profoundly metaphysical cast of mind, Dr. Gall named it *Esprit métaphysique, profondeur d'esprit*, which Spurzheim afterwards changed to "Causality." It will be observed large in the portraits of all men distinguished for their strong reasoning powers, their comprehensiveness

of mind, their strength of understanding, and their capacity to grasp the principles and causes of things. It is invariably prominent in inventors, discoverers, and such as are characterised by depth of thought, in whatever direction manifested. The busts and portraits of Socrates show it large; it is also large in Copernicus, Galilio, Luther, Locke, Franklin, Bacon, Newton, Voltaire, and all whose minds have dealt with the subject of causation, and struck out new lines of thought.

Causality, says Combe, "perceives the dependencies of phenomena, and furnishes the idea of causation, as implying efficiency or something more than mere juxtaposition or sequence. It impresses us with an irresistible conviction, that every phenomena or change in nature is caused by something, and hence, by successive steps, leads us to the great Cause of all. . . . It gives deep penetration and the perception of logical consequence in argument. It is large in persons who possess a natural genius for metaphysics, political economy, or similar sciences. When greatly larger than Individuality, Eventuality and Comparison, it tends to vague generalities of speculation, altogether inapplicable to the affairs of life; and hence those in whom it predominates are not calculated to shine in general society."

When the organ is large in children, it stimulates them to be continually asking the why and wherefore of things. Many facts in natural history lead to the supposition that the organ is developed in some of the lower animals.

A great defect of the faculty renders the intellect

superficial, and disqualifies persons so constituted for forming large and comprehensive views of things, either in regard to business or abstract science.

Mirthfulness.

The definition of this faculty has occasioned more difficulty than perhaps any other. It has been supposed by some that the function of the organ is simply to manifest the sense of the ludicrous. The general consensus of opinion among phrenologists, however, inclines to the view that it gives perception of difference and incongruity, and is not necessarily related to laughter. It has been called the organ of Wit, but that quality appears to consist of any form of intellectual conception combined with this sentiment, just as humour arises from a combination of Mirthfulness with Intuition and Secretiveness.

The organ is situate at the upper lateral angle of the forehead, in a line with the outer corner of the eye, and between Ideality and Causality. It gives fulness and width to the forehead at this part, and is seen in a very marked degree in the foreheads of Rabelais, Chaucer, Sterne, Sydney Smith, Richter, Dickens, and Thackeray. It is generally large in eminent comedians, and not unfrequently in popular speakers and preachers. John Bright, Spurgeon, and Sir Wilfrid Lawson, are striking instances in point.

The faculty of Mirthfulness is a very important one in the mental assembly. Without it the heart would be destitute of that gaiety and cheerfulness

so essential to a healthy condition of the mind, and through it of the body. Much too of the pleasure of life would be absent. It gives zest to conversation, and takes the edge off too much soberness and gravity. It is a lightener of burdens, and a curer of sadness :

"A merry heart goes all the day,
Your sad tires in a mile-a,"

sings Autolycus, and there is good philosophy in the refrain.

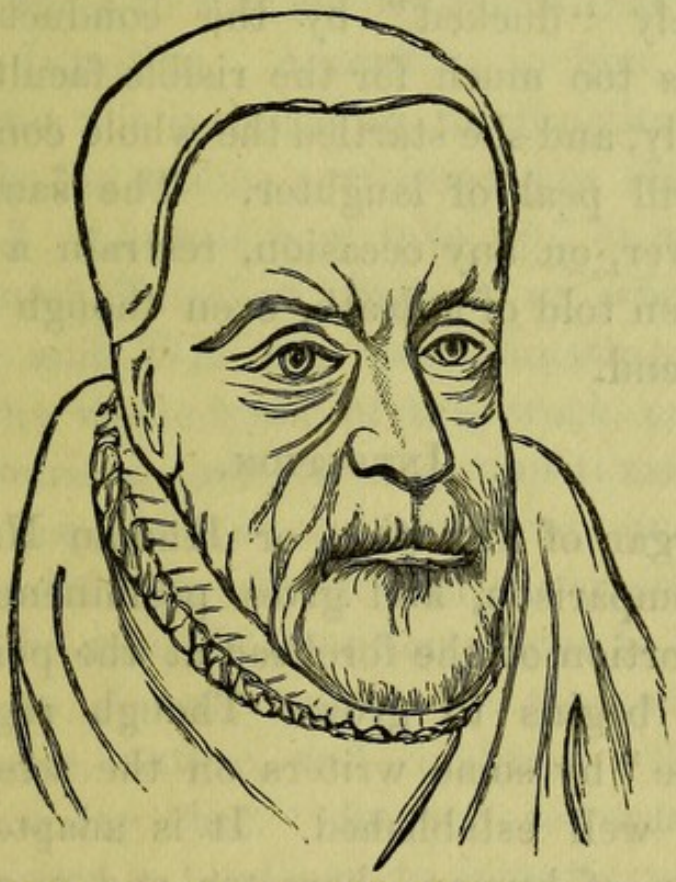


Fig 21. TYNDAL. Mirthfulness large.

Like others, however, the faculty may be subjected to abuse. When large and not properly restrained by other powers, it is liable to lead to clownishness and to the saying of foolish and improper things in order to raise a laugh ; also to un-

seemly mirth and hilarity, and a lack of proper sobriety on solemn occasions. The writer once accompanied a young lady with the organ large and a small development of Secretiveness to a small chapel where baptism by immersion was practised. At the conclusion of a prayer in which the conductor of the service referred to the baptism in Jordan, a large trap-door in the floor was opened, discovering a tank of water. A white-draped female figure then appeared and descended into the pool and was deliberately "ducked" by the conductor. The effect was too much for the risible faculties of the young lady, and she startled the whole congregation by a shrill peal of laughter. The same person could never, on any occasion, restrain a smile or laugh when told of a death, even though it were of a dear friend.

Intuition.

The organ of Intuition, or Human Nature, lies above Comparison, and gives prominence to the central portion of the forehead at the point where the hair begins to grow. Though regarded as "probable" by some writers on the science, it is tolerably well established. It is adapted to the perception of human character and motives, and gives intuitive discernment of the springs of action. Those in whom it is large take delight in studying human nature, and have a kind of natural sagacity in dealing with men. It forms a prominent quality in the mental constitution of those who excel in the portrayal of character, and is a marked

feature in the forehead of Shakespeare, than whom, perhaps, no man ever had such a knowledge of the human heart, its weaknesses and its strengths. In eminent dramatists, satirists, and novelists the faculty is seldom deficient. It was large in Dickens, Richter, Cervantes, Scott, and must be prominently developed in George Eliot. It is also large in Socrates (Fig. 20).

A writer in the *Phrenological Journal*, quoted by Combe, in giving an analysis of the function of Wit, attributes to that faculty offices that in reality belong to Intuition. According to him, the study of character "is included in the functions of Wit, not merely the actions performed, but the real dispositions." "Let us now take up," he says, "the 'Sentimental Tour' of Sterne, in whose mask Causality and Wit are predominating organs." Almost the whole tenor of this work, unlike that of most tourists, consists of disquisitions concerning the dispositions and inherent qualities of persons and things; for, instead of narrating whom and what he saw, his attention seems to have been absorbed in speculations as to their conditions, dependencies, nature, and qualities. The writer goes on to say that, "directed towards man, it probably gives a tendency to investigate the real character, instead of resting content with observing appearances or actions, which seems to have been greatly the bent of Sterne's mind, and considerably so of that of Franklin."

The writer, it will be observed, is endeavouring to account for certain peculiarities of Sterne's style

of writing by giving a more extended function to Wit than had previously or has since been accorded to it. The organ of Intuition, or Human Nature, had not yet been discovered,* and so he was at a loss to account for certain qualities that did not seem to fall within the province of any of the known faculties, unless it were Wit. It is curious to note that the portraits of Sterne indicate large Intuition as well as large Mirthfulness, and the two together account for the peculiarities of his writing. In Franklin, too, Intuition was a prominent development.

When large the faculty not only gives an instinctive insight into character, but a desire to study human nature, and therefore a predeliction to mental philosophy. It also forms a considerable item in that power which some possess in so high a degree of controlling and directing men. Successful diplomatists generally manifest a large development of the organ. Perverted it produces suspicion.

When small there is a lack of knowledge of men.

Agreeableness.

This name has been given to the portion of brain lying on each side of Intuition and above Causality. It is difficult, at first sight, to regard the power of making one's-self agreeable to others as a primitive faculty of the mind, because there are so many ways of ingratiating one's-self into the favour and good-

* We are indebted for the discovery of this organ to Mr. L. N. Fowler.

will of others, that the power seems to depend on a number of faculties rather than on one. Perhaps the name is not the happiest, and yet it seems to hit the more common mode in which the organ manifests itself, that is, in making the person with it large adapt himself agreeably to those with whom he comes in contact. There are some in whom courtesy is an inborn quality; even in refusing a proffered favour, or rejecting a petition, they do it with a grace and suavity of manner that quite takes the edge off the rebuff; others in accepting the same would not leave so good an impression. Veneration causes persons with the organ full or large to treat others with respect, and active Benevolence gives kindliness of manner; but these are something quite different to the quality produced by the organ of Agreeableness. It cannot, perhaps, be better described than as the disposition to introduce one's-self pleasantly and acceptably to others, to smooth the asperities of life, and to hide what is rugged and ungainly. Perhaps no one word expresses the faculty better than "Courtesy."

Those in whom the organ is large are characterised for their blandness of manner and persuasiveness of address. Such a person will do the most insignificant act, even if it be but the selling of a bit of tape, in a pleasing and agreeable way, while another, with perhaps more inherent goodness of nature, but with a less degree of this faculty, will be awkward and uncouth even in his attempts at politeness.

When properly directed, no single quality of

mind is so well qualified to make society pleasant and enjoyable as this. But it is open to abuse. When over large, or not kept in due check by other faculties, it gives a tendency to an exhibition of too much blandness and urbanity, disposes to a too conciliatory tone of mind, and may lead to a certain amount of subserviency in order not to ruffle good feeling. The portrait of Tyndal indicates this organ large (Fig. 21).

CONCLUSION.

In studying psychology it is not only very essential to take into account the influence of the body upon the mind, but also the combined action of the organs, as well as their morbid or diseased condition. Into the latter subject space will not allow of our entering here; and, indeed, it is one respecting which there is yet very much to learn.

In regard to the united action of the faculties much information may be gained by observation. It is comparatively rare to find any of the faculties acting singly. The Social feelings, for instance, work together, one stimulating and, to some extent, regulating the action of another. In like manner the Selfish propensities are brought out and sustained by one another: the desire for food, for example, exciting the action of Acquisitiveness, Acquisitiveness that of Secretiveness or Des-

tructiveness, and so forth. The same class of faculties is very influential in calling into play the various powers of intellect, as observation, discrimination, and reflection; and these, in exciting the Moral sentiments and the so-called self-perfecting powers.

Those powers of mind that were recognised by the old metaphysicians as primitive faculties, such as Judgment, Memory, Imagination, &c., are the result of a combined action of other qualities. Judgment may justly be described as the result of the combined action of the intellect, together with the Moral, Æsthetic, or Social faculties, on a given subject. Imagination, as shown elsewhere, is no more a primitive power than memory, of which we have almost as many kinds as there are individual faculties. A writer in the *Phrenological Magazine* says, in reference thereto:

"When we come to analyse Memory in this way, we begin to understand what a wondrous power it is. Let us try to estimate the number of impressions that an ordinary individual—say even a person with a 'poor' memory—can and does ordinarily retain in the mind, and the result is almost astounding. First, there comes his own experience, including thousands on thousands of single events; then the lives of may-be hundreds of persons, his relatives or friends; then the impressions of hundreds of places he has visited, and in each place hundreds, even thousands, of details; then the various aspects of nature, the forms, colours, sizes, seasons, qualities, &c., of natural

objects; then the results of education and study the details of business, the thousands on thousands of heterogeneous facts, thoughts, impressions, and imaginations that crowd themselves upon the mind from day to day, and from year to year, and all these impressed in some mysterious, inscrutable way on the tablet of the brain, stowed away, hidden from view, forgotten, as it were, until the moment that they are wanted, when they shine forth like phosphorescent writing in a dark chamber."

We do sometimes see one power acting alone, or one or two taking the control, as it were, of the mind as a whole, but the result is not generally good, for the more unity there is among the faculties, the more uniform and the stronger is the effect of mental action.

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