

Phrenology, the science of the mind : the student's enchyridion / by J.P. Blackford.

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PHRENOLOGY.
THE STUDENT'S ENCHYRIDION.



— BY —
J. P. BLACKFORD.



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To J. Millott-Severn, F.B.P.S.
With the sincere admiration
and affectionate regards of
The Author



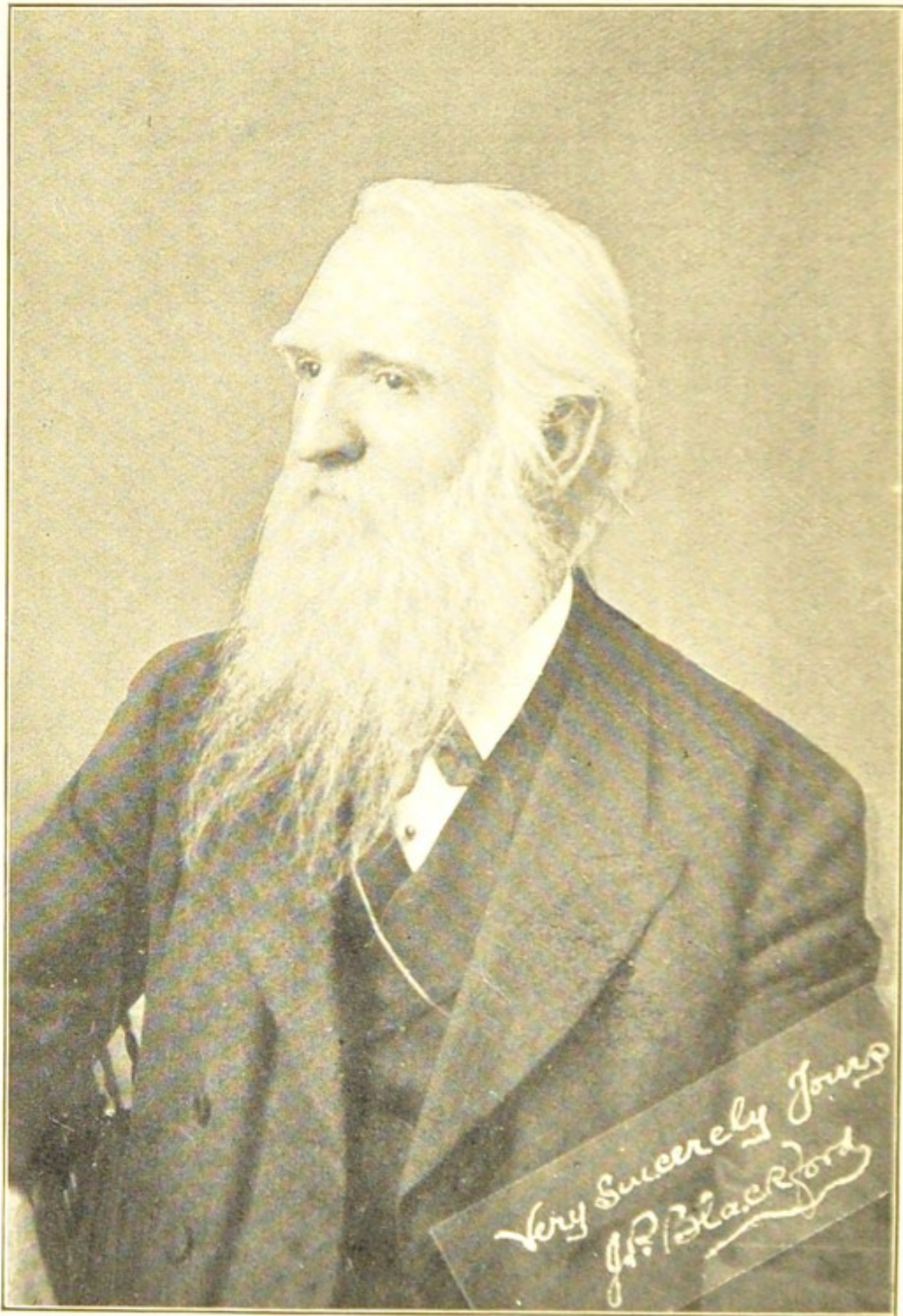
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PHRENOLOGY:

THE SCIENCE OF THE MIND.

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J. P. BLACKFORD, F.B.P.S.

PHRENOLOGY :

—THE SCIENCE OF THE MIND.—

The Student's Enchyridion.

By J. P. BLACKFORD, F.B.P.S.

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Incorporated.*

*Ex-Tutor of Students, and Ex-Member of the
Examining Board of the Society.*

*Late Editor of the POPULAR PHRENOLOGIST and
the BRITISH PHRENOLOGICAL YEAR BOOK,
etc., etc.*

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PHRENOLOGY

THE SCIENCE OF THE MIND

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PREFACE.

TO THE READER.

There has long been an expressed wish among phrenologists that the information contained in the following pages (which is not at present otherwise procurable in printed form) should be available for Students of Phrenology; hence the appearance of this volume. Whilst it makes no pretension to be a complete text book of the subject, yet, I trust, it will prove to be a useful help to both teacher and student.

The teachings of Phrenology have been before the world so long, and its claims for consideration have been so insistent—having met and vanquished every kind of adversary, and triumphed over every form of opposition, by the presentation of an overwhelming mass of irrefutable evidence and incontrovertible facts, leaving it unassailable—that I have not felt it incumbent upon me to enter upon its defence here. For the sake, however, of enabling the student to comprehend the nature of the evidence upon which Phrenology is supported, I have thought it desirable to introduce a few facts and arguments which will readily commend themselves, being practically self-evident. If the student desires to extend his knowledge in this direction, the works of Dr. Gall, George Combe, and others should be consulted.

The chief aim of the book is to convey a knowledge of the relationship of modern anatomy to phreno-

PREFACE.

logical teaching, and more especially to demonstrate the possibility of the accurate localisation of the phrenological organs in the brain, upon the external surface of the living head.

The practical application of Phrenology to the analysis of the individual mind has been only very briefly referred to, the subject being too vast to be included in this volume. I purpose, however, in the not remote future to prepare a complete Text Book of Phrenology, with the facts arranged in the form which experience has proven to be the most satisfactory for the use of students, in which will be included all the information necessary not only for acquiring a knowledge of the science, but also of its application to the study and dissection of human personality.

That this little volume will fill a place which has hitherto been void, and be of service to Phrenology, is the earnest desire of

Yours sincerely,

J. P. BLACKFORD.

British Phrenological Society Incorporated.

65, Chancery Lane, London, W.C.

November 9th, 1914.

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PHRENOLOGY FOR STUDENTS.

CHAPTER I.

ANCIENT AND MODERN VIEWS OF MAN.

OF all the subjects of man's attention and investigation the most alluring, and the one which has most imperatively demanded the application of his powers of research, has been—HIMSELF. From the earliest ages scientists have observed and studied human structure, and philosophers have speculated on the phenomena of human life and consciousness. The phrenologists' field of enquiry, however, is limited to the skull and brain, and the relation of the latter to mental manifestation.

To rightly assess the value of the work already accomplished by phrenologists it is necessary to understand the actual state of knowledge on the important matter of brain and mind at the period when Dr. Gall first started his investigations into the phenomena which have since been denominated phrenological.

WHAT PHILOSOPHERS TAUGHT.

It is generally recognised that man is composed of at least two distinct natures—a physical or material body and a spirit or an immaterial mind. The latter has been variously designated soul, spirit, psyche, mind, &c., and has been divided by various schools of philosophy into understanding, will, volition, reason, &c., as though each were a separate entity. In the days of Dr. Gall the teachings concerning these two natures of man were very confusing; the various schools

of philosophy taught theories conflicting with each other, most of them based upon the earlier philosophies of the ancients. The following will give some idea as to the groundwork of the opinions which were current in the middle of the eighteenth century, when Dr. Gall commenced his observations, and were considered rational and acceptable by representatives of the different schools.

Concerning the structure and functions of the brain, Aristotle said it was a mass designed to temper the heat of the heart; Astruc called it a spongy substance; Hippocrates declared it was a sponge to attract the humidity of the body; Praxagoras called it an excrescence of the spinal marrow; Misticelli and Rudolphi both described it as an irregular and inorganic mass; Malpighi said it was a collection of shapeless and confused intestines; and Galen thought it to be the secretor of the vital spirits, distributed from the brain through the arteries to the body.

THE HOME OF THE SPIRIT.

With regard to the location in the body of the spirit or soul, Stahl said it was diffused throughout the body; Aristotle placed it in the heart; Erasistratus located it in the meninges; Herophilus in the large ventricles; Servetto in the fissure of Sylvius; and Van Helmont in the stomach. Descartes thought its location was in the pineal gland; Drelincourt placed it in the cerebellum; Bontekœe in the corpus callosum; Varthou in the spinal marrow; Willis in the corpora striata; and Vieussens in the centrum ovale. Others, though not giving the seat of the soul, argued against the idea that it could be rightly located in the brain.

Metaphysicians taught that two of the mental powers—reason and volition—were independent of matter. Cabanis, Delpit, and others placed the functions of the soul in the chest and abdomen. Hippocrates thought that the brain might be the seat of the soul, though he frequently attributed its functions to the diaphragm and the heart. Many philosophers agreed that intellect was in the brain, but not the affections and appetites. Reil put the affections and passions in the nervous plexuses and the ganglia of chest and abdomen. Pinel, Fodère, and others thought that mania, imbecility, and insanity did not concern the brain; while Buffon, Le Roi, Cuvier, &c., said that instinct and mechanical aptitude were to be credited to the organs employed, as the eye, ear, hand, trunk of the elephant, tail of the beaver, &c. This was the state of knowledge as to the brain and the mind, the result of the combined intelligence of all the best minds from the earliest ages till the introduction of Phrenology.

THE MODERN VIEW.

Every faculty of the mind has its residence in the brain, and so close is the connection between the faculty and its centre, or organ, in the brain that if we injure the organ we paralyse the faculty, and if we destroy the organ the faculty ceases to exist. How necessary is it, therefore, that we should guard the brain and protect it from all possible causes of injury from without and within. Recognising that healthy functioning can only be effected by a physiologically healthy brain, it is but a logical sequence to note that the blood which goes to its nourishment and repair should be of the purest and richest character. This

is naturally affected by the food we eat and the air we breathe, hence if we desire to live high-toned, moral, aspirational, and intellectual lives we must be careful of our food and environment; avoid all things hurtful to the brain, and thus provide the conditions necessary for a vigorous and useful mental life.

BRAIN ALL IMPORTANT.

The all-importance of the brain should be fully impressed upon the student's mind. Its value is beyond all price. The universe holds nothing which can be reckoned as recompense for the loss of power of one human brain. Without it we cannot see, hear, feel, talk, think, reason, work, love, pray, nor perform a single conscious act. It is a possession of priceless value to each of us. Do we look upon a scene of beauty? We are unconscious of the fact until the reflection of the scene upon the retina of the eye is transferred to the brain through the optic nerve. Do we hear melodious music? Not until the sound vibrations are communicated from the tympanum of the ear through the auditory nerve to its appointed brain centre. Do we feel the glowing warmth? or smell the odorous perfumes of flowers? or taste the luscious fruits? Not until the sensory, olfactory, and gustatory nerves have conveyed their impressions to our brains. As it is with the senses, so it is with our mental perceptions. Do we trace a cause? or discover a reason? or formulate an idea? or remember a face or an incident? Do we feel pity? or long to relieve distress? or love with an absorbing passion? Do we stand awe-inspired at the foot of the mighty Alps? Are we thrilled at the sound of music's wonderful cadences? or charmed

with the magic of eloquence? Yes, yes, and only yes when the varied portions of our brains which deal with these sensations are in a good and healthy condition. All life's emotions and intuitions, all its intelligence and judgment, all its sensations and passions, are centred in this mighty instrument—the human brain; a mass apparently motionless and inert, yet endowed with the marvellous ability of producing all power, mental and physical, which it is possible for man to exert. Of all physical nature the human brain is the crowning glory.

CHAPTER II.

THE DISCOVERY OF PHRENOLOGY.

IN dealing with the discovery of this all-important subject, it is desirable to repeat an oft-told story, as it is useful in showing the value of observation.

When Dr. Gall was a schoolboy, he was struck with the fact that many of his schoolfellows excelled him in their ability to repeat the words of their lessons which they had committed to memory. He tried very hard to emulate them in this matter, but unsuccessfully. He was able to retain all the facts, say, in a page of history, and could successfully stand an examination upon them, but when it was necessary to repeat the exact language in which they were given, it was impossible to him. He noticed that the boys who had these good memories for words, all had prominent eyes, whereas his own eyes, and those of others who were also unable to retain their lessons, were somewhat sunken. When he went to the university he noticed

the same thing, that the students with "ox eyes" were all good at remembering, though others excelled them in knowledge of other kinds. Such a fact made a lasting impression on his mind, and so later, when he became a medical student, and was associated with the dissecting department, he sought the anatomical reason why these eyes were prominent. As a result of his examinations he found that prominent eyes were due to the fact that the orbital plate, a thin sheet of bone acting as a roof for the orbit, was slightly depressed towards its posterior part, owing to the extra development of a part of the brain which lay upon the plate, thus causing a depression which prevented the eye lying as far back in the socket as it otherwise would have done. He concluded that the prominence of the eye was due to the growth of the brain part alluded to, and after numerous observations and experiments, decided that this part of the brain was the controlling power in the memory for words.

THE DISPARAGEMENT OF GALL.

This centre has since been located by Broca, and he has been honoured by the convolution containing this centre being named after him, it being now known to anatomists as Broca's convolution. Why is it, whenever any corroboration of a phrenological fact is found, the credit of the whole thing is withheld from the original discoverer and given to the more recent finder? Why is Gall treated so scurvily with reference to his wonderful and far-reaching labours while lesser men are crowned with the laurels which should adorn his brow? He it is who has established, and confirmed for all time, the great fact that the brain is the organ

of the mind. Faculties which were thought to have had no connection with the brain he proved to have their origin in that structure. He demonstrated that not only intellect, but the moral qualities, mechanical aptitudes, affections, sentiments, propensities, and instincts, are all mental processes, and have their origin there.

Gall further showed that the brain is not a single organ, as was then considered, but a congeries or bundle of organs, each having its distinct location and function; that these are in intimate structural relationship with each other, and capable of simultaneous sympathetic action. This discovery necessarily entails that of the complex nature of the mind, which is, of necessity, composed of separate faculties, each acting through its own brain centre, or area, which constitutes its organ of manifestation. This position he proved definitely in many ways, but to refer to one only it may be made clear—namely, in cases of brain injuries, where the mischief done to a particular part of the brain results in the inhibition or loss of activity of a special faculty of the mind, the power of which is restored upon the injury being remedied. As a proof of localisation of mental function this should of itself be conclusive, but taken in connection with many other forms of proof it is irresistible.

SIZE GIVES POWER.

His investigations revealed another important fact—that, other things being equal, *size* is a measure of power. Large heads are more powerful than small ones, and large or prominent developments in one part of a head are more powerful than smaller developments

in the same head. A large head free from disease powerful, even though the intellectual region be small, powerful in the direction of physical strength and energy, of the passions and selfish propensities; and possibly in the affections or even in the moral qualities for goodness and intellect are not necessarily allied many men who are morally excellent being weak intellectually. A small head lacks power under similar conditions. Although a small head may have a good proportional development of the pre-frontal region, which would indicate considerable intellectual power, yet there is a lack of force and energy in the purely animal part of the brain, which acts as a deterrent against the owner winning for himself a position of influence and authority among his fellows.

When Dr. Gall first demonstrated that the brain was capable of division into many parts (or centres, as they have more recently been designated), each having a distinct function, he was assailed by the learned men of his day for propounding what they considered to be an absurdity. Anatomists declared that no such divisions existed, and metaphysicians, especially of the various theological schools, asserted that the mind of man was one and indivisible; hence, if it needed to operate through a material organ at all, which many denied, it could only do so as a whole through the one organ. The experiments of anatomists of modern times, however, have proved incontrovertibly the fact of localisation of brain function, and Dr. Gall's position has been amply vindicated.

CHAPTER III.

WHAT IS PHRENOLOGY?

IN this and succeeding chapters I propose to present an outline of the basis and principles of Phrenology, and it will be my endeavour to do this in a manner as free from technicalities as possible, so as to enable every reader to follow without difficulty to the end. Within the assigned limits, however, it will be impossible to do more than convey an intelligent idea of what Phrenology is, the facts upon which it is based, the practical results to which it is being directed, and the method of applying its principles to secure these results.

By a large section of the scientific world Phrenology is still branded as unorthodox, yet its facts and teachings are being gradually appropriated and absorbed by scientists and psychologists, without the courtesy of acknowledgment by them of the source from which they are derived. It will be my duty and pleasure to show the right place which Phrenology should occupy among the sciences, and to demonstrate its claims to be considered by all, whose desire is the acquisition of knowledge and the enthronement of truth.

WHAT PHRENOLOGY IS NOT.

In replying to the question, What is Phrenology? I think it would be wise for me to first indicate what Phrenology is not. So many misconceptions have arisen as to its aim and scope that it is imperative I should try to remove a few, at least, of the false impressions which prevail. One of the chief of these is the association in the public mind of Phrenology with

such subjects as astrology and palmistry ; and this connection is, I regret to say, fostered by some professional phrenologists for fee-getting purposes, under the plea that they are all connected in the matter of "reading character." This is a specious, but false assumption, and is no justification for exposing Phrenology to the discredit attaching to subjects with the pretension of telling the past history, or predicting future events in the lives of individuals ; and to the teaching that arbitrary signs, whether in the heavens, on the hand, or on the head, indicate either life events or traits of character. The injury which this unnatural connection has wrought upon the phrenological position has been so great, that it is absolutely necessary I should repudiate it.

THE POPULAR NOTION.

If you ask the average man in the street who has not studied Phrenology to define it, as he understands it, his reply will be : " Phrenology is feeling the ' bumps ' on a person's head, and reading the character there ! " This definition is the generally accepted one, but it contains, alas ! two grave and fatal errors, the fact being that the phrenologist does not feel the " bumps " on a person's head, for on the vast majority of heads there are no " bumps " to feel ; and, secondly, when he does examine the head, he does not read the character there—he simply gauges the mental capacity of the person examined. When he ventures on what is called a " character delineation " it is simply a deduction of his own, based upon his estimate of the person's development, and its accuracy is in direct ratio to the

knowledge, life experience, and psychological endowment of the examiner. Having thus shown briefly what Phrenology is not, I will now proceed to explain what it is.

Phrenology is at once a science, a philosophy, and an art. The science and philosophy may each be studied and accepted, without any necessary dependence upon the other two divisions; but the art, or practical application of the subject, cannot be successfully attained to, without a thorough knowledge of the science and philosophy.

THE SCIENCE OF PHRENOLOGY.

The science of Phrenology deals with its purely material side, and necessarily includes all that is known of the anatomy and physiology of the skull and brain, and also a full acquaintance with the temperamental conditions of the body. It takes cognizance of brain (and consequently of skull), development from birth to maturity; its growth in various directions under differing conditions; the abnormalities in size and form of criminal, idiotic, insane, and diseased heads; the variations in the heads of different nationalities and racial types; and the relation of the whole of these to expression; that is, to physical and mental manifestation. Further, the science includes the classification and arrangement of these many forms into groups and divisions, each possessing particular qualities in preponderance; and the recognition in individual cases of the particular form of head responsible for particular manifestations, or conversely, the special expressions or manifestations a particular head will produce.

THE PHILOSOPHY OF PHRENOLOGY.

The philosophy of Phrenology treats of the operations of the mental powers, and deals with its psychological side only. Although the phrenological division of the mind into independent elementary faculties is due to Dr. Gall's marvellous discovery of the localisation of function in the brain, yet for its continued acceptance it is in no sense dependent upon that discovery; for, even if the principle of localisation could possibly be shown to be false, the phrenological analysis of the mind would still be the accepted theory. Its superiority to the old world philosophies, or even to modern psychology, may be illustrated by the one term, "perception." Other schools recognise the existence of such a power, but treat it as a single power, or as elementary; but Phrenology shows that there are numerous perceptions such as those of colour, order or arrangement, size, weight, form, &c., each distinct from the other. It is capable of being demonstrated that a man may be deficient in any one of these without affecting the others, as illustrated by colour-blindness, now recognised. It is equally certain that individuals are also form-blind, size-blind, order-blind, &c.; and that, without any loss of ability in the other perceptive faculties.

It is self-evident that the condition of the medium through which the mind operates must affect the force, the direction, and the quality of the manifestations. This philosophy, therefore, takes cognizance of the effects upon the mind of bodily conditions, such as brain development, health, temperament, and environment—conditions which, though of paramount import-

ance, have been absolutely ignored by all other systems of mental philosophy. Our system, too, recognises as mental—that is, as a part of brain function—powers which have hitherto been ascribed to other causes, such as the affections, sentiments, and emotions, and gives them their due place in the mental economy.

THE ART OF PHRENOLOGY.

The art of Phrenology is the practical application to the individual of a knowledge of its science and its philosophy for the purpose of defining his mental condition. The practical phrenologist must, however, know more than the mere rules laid down or to be deduced from a knowledge of Phrenology, if he would be a correct character delineator and “hold the mirror up to nature.” He must be capable of the highest enjoyment and have experienced the deepest sorrow; how else can he fitly describe their experience by others? What examiner can portray to the lover of music the exquisite sensations which thrill him to the finger-tips as his ears drink in the strains of Mozart, Handel, or Beethoven, unless he has himself been thrilled with the same emotion? Who can tell the magical charm which fervid eloquence has upon the lover of oratory, unless he, too, has experienced the same rapturous delight? And so through the whole gamut of the mental faculties. It is, of course, possible for any practised phrenologist to say, such an one has the organ of “tune” or of “language” large, but this is not true phrenologic art. Unless, therefore, the phrenologist has life experiences of a rich and varied character, aided by a natural intuition, he simply remains a scientist, a

mechanical tabulator, a describer of skulls, not of sensations, aspirations, thoughts and emotions.

A MENTAL SCIENCE.

In a wider sense than I have already suggested, Phrenology may be accepted as its name implies, as a science of mind, or a mental science. I am aware that it is generally assumed that the term "science" can only apply to material things, and it is true that the acknowledged scientists of to-day are simply physicists, who deal with physical phenomena only, and by their practice and teaching virtually ignore the claims of mental phenomena to their attention. All natural phenomena are, or should be, objects of study; and psychological phenomena not less than those associated with matter. The manifestations of the human mind are as much natural phenomena as are the revolution of the planets, the flash of the lightning, or the flowing of the tides, and, as such, demand the careful attention of the student. It is more than probable that mental manifestations in all their great diversity, will ultimately be found to be as obedient to fixed laws, as capable of classification and arrangement, as are those of the physical universe. To observe, to codify, to reduce to a comprehensible system the vast number of apparently isolated psychological facts, is the task of the phrenologist, whose work will result in associating these with the forms of brain from which they arise; thus giving to the world the material key which will unlock the mystery of mind. Phrenology in its broader signification is the science of the mind, and as such it has a scope wider and grander than any which material science can claim; and the knowledge it gives

is, consequently, of vaster import and of infinitely greater value.

CHAPTER IV.

THE PRINCIPLES AND PROOFS OF PHRENOLOGY.

THE phrenological position is based upon certain proved and accepted principles, and it is desirable that these should be fully understood by the student, so that he may the better be able to comprehend the full value of its teaching. There is nothing written in this book for which there is not a definite phrenological reason, and to the reader who carefully acquaints himself with the contents of this chapter the reason should be apparent. The first principle is :—

1. The Brain is the only direct Instrument of the Mind.

The reader will have seen in a previous chapter that this fact was not always recognised by the scientific world, and until the claim was made by Phrenology, the matter attracted but little attention, for even less than 100 years ago learned men asserted that the Mind needed no instrument, its operations being entirely independent of matter. That position is no longer tenable, all the facts revealed by observation and experiment proving the contrary. As the brain is now fully admitted to be the organ of the Mind, and that the Mind's operations cannot be performed without it, it is not necessary to elaborate proofs. The one fact, that where the Brain is imperfectly developed, or is injured, there mental manifestations are correspondingly weak or impaired, is sufficient evidence, if any

were now needed, to sustain this first principle; though evidences of its truth are overwhelming.

2. That, other conditions being the same, the size of the Brain is the measure of its power.

Of two brains of the same quality of structure and condition of health, the larger will be the most powerful. It is a known natural law that in any two articles where all other things are equal except size, the most powerful is, of necessity, the larger one. Two sticks of wood, similarly grown, from the same tree, two pieces of rope from the same fibre and woven in the same manner, the muscles of two limbs on the same body, all demonstrate this law; and experiment will prove it at once. The exception usually taken to this fact, as propounded by Phrenology, is due to an imperfect knowledge of its teachings. It is objected that of two heads the larger is not of necessity the most intellectual, many large-headed people being unintelligent; while some with smaller heads have proven themselves to be clever, and even brilliant. The false assumption here is, that the whole of the head is engaged in intellectual operations, a misconception of the position altogether. The fact is, that only a comparatively small portion of the whole brain is engaged in intellectual operations, viz., the prefrontal region of the frontal lobe, and this region varies in different heads from five to twenty-five per cent. of the entire grey matter of the cerebrum. All the rest of the brain is devoted to purposes altogether distinct from intellectual processes. It will thus be seen that after making all necessary allowances for quality and health, the prefrontal region of the small, clever, head, will be found to be actually

much larger than the same region of the incapable large head; and, therefore, according to Phrenology, should manifest superior intellectual ability.

In the same way persons with large heads may be dishonest and otherwise immoral, while those with smaller heads may be paragons of moral rectitude. Here again the reason is obvious, that the brain-areas devoted to the moral faculties are small in the large head and large in the small head; thus demonstrating the truth of the principle that, other conditions being the same, size is a measure of power. In applying this law care must be taken to fully comprehend the exact nature of the enquiry, and of what it really is, of which the sizes are to be compared.

3. The Brain is not one Organ, but a congeries of many, and that each organ has a distinct function.

In propounding this doctrine, Phrenologists have in the past met with their greatest opposition, even from those who admitted that the brain was the instrument of the Mind. It was assumed that the brain was one and indivisible, and that in its operations it worked as a whole and not in parts; so that if we measured, or reasoned, or observed, or loved, or struck a blow, we did each through the operation of the entire brain; that is, the brain as a whole was engaged in the mental operations attached to each act. Now, as we are able to do many things simultaneously, such as seeing, reasoning, talking, thinking, hearing, walking, &c., each of which can only be done by means of the brain, it is self-evident that the brain as a whole cannot be engaged on half a dozen things at one time; for, if it were exclusively engaged in seeing, how could it, at the

same time, talk or reason? And so, throughout the entire range of operations it is capable of performing simultaneously with others.

4. **It is possible, by an examination of the exterior of the skull, or the living head, to correctly locate the position of each Brain organ, and to estimate its size.**

As it is one of the main objects of this book to demonstrate this principle in accordance with, and based upon, anatomical data, as distinct from the empirical methods hitherto employed, it will not be necessary to enlarge here; though the claim of the principle to recognition was made by Dr. Gall, long before the facts of modern anatomy, and brain topography, had been discovered.

The foregoing are the chief principles upon which Phrenology is based, and every student should fix them indelibly upon his mind.

PROOFS OF PHRENOLOGY.

To give to-day proofs of the truth that the brain is the organ of the Mind would be an unnecessary waste of time and space, as that fact, after a century of phrenological teaching, is now generally admitted; but the equally potent fact that the brain is a congeries, or assembly, of organs, each having its own distinctive function, is not so generally recognised. This fact is the basic one in Phrenology, and must, therefore, be touched upon. The proofs, however, of the accuracy of the phrenological localisations are so many and so convincing that, to simply state a few of them, may be all that is required here, especially for the reasoning mind.

1. The observation of the special developments of the heads of individuals possessing exceptional powers in one direction.
2. Counter-proof.—The absence of development in the heads of individuals of weak powers.
3. Comparisons of the heads, or casts, of persons who possess, or who are deficient in, various powers.
4. Collections of crania of persons of known characteristics afford incontrovertible proof.
5. Mutilations of brains through accidents and the loss of, or injury to, corresponding mental powers.
6. The arrangement of the organs in the brain.
7. Qualities common to men and animals have similar cerebral parts.
8. Qualities possessed by man exclusively have no corresponding brain organs in animals.
9. The more indispensable the qualities, the nearer they are located to the base of the brain.
10. Brain organs analagous to each other in function are found in the same group.
11. Differences in man and woman.
12. Genius is partial, showing development in one or two organs only.
13. Idiocy, showing deficiency in brain corresponding to the mental defect.
14. If the brain were one organ, and not a congeries of organs, all faculties would operate or cease together.
15. Insanity and monomania due to localised brain lesion.
16. Dreaming, showing certain one or more organs in uncontrolled action, while the remaining organs are quiescent.

LATEST PROOFS.

Modern physiologists by means of electrical experiments upon the brain, have now convinced the most sceptical that various brain parts, or "centres," as these scientists describe them, have specific functions, independently of the other parts of the brain. It is therefore plain that the brain is not one, but a number of different organs or instruments, each confined to a particular area and having a definite function, distinct from that of all the other organs which are also located in their own particular areas. All these are known and constant, and the position of each easily recognizable on the living head.

Other proofs of this principle are many; but perhaps the most important and convincing are those cases of mental derangement, where post-mortem examinations have revealed local brain lesions corresponding to the positions in the brain assigned by phrenological discovery to the organ, the function of which has been deranged. Dr. Bernard Hollander, in his *Mental Functions of the Brain*, has detailed 800 such cases taken from clinical records, referring to a few only of the organs, and students should acquaint themselves with the facts contained in this valuable collection if they desire to get a clear idea of the worth of evidence of this important nature. When cases like these can be produced by the hundred from unimpeachable sources, it is surely sufficient evidence to establish the claim we make. These records were not made by phrenologists to establish their theory, and where such large numbers are quoted, all bearing witness to the truth of the phrenological position, they must be

accepted, for no such vast numbers, all pointing to the same end, can be the chance results of mere coincidences.

CHAPTER V.

HEAD VARIATIONS.

HEADS, whether of human or animal types, like all other productions of nature, are infinite in their varieties of form and size, and of all the features and qualities which characterise them. There are no two things alike in nature. Of all the myriads of grass-blades or sand-grains or tree-leaves no two are sufficiently alike as to render it impossible to find dissimilarity; and yet, though each preserves its individuality, it still possesses in a strikingly marked degree the distinctive peculiarities of its stock. We do not mistake an oak or beech leaf for that of a chestnut or an ivy; the points of resemblance are so many and so palpable between the leaves of its own class that it is impossible to err; and equally the possibilities of variation of the individual leaves from each other are so numerous as to render us well able to distinguish its individuality from all other leaves of its class. As with leaves so with heads. There is no difficulty in recognising human heads amidst all the heads of the hosts of living creatures; nor is it a matter requiring much deliberation to decide which is a Negro, or a Mongol, or a Caucasian head; and to the observer the distinctive features or peculiarities of the individual head is no less easily determined.

ETHNOLOGISTS' DIVISIONS.

In dealing with the great divisions of the human race and their known varieties, it will not be necessary for the purposes of our subject to discuss the questions of special creation versus evolution on the one hand, nor the theories of monogenesis or polygenesis on the other; but whatever the primitive origin of man may have been, it is quite certain that to-day the human family is divided into groups, having special and distinguishing characteristics which mark them off from each other, and which groups or races have evidently always so existed within the historic period. It is not for us as phrenologists to necessarily concern ourselves either with man's origin or his destiny. Our province is to deal with the mental and life conditions which affect him in the immediate present.

Ethnologists have variously divided the world's races—Desmoulins into 16 groups or races; St. Vincent into 15; Pickering, 11; Huxley, 5; Cuvier, 3; and Blumenbach, 5. Cuvier's divisions are Caucasian, Mongol, and Negro; and to these Blumenbach adds the Malayan and American Indian. The attempts to classify the various races of men according to their supposed intelligence have been many, and several methods are still recognised for this purpose by ethnologists who are not phrenologists. I will now indicate the more prominent of these methods.

CAMPER'S FACIAL ANGLE.

This angle is formed by a line drawn from the opening of the ear to the root of the nose at its junction with the upper lip, and a second line drawn from this

point to the most prominent part of the forehead. The inference to be drawn is that the greater the angle made by these two lines the greater the intelligence, and *vice versa*. Cuvier and other learned anatomists adopted the use of this angle, and it is frequently quoted in these days as an infallible test of intelligence. Cuvier estimated the facial angle of the newly-born infant at 90 degrees, that of adult life at 85, and of decrepit old age at 50 degrees. His method, however, was to measure different persons of the age stated, instead of the same heads at the different ages. Had he done this he would have found the results so varied and conflicting as to have caused his abandonment of the method. The forehead of a newly-born infant is flattened. On the contrary, in that of a child some months old, and until eight or ten years of age, it is projecting, and therefore forms a larger facial angle than the same head at maturity; but will anyone contend that the intelligence is greater in childhood than manhood? And so with decrepit age, the angle will be found to be as large as in manhood's vigour, for where the intellect declines it is accompanied by brain atrophy; this, however, does not show itself by any portion of the outer table of the skull receding at the brows. Numerous arguments against the reliability of this test may be adduced, but to the student there is no argument so powerful as the practical one of experience. Let each apply the test of Camper's angle for himself to known cases of intelligence, and the result may be left to the judgment of the observer. Another method supposed to indicate grades of intelligence is that known as

THE GNATHIC INDEX.

This is founded upon the fact that the faces of the least intelligent animals are in their normal position almost horizontal, such as the reptiles; and as they rise in the scale of intelligence the faces tend towards the vertical position. The highest type is represented in man by the Caucasian race. Between this type and the highest non-human animal there are at least two distinct human grades, and these are the Negro and the Australian. The most prominent jaw belongs to the Australian, and he is classed as prognathous, and is therefore, considered the least intelligent; the Negro, with less prominent jaw, is classed as mesognathous; and the European as orthognathous. These signs are quite illusory as indicating intelligence, for all grades of ability are to be found among all classes in the gnathic scale. This method of classification still obtains among certain scientists, but will not stand the test of practical application. The next method I shall name is

THE CEPHALIC INDEX.

This is a method of applying a system of proportional measurements invented by Retzius. This index gives the relation of the breadth of the skull to its length, and is found by multiplying the breadth by 100, and dividing the product by the length.

$$\frac{\text{Breadth} \times 100}{\text{Length}} = \text{Cephalic Index.}$$

Length is the measurement (by callipers) from the Ophryon to the Occiput, and Breadth the greatest parietal breadth. Where the result is below .75 the

head is called dolichocephalic, from .75 to .80 mesaticephalic, and over .80 it is brachycephalic. There are other gradations such as hyper- and sub-dolicho-, as well as hyper- and sub-brachycephalic, but they do not help us in our study.

The Cephalic Index does not in any sense indicate correctly the amount of intelligence or ability possessed by any man, as it ignores the one fundamental fact that the frontal lobe alone is the seat of the intellectual faculties, and it is only by calculating its relative size to the rest of the brain that a fair approximation can be made to the intellectual status of the man. Among Dolichocephalic peoples are the Hindoos, Negroes, Australians, Kaffirs, Hottentots, and Bushmen. Among the Brachycephalic are the Lapps, Esquimaux, Bashirs, Turks, &c. ; and the Mesaticephalic include the Germans, Russians, French, Jews, Chinese, Finns, Greeks, Dutch, British, &c.

Though these nationalities are thus arbitrarily divided by ethnologists, yet the fact remains that in all countries and among all peoples are to be found types of each class of the Cephalic Index. Among the readers of this article it is more than probable that each of the three great divisions is nearly equally represented, and this state of things plainly demonstrates that, as a gauge of intelligence or an indicator of race, it is worse than useless.

THE HEIGHT INDEX.

There is also a height index :—

$$\frac{\text{Height} \times 100}{\text{Length.}} = \text{Index.}$$

the height being taken from Basion to Bregma, but it is of no more value than the Breadth Index already dealt with. There are other methods adopted, such as weighing brains, gauging the cubical capacity of skulls, &c., which can only be applied after death, and which, therefore, do not interfere with Phrenology, so I will not further refer to them here.

To the phrenologist racial distinctions make but little difference. The heads of Negro, Mongol, Semite, Caucasian, Australian, and Indian are all built upon the same principle. In their brains there are the same lobes and primary convolutions in their various degrees of size and texture, divided by the same fissures, with the phrenological organs located in the same regions, possessing the same primitive functions, and capable of being diagnosed with the same accuracy. Any phrenologist desiring to examine the heads of members of a particular race would find it helpful to acquaint himself with the ordinary usages of the race, their habits, their domestic relationships, methods of business, politics, religion, &c., so as not only to indicate the springs of action, but also the methods of manifestation. The sameness of structure in all races is fundamental, and makes Phrenology a real and safe guide in determining racial and intellectual grades.

COMPARATIVE PHRENOLOGY.

This is a most interesting branch of the subject, upon which I can only touch incidentally. The brain developments of the denizens of the animal world, with their innumerable species and their marvellous varieties of endowments, from the simplest form of brain to the more complex of the higher orders, are engrossing

subjects of study. What makes the tiger fierce, the fox sly and cunning, the dog faithful, the monkey imitative, the beaver constructive, the deer sensitive, the peacock proud, the hare timid? What? Brain development.

To show the powers they have in common with man, and in what they resemble and differ from each other; to trace the gradual increase of faculties from the least intelligent to the higher forms, and to compare them with man—the highest type of all—would be a delightful task, but I must confine myself to my original design, which is to elucidate the powers of the human mind.

HEREDITY.

How far is man the creature of parentage? The old adage, "Grapes do not grow upon thorns," teaches a natural law that each procreating organism in nature brings forth after its kind, and the simplest fact in heredity is that the offspring is of the same species and nature as the parents. But the resemblance is closer than this. The heads, countenances, and other parts of the body, internal and external, are so strikingly similar to one or other of the parents that it offers abundant proof that the form is determined at the moment of conception. As the conditions, thoughts, and desires of parents vary greatly from time to time, the fact that one child may be more like its father, another like the mother, and a third partake of a combination of the characteristics of both, may be readily understood, and give added proof, if any were needed, in support of the theory. The resembling forms apply to all parts of the structure, including the brain, and

as the mental qualities of the individual are entirely dependent upon brain-form, it naturally follows that the faculties, with all their peculiarities of endowment, are directly inherited from the parents. In this way we inherit our racial, national, and family characteristics. It is the foundation of our mental organism, or basal phrenological condition. This constitutional endowment is the phrenological warp of our life's fabric, across which is woven the woof of environment, of education, of experience, of religion, of politics, and the thousand and one coloured threads of influence shot by ourselves across the loom to complete the life fabric, the pictured design of which, its beauty or hideousness, is according as we have selected the noble or yielded to the base.

It is not for me to attempt to define the causes which underlie these facts. It is for us as phrenologists to recognise them, as they will aid us considerably in arriving at correct conclusions as to character and ability. We, however, learn from this that although at birth we are limited to the powers actually inherited, yet by a judicious selection of the influences to which we are submitted, at first by our parents and later by ourselves, we may so modify our original form as to lose much of the resemblance. The moulding of our character and personality is largely in our own hands, and should be wisely ordered. At the same time, a contemplation of these facts should add to, rather than detract from, a parent's sense of responsibility.

CHAPTER VI.

INNATE HUMAN FACULTIES.

THE Mind of man can only be known by its manifestations. Of what its nature is science has no positive knowledge. In studying Mind as an entity external to ourselves, we only know that it is invisible and intangible. We cannot see, hear, feel, or taste it, and as our senses are our only avenues to knowledge we cannot appreciate Mind except in so far as it appeals to us through one or the other of these channels. Its action through the agency of organs, however, enables this in some degree to be done, and although we still remain ignorant of its inherent nature, yet we can recognise its powers, not only as to their kinds and qualities, but also as to their strengths and limitations.

CELESTIAL INFLUENCES.

From the earliest ages men have desired to know something of their spiritual nature, as distinct from the physical. In watching the various methods of manifestation as demonstrated in the acts of their fellows, sages sought for the sources of these acts and the powers which caused them; and not unnaturally in those days of limited knowledge looked to visible and external sources of influence as causes leading to the various actions of men. They saw men put on a cheerful countenance when the sun shone, and were dull and gloomy when it was clouded, and they also noticed that at certain changes of the moon the conduct of others altered unaccountably; what wonder, then, that they looked up at the star-gemmed sky above them, which they supposed to be the residence of the gods,

and as they watched the glittering orbs of light march in glorious pageantry across the heavens, that they should attribute to these bodies the marvellous power of influencing for good or ill the denizens of—what they conceived to be—this lower world. Thus astrology was born.

This failed to satisfy, and physiognomy was appealed to. On some countenances passing phases of the mental condition appeared to be plainly written, and the face was credited with the power of revealing the working of the sentient inner mind. Expression, however, also proved illusory as a reliable index to character, and failed to convey the information required. Then the organisation of the body was laid under contribution, and its organs and fluids considered as the seats and sources of mental powers. The brain was credited with certain attributes, while others were apportioned to the heart, stomach, and internal viscera. This theory had to be abandoned as unsatisfactory. Some of its advocates eventually fastened upon the temperaments as the foundations of mental phenomena. This I have elsewhere shown to be also untenable.

SELF STUDY BY INTROSPECTION.

Other investigators adopted a different method of search for the hidden knowledge. By means of a minute examination of themselves through introspection, these philosophers sought, by the analyses of their own minds, to build up systems of philosophy which should settle the matter for all time. The mental constitution of each of these metaphysicians being different from that of the others naturally resulted in a different analysis, and as a consequence produced a different

philosophical theory, the outcome of which was conflict and confusion.

This was the state of knowledge upon the subject of the mind when Dr. Gall first startled the scientific and philosophical worlds with the results of his wonderful discoveries, and by the production of the incontrovertible proofs upon which they were based. Dr. Gall demonstrated that the mental faculties (located in the brain) were inherent constituents of the Mind itself, that each faculty had its own special power independent of that of other faculties, and that the mental or spiritual qualities, supposed by philosophers to be the fundamental faculties, were only the attributes of the true faculties, or the methods and degrees of their manifestations. He thus not only introduced a system by which the nature and force of the innate mental powers may be determined, but an entirely new philosophy of the Mind, for which he has not yet had the credit due to him as a philosopher, independently of his claims as an anatomist and scientific discoverer.

HUMAN FACULTIES.

Each faculty of the Mind has its own brain organ and cannot operate through another any more than the eye can hear, or the nose see. Each organ has its own function. The organs devoted to the appetites cannot worship nor inspire benevolence, nor can the intellectual organs devote themselves to the affections or the propagation of the species.

All men have the same number of faculties. No man has one more than another; if he has, he is something more than a man. If he has a faculty less than others he is something less than a man. Every dog,

no matter of what breed, whether terrier or St. Bernard, has all the canine; and every cat all the feline faculties. It is that which constitutes them dog or cat; and the possession of all the human faculties makes the man or woman. The great differences between individuals of the same species are those of degree only, due to differences in size of organ, condition of health, of temperament, of environment, or of combinations of these.

FACULTIES' NATURAL IMPULSES.

The power of functioning of any faculty of the mind is limited by the size and condition of its organ in the brain, and every faculty has innately the desire to express itself in exactly the same proportion. For instance, the faculty of Benevolence, having a large organ through which to manifest itself, has a correspondingly strong desire so to do. It has what I may describe as a hunger for opportunities of expressing itself. It longs for objects on which to lavish its sympathy, and with profuse liberality to bestow its generous gifts, so as to allay hunger, to alleviate sorrow, or in some other form to ameliorate the condition of the suffering. No special credit is due to the man whose munificence is natural and spontaneous. He does but yield to an impelling instinct which he has but little power, and less wish, to resist.

The faculty of Ideality may also illustrate this point. Through its organ, when large, it demands gratification. It longs to be ever revelling in the beautiful; it thirsts to drink in the nectar of delight provided for it in the glorious colourings and sweet perfumes of the summer flowers. The radiant splendour

of the sunlit heavens has in it the power of a magical charm. "Come, Loveliness, in your most beautiful forms to delight the eye." "Melodious tones, ring out your sweetest strains to ravish the ear." "Poetry, speak your most wonderful thoughts with rhythmic cadence, for Ideality demands of you all that you can give of your purest, and noblest, and best. Yours is the only spell which can silence its voice." And so through all the range of the mental faculties each has its own desires which seek gratification, and its own promptings which demand expression.

In actual experience faculties rarely act alone, but in combination with each other, and that in ever-varying numbers. It will be impossible for me in this work to deal with the nature of the operative effects produced by the innumerable combinations possible, for to give a comprehensive, or even fairly full, explanation of the discovery, history, and forms of manifestation of the faculties only, independently of their combinations, would occupy too much space. I must, therefore, limit myself to the enumeration of the individual faculties, and but briefly show the nature and the special function of each.

CHAPTER VII.

REGIONAL DEVELOPMENTS.

It is desirable that I should deal at some length with a matter to which I have previously referred, and that is, the method of measurement in use by some

phrenologists for ascertaining the relative sizes of the organs and regions of the brain. My object is to warn my readers against following discredited methods, which can only lead to error and disappointment. In reading even standard works on Phrenology you may be misled by the frequent instruction given by the authors to take all measurements from the orifice of the ear, and I will explain the reason for the existence of this fallacy. The fact that the grey matter of the brain is the centre and origin of the mental processes is a matter of comparatively recent admission. Previous to its recognition, it was supposed that the white fibrous matter was the important structure and the source of all mentality; hence its quantity was considered the gauge of the power of the mental operations. The opening of the ear being approximately on a level with the basal centre of the brain, from which all brain fibres were thought to radiate towards the surface, was accepted as the point from which measurements could most conveniently be made; it being considered that the length of fibre (as it was termed) from the brain centre to its circumference accurately represented the size of the organs. Each organ was supposed to be a cone of fibrous matter, with its base at the circumference and its apex at the medulla or brain centre. It will thus be seen that the height or length of such a cone would, under the circumstances, be of paramount importance and the system of measuring be of value; but modern research has demonstrated irrefragably that the grey, and not the white, matter is the actual source of mental power—a fact which Gall and Spurzheim taught, but which many of their followers ignored. This fact, together with its necessary concomitant, that

area and not depth is the gauge of size, has proven the old system to be misleading and unreliable. It is a great pity that modern Phrenologists still perpetuate the erroneous teaching in their works, as can be verified by reference. It may interest some who have the opportunity to read an article by Mr. Luke Burke, a celebrated ethnologist and well-known phrenologist, in the "People's Phrenological Journal," No. 53, published in 1842, in which he proves (?) the impossibility of the grey matter being the seat of mental function.

GOOD AND BAD HEADS.

A question frequently put to the phrenologist is "Do you call my head a good or a bad one?" The phrenologist naturally replies, "Good for what?" The terms "good" and "bad" are relative ones, and their values in this connection depend upon the relations in which they are used. A head may be good in a moral sense, but be bad intellectually or socially; or it may be intellectually or commercially good, but bad morally or artistically. It may be good in one or two directions, and "good for nothing" in many others. The quality of goodness in a head, therefore, must be judged according to a simple standard, and not a complex one; and such standard may be one of the following, among many others—religious, moral, artistic, commercial, literary, musical, inventive, philosophical, scientific, etc. A head is good only in the direction in which the organs are well developed, and therefore capable of acting powerfully. If any brain region or group of organs be large, their functioning power is great, and the mental results are good. There are few heads which have not some good qualities, and there-

fore one may encourage inquirers by indicating the special direction in which their goodness lies. Where there are no such features, or where, if existing, the forces which tend to debase and degrade are so overwhelmingly strong as to inhibit the exercise of the good point or overbalance its influence, then the head must be pronounced a bad one indeed, and one which deserves our pity and our commiseration. I now propose to deal with a few typical features of regional developments, which will, I trust, claim the special attention of the student as giving scope for his powers of observation, which he is urged to keep in constant exercise.

HIGH HEADS.

Where the great majority of the heads of a nation or a race are high in proportion to the other measurements—as in the negro—that is known as a national or racial characteristic; but it is also an individual characteristic, and it is only because it is the characteristic of the majority of individuals comprising the race that it is recognised as a racial one; and so with all other features. When phrenologists speak of a high head they have reference to a larger proportional development of the organs in the superior or upper part of the head, which contain the moral powers. Two heads, judging from the ear measurement, may be of equal height, and yet phrenologically one of these heads be high and the other low. Why is this? In judging the heights of the heads by this means the measures have to include the entire heights of the temporal lobes as well as the frontal. It will be seen, therefore, that if these heads each measure five inches in height, in

one of them two inches may represent temporal brain and three inches frontal; in the other three inches temporal, and two inches frontal, thus completely altering their relationship, and consequently representing quite different characters. How, then, are we to distinguish a high head? The moral organs all lie above a line drawn from the parietal to the frontal eminences, hence when examining for the moral strength of a person take the relative quantity of brain surface above that line, not alone in height, but also in breadth, as compared with other regions, and you will have no difficulty in arriving at a correct conclusion. I will not trouble you with the number of inches and lines—they would only hamper you. Use your observation; compare a dozen or so heads of persons you know, and the lesson will have been learned. Its ready application is a matter of practice only, and that can be secured easily, as personal manipulation is unnecessary in such a case.

LOW HEADS.

Whilst heads that are not "high," as already shown, may be considered "low," the term has another signification. Heads having a preponderance of the animal faculties, which, uncontrolled by the higher powers, lead to baseness and animalism, are what may be rightly termed—low. The organs which minister to the necessities of our animal life are in the temporal lobe, and when this lobe is relatively larger than the other lobes, its possessor is of a lower type, and far removed from a moral genius. I have elsewhere shown how to locate the fissure of sylvius, below which the temporal lobe occupies the entire depth on the side of the head. For rapid observation, however, for the

purpose of approximately gauging the depth of the temporal lobe, you may take the sylvian fissure as being a line from the outer angle of the eyebrow to the parietal eminence. The nearest distance from the opening of the ear to this line will give the depth approximately of the temporal lobe.

The depth of the brain varies in different heads, and the variations in the depths and forms of skull floors at the base within, are as great and as numerous as are those of the arches of skulls outside, which result in the base of the brain being wider and lower in some heads than others. Where the base of the brain is lower, the ear is set low to correspond, and its position is therefore some guide to the brain depth. To accurately indicate this the late Mr. Bridges introduced what he called the phreno-metrical angle. This angle is represented by a line drawn horizontally through the orifice of the ear, and a second line drawn from this orifice to the outer angle of the eyebrow. The angle so measured was 25 degrees in the best type of head. When the angle was smaller, indicating a shallow temporal lobe, the head was weak in energy and animal power; when larger, showing a deep lobe, the head was stronger and more powerful animally, and in extreme cases, as in that of murderers like Greenacre and Palmer, the poisoner, the number of degrees were 45 and 40 respectively. It will thus be seen that the angle may be used with advantage in testing the size of the temporal lobe, and consequently the force of its organs, and of deciding whether the head be low or not.

BROAD HEADS.

The side head, when prominent, giving breadth to the head, indicates that there is a strong element of

self about it. I have already dealt with the depth of the temporal lobe, but there are cases of special prominence, and the depth and prominence do not always bear the same relation to each other, therefore each must be observed separately. The prominence of organs indicate active, rather than latent, power; and active temporal organs are those which minister to the needs of self—the feeding and hoarding, as well as the attacking and defensive instincts. But there are organs other than temporal which are situated in the side head. There is Constructiveness which provides shelter and protection, Caution which gives wariness and prudence, and here the anatomists locate the motor centres which all minister when required to the needs of the individual. Generally, therefore, a broad head indicates selfism, a desire to look after number one. What is the natural rule in this matter? Compare the slaughtering, broad-headed tiger with the vegetarian, narrow-headed bullock, the broad-headed lion with the narrow-headed horse, the broad-headed wolf with the narrow-headed sheep, the broad-headed hawk with the narrow-headed domestic hen, and you will understand what is meant. Even in animals of the same species, compare the ferocious, broad-headed bulldog with the timid, narrow-headed English terrier, and observe all the grades between, and you will be amazed at the marvellous revelations nature makes to you. It is not at all difficult to distinguish broad from narrow heads. Go into any meeting or society, and on looking round you will easily recognise them, and though you may be in fault in a few cases, repeated trials will soon enable you to avoid errors.

NARROW HEADS.

Possessors of narrow heads, though not selfish, that is, not looking out for self interest all the time, are not necessarily unselfish in the sense of being generous towards others; that attitude depends upon their moral development. While they are known to be frank, open, and ingenuous, they are usually indifferent in regard to things which refer to their personal welfare. They pay little attention to selection of foods, or accumulation of wealth, and may be recognised as careless, lacking in energy and prudence, and incapable of successfully undertaking business control.

LONG HEADS.

Usually, when speaking of long heads we refer to their intellectual power, but it is possible for a head to be long without manifesting much intelligence. It all depends upon the part of the head in which the length lies. If it lies in the front part it indicates intellectuality; if in the middle part of the head it simply accentuates the selfish element; and if in the back part, or occipital region, it indicates domestic and social excellencies. The length of the head may, therefore, be divided into three parts, which may be indicated by two vertical lines, one drawn through the parietal eminence and the other through the stephanion. The length to which our title refers is that in front of the stephanion line. When that length is great along to the brows the person is keen, shrewd, a good judge of sizes and weights and other qualities of articles, and generally clear-sighted and sharp mentally. When the length is greater toward the frontal eminences the person is more thoughtful, studious, and reflective; less

brilliant, but more reliable and thorough in things intellectual. It should, however, be recognised that a good intellect may be comparatively ineffective if without a good share of life-force behind it and the power of incentive furnished by other lobes of the brain, and it will therefore be found that the good frontal length of a powerful intellect is usually allied to a fairly long temporal and occipital length also.

SHORT HEADS.

A head may be short as a whole, yet still long in one region; but as our term usually applies to the intellect, it is obvious that a short-headed person lacks intellectual power, and therefore cannot shine in the ranks of art, literature, or science. If a short-headed person be long in the middle region, he may be able to get along fairly and display push and energy, and if long in the occipital region be a fond parent and have patriotic instincts, but he loses much of the higher pleasures of life, which to the *littérateur* and the artist makes life worth living.

LARGE AND SMALL HEADS.

Size is an indication of power, and other things being equal, a large head is more powerful than a small one; and equally a large organ more powerful than a small one in the same head. The power, however, lies in the direction of the development. If the size is represented in the back of the head, the owner is a powerful lover of home, and family, and friends. If in the side of the head, the person is a powerfully energetic but animalised selfish man. If in the upper regions, here is a zealot, a missionary, a religious enthu-

siast. If in the frontal region, the person is powerful intellectually. The head may be large as a whole but not necessarily an intelligent one, as our opponents assume, yet it most certainly indicates power in some direction. The test for intellectual greatness in any individual is the relative size of the prefrontal region of the brain to the whole brain, and the existence of those temperamental conditions which give fineness and good quality to its structure. These are the only conditions by which it is possible to accurately gauge the intellectual level of any man. A smaller head of good-quality texture would, under favourable conditions, manifest more intellectuality than a larger head, similarly built, but of poorer quality. Large heads are therefore powerful, but the temperamental conditions give activity and intensity, which are methods of manifestation. Small heads lack power, and the smallest regions are necessarily weakest in function.

CHAPTER VIII.

THE TEMPERAMENTS.—I.

THEIR BASIS AND CLASSIFICATIONS.

THE mind and the body are interdependent, and mutually influenced by each other. That the mind affects the body is generally recognised. Mental anxiety and worry cause physical weakness and debility. Under the influence of mental excitement in hundreds of cases the body has been so affected as to cease its operations. In Psycho-Therapy the curative power of suggestion is well known, and the practice of hypno-

tism affords additional evidence, if any were needed, of the undoubted influence which the mind exercises over the body.

It is equally true, though, perhaps, not so generally recognised, that the mind is influenced by the body. The physical conditions which affect the mind are many, among which I may number hunger, heat, cold, fatigue, debility, etc. These have a powerful temporary effect upon the mind's manifestations. It will be recognised, for instance, that a victim of biliousness becomes, under its influence, irritable, miserable, and pessimistic, and a continued series of such attacks tends to have a permanent effect upon the character of the sufferer. But apart from these influences, which may be but temporary, and of external origin, there are forces in the constitution of man which are ever active, and exert a constant and persistent influence over the mental operations, and these are known as the Temperaments.

WHAT IS TEMPERAMENT?

To attempt a definition suitable for phrenological purposes I would say the Temperaments are the forces resulting from the life processes carried on by the various organs of the body. The term "Temperament" has been so frequently misapplied, and is, apparently, so little understood, that an explanatory word may be desirable to clear away misconception. Modern writers have given the word an interpretation it was never meant to convey. They have assumed it to refer to a phase of mentality, or, at least, a mental attitude, and so we read of persons possessing poetic, artistic, religious, emotional, patient, pushful, and a number of other Temperaments. Of course, no such Temperaments

ments are known to the physiologist, nor, at present, do our standard dictionaries countenance such a use of the word. In this work I shall use the word in its strictly technical sense only, as referring to those conditions which are based upon the existence within the body of certain structures which, while affecting the mental state, have no mental origin.

ANCIENT CLASSIFICATIONS.

The Temperaments have been definitely recognised since the days of Hippocrates, but to deal with the many views of them which have been expressed, and the number of classifications of them which have from time to time been advanced by reputable physiologists, is beyond the scope of this manual. The ordinary modern physiologist, still robed in his scientific conservatism, and with his face, as ever, turned towards the past rather than to the future, recognises four Temperaments which are reminiscent of the long-ago centuries. These are the Nervous, Bilious, Sanguineous, and Lymphatic Temperaments. The ancient assumption was that the fluids in the body were all-powerful, and it was in this belief that the Temperaments were propounded. It was at one time conjectured that nervous energy was due to the existence of a nervous fluid, and it became the basis of a Temperament. The Sanguineous is based upon the blood, the Bilious upon the bile, and the Lymphatic upon the lymph.

These may, therefore, be described as the fluid Temperaments. For phrenological purposes they are of little value, for to be able to diagnose their influence upon the man and his character it is necessary to know the quantity and strength of each fluid in the individual, and that, of course, is impossible to tell.

Another classification, and a comparatively modern one, which has been largely used by phrenologists, is that of three Temperaments—the Mental, based upon the brain and nervous system; the Motive, based upon the muscular and bony structure; and the Vital, based upon the whole of the internal organs of the body which produce life-force. This classification, though it has a more rational foundation, and is, consequently, more satisfactory than unknown quantities of fluids, still leaves much to be desired.

THE BASIS OF TEMPERAMENT.

What the phrenologist requires is a classification such as shall include all the forces of the body which affect mentality, forces which are not only well defined; but the power and direction of which are capable of being easily determined.

Now, in examining man's physical organism, we find that he is built up of several distinct structures or systems of organs, each of which has its own separate functions to perform, and the performance of which necessarily affects his mental nature. Each of these sets of organs are in close communication with, or directly ramify over, all parts of the body, and practically embrace the entire effective equipment of the physical man. These systems are as follows :—

1. The organs of nutrition, or blood-creating system.
2. The arterial and re-oxygenating, or blood-distributing system.
3. The brain and nervous system.
4. The muscles, tendons, and ligaments, or muscular system.
5. The skeleton, or osseous system.

The operative forces of which these systems are the source are conditions which affect the manifestations of the mind, for on their individual and combined action the functioning of the brain depends.

A NEW CLASSIFICATION.

Recognising this, I have, in my own practice, adopted a classification of the Temperaments founded upon this natural arrangement of the bodily organs; and it is this classification I propose to introduce to you as the simplest and most desirable for use by the phrenologist, whose sole object in dealing with physical conditions is to estimate their modifying influence over the expression of the mental faculties.

The five systems, or sets of organs, suggest five Temperaments, and these I arrange thus:—

- | | |
|------------------|------------------|
| 1. The Nutrital. | 2. The Arterial. |
| 3. The Nerval. | 4. The Muscular. |
| 5. The Osseous. | |

Every person necessarily has a share of all the Temperaments, and this is so, no matter what classification be adopted. It is, therefore, misleading for any phrenologist to assert that a person is of the Nerval, Arterial, or other Temperament exclusively, which, I regret to say, is frequently done. This, in the nature of the Temperaments themselves cannot be. Whilst a development of the whole of the Temperaments, so that each in its own sphere has an equal influence on the life processes, is the ideal condition to strive for, yet the vast majority of persons have one or more of the Temperaments in excess of the others, hence their influence is greater, and the mind is consequently biassed in the direction of that influence. In order to

more clearly explain this influence, I shall, in describing the Temperaments, give the effect of each upon its possessor when it greatly preponderates over all the others.

CHAPTER IX.

THE TEMPERAMENTS.—II.

THEIR FUNCTIONS AND INFLUENCE.

1. THE NUTRITAL TEMPERAMENT.

THIS temperament embraces all those organs of the body whose function it is to deal with alimentation, which converts food into blood and such other secretions as are necessary to the sustenance and repair of the body. These are the organs of mastication, digestion, secretion, and excretion, and include the stomach, liver, kidneys, intestines, etc. This is the blood-making Temperament for the building of the body, and the brain being a bodily organ, is dependent upon this Temperament for the substance of which it is composed. Without food both physical and mental life would quickly cease; hence it is important that the organs which deal with it should be healthy and in good working condition. It is also equally desirable that extreme care should be exercised over the nature and quality of the foods taken, as these have a powerful effect not only upon the bodily structure, but also upon the mentality. Carnivorous animals are rendered fiercer by eating flesh, and become less ferocious when fed on vegetable productions. A predominance of this Temperament is indicated by :—

Physical Signs.—A full, round form. Large abdominal region. Soft, flabby muscles. Pale or grey skin. Sleepy-looking eyes, and dull, expressionless face.

Physical Effects.—A fondness for eating and drinking. The slow performance of all bodily functions. Weak circulation and pulse. Indolence. Sluggishness. Self-indulgence. An aversion to work.

Mental Effects.—The blood circulation being weak causes the brain to operate slowly and feebly; hence, capable of little mental exertion. Dislike of study. Slow to apprehend. Not easily responsive to the senses. Apathetic. Indifferent to personal or public duties.

2. THE ARTERIAL TEMPERAMENT.

This may also be known as the Thoracic Temperament, as the organs embraced by it have their centre in the thorax, though the system ramifies throughout the body. The heart, lungs, arteries, and veins are its chief agencies. It is the Temperament which converts the blood produced by the Nutrital into tissue, and forms bone, muscle, and brain. It is with the latter we are chiefly concerned, and it will be readily seen that the operations of this Temperament in this connection are of striking interest. The wear of the brain necessitates constant renewal, and the quality of the renewing material is only equalled in importance by the promptness and ever-readiness of the renewing agency. Mental operations are therefore considerably and constantly affected by the action of this Temperament. Where it exists greatly in excess of the other

Temperaments the following are its distinguishing features.

Physical Signs.—Full, broad chest. Moderate plumpness. Fairly firm flesh. Florid or ruddy complexion. Reddish or sandy hair. Usually blue eyes. Countenance bright and vivacious. Full, rapid pulse.

Physical Effects.—Great activity. Fondness for outdoor sports and exercises. Ability to endure fatigue. Restless energy. Strong physical passions.

Mental Effects.—Forceful, and mentally vigorous, but more activity than power. Buoyant in spirits. Fiery temper. Hopeful, zealous, ardent, enthusiastic. Easily agitated.

3. THE NERVAL TEMPERAMENT.

As the organ of the mind, the brain is our especial study, and its physical conditions of health and unrestricted growth are vital matters. Above all other bodily influences, these are most potent, as affecting the mental output. Unless the brain be perfect as a physical entity we cannot secure perfect manifestations any more than we can obtain harmonious music from an instrument whose strings are unwrung. Hence its condition must be ascertained with as great accuracy as possible before attempting to diagnose ability and character. The brain, with its servants, the afferent and efferent nerves, are the media through which cellular tissue is converted into thought, judgment, will, memory, emotion, sensation, etc. Upon the mystery of this transformation it will not be wise to venture even an opinion, for, palpable as the fact appears to be, yet all attempts at explanation are, at the best, only the merest speculation.

Persons in whom this Temperament preponderates possess the following characteristics :—

Physical Signs.—Tall, spare frame, or slight as compared with breadth. Small bones and muscles. Large upper head as compared with the face. Fine, thin, silky hair. Fair, soft skin. Pale countenance, having the appearance of delicate health. Small features. Bright, dark, sparkling eyes.

Physical Effects.—Intense feelings of pain and pleasure. Extremely rapid in motion. Quick response to the demands of the senses—sight, hearing, or feeling. Active and energetic, but not physically powerful. Intensely susceptible to stimuli, and all exciting causes.

Mental Effects.—Refined and delicate in feeling and expression. Enjoy and suffer in the highest degree. Mentally alert and vivacious. Rapid perception and comprehension. Keenly sensitive. Emotional in the extreme and easily excited.

4. THE MUSCULAR TEMPERAMENT.

The ability to do is as valuable to the world as the ability to think and reason, and therefore a body which has the power of putting into tangible and permanent form the results of thought is a necessary complement of the immaterial mind. The great agency to this end is the muscles and their attendant ligaments, tendons, etc. The healthy exercise of the organs of this Temperament in working, running, walking, or other exercise has a splendid effect on the whole system. It results in deeper, fuller, and more rapid breathing, which in turn introduces into the system the life-giving oxygen, which purifies the blood, and thus assists in providing for the brain the necessary nutrition required. It is

therefore possible to see the connection with, and influence of, this Temperament upon the mental nature. The special features which characterise persons having an over-balance of the Muscular Temperament are as follows :—

Physical Signs.—Large, powerful, rounded limbs. hard flesh. Strong hair. Harsh features. Firmly knit, tough skin.

Physical Effects.—Active, but deliberate movements. Easy, but powerful action. Fondness for physical exercise. Dexterous as acrobats and athletes. Hardy and strong.

Mental Effects.—Mental force, pushfulness, energy, and vigour, but somewhat lacking in the necessary reflection, reason or other mental guidance. Attention riveted upon games or tests of prowess.

5. THE OSSEOUS TEMPERAMENT.

The skeleton is the bony framework which acts as the foundation upon which the body is built. The fact that this frame may be large or small, long or short, can be seen to have a vital effect on the life and character of its owner. His employment, and, consequently his training and environment, is largely affected by his size, and, in a manner, which, under other osseous conditions, he would not have experienced. But independently of this, this Temperament has an influence all its own, both physically and mentally. It gives stability, strength, and solidity. I will indicate the distinctive features which present themselves when this Temperament is predominant over others.

Physical Signs. —Prominent features. Spare, angular form. High cheek bones. Large front teeth.

Square jaws. Large joints. Not invariably, but generally long limbs. Stiff, coarse hair.

Physical Effects.—Slow, but powerful motions. Deep voice. Deliberate and impressive actions. Limbs move slowly and regularly, as though automatic.

Mental Effects.—Mental operations are slow, but show tenacity, strength, and mental endurance. Decisive and positive.

INFLUENCE OF TEMPERAMENT.

To demonstrate the effects of these conditions on all the mental powers is too lengthy a task for the present purpose, but as an illustration I will take the musical instinct, and give the results of the various Temperaments on the musical faculties where these are well developed. The nature of the music preferred and produced by persons in whom these predominate are as follows :—

The Nutrital Temperament.—Soft, languorous, sensuous, dreamy music.

The Arterial Temperament.—Voluptuous, passionate music of the affections.

The Nerval Temperament.—Bright, rapid, artistic music, full of tone and expression.

The Muscular Temperament.—Operas, dances, military music.

The Osseous Temperament.—Marches, and music in which vigour and sound dominate.

It will thus be seen how bodily conditions accelerate, retard, or modify, and thus, to a large extent, control, mental operations.

TEMPERAMENT NOT MENTAL.

In concluding my exposition of the temperaments, I desire to make it clear that no faculty of the mind—moral, intellectual, animal, or emotional—is due to, or based upon, temperament alone. It has been so constantly taught, and accepted even by learned men, that the intellectual and moral nature of man depended upon his temperament, that it is necessary to correct an error at once so misleading and fatal. Courage, timidity, dissimulation, suspicion, imagination, perseverance, ambition, conception, emotion, etc., have all been credited to the temperaments, and even modern writers of repute have fallen into the mistake of making temperament the basis of mental faculties, of the real nature of which they are ignorant. These manifestations are all mental operations, and as such are necessarily matters of brain function, and with the origin of which the temperaments have nothing whatever to do. So little does temperament affect the nature of the faculties that it may be shown that with a preponderance of either or any of the temperaments men may be great and clever, or weak and foolish. The brain, and the brain alone, is the organ of the whole of the mental faculties, the influence of the temperaments being manifested in modifying the direction, method, and intensity of their action.

CHAPTER X.

THE HUMAN BRAIN.—I.

ITS STRUCTURE AND DIVISIONS.

THE human Brain is the centre of the nervous system, and the source of all sensation, emotion, passion, and of intellectual and moral expression. This fact has not been always recognised, but the investigations of Dr. Gall led to the marvellous discovery that every act and thought, every method of expression, mental and physical, whether voluntary or involuntary, had its origin in the Brain; hence all the phenomena of individual human life can only be adequately studied by and through, this organ, now recognised as the medium through which that life is alone capable of manifestation.

The Brain is composed of a variety of structures, but for the purposes of our subject it will be necessary to deal with a few only. The chief of these structures are the medulla oblongata, or bulbous termination of the spinal cord, the cerebellum, and the cerebrum. The two latter are the structures with which the phrenologist is chiefly concerned, and my remarks will therefore be mainly confined to them.

THE CEREBRUM.

The Cerebrum, or large Brain, occupies the greatest portion of the cranial cavity, and its external surface is in close connection with the whole of the internal surface of the dome of the skull. It is divided into two hemispheres by the longitudinal fissure, which is a deep furrow extending the whole length of the Brain along the middle line, from the front to the back, and

thus but for the connection at the base (*corpus callosum*), would be two distinct structures. The matter of which the Cerebrum is composed is of two kinds—cellular and fibrous—each presenting its own colour characteristic, by which it is usually known. The cellular matter is grey and the fibrous white. The grey matter forms a kind of thick coating over the whole surface of the Cerebrum from three-sixteenths to a quarter of an inch in thickness. The microscope reveals that this layer is really a mass of cells mostly of triangular form, but varying as to shape and position in different parts of the layer. The cells nearer the outer surface are short and small, those near the middle of the layer being larger and more elongated, and showing definite thread-like processes being thrown off from its angular points; while nearer the bottom, or inner, surface the cells have a granular appearance, and present a still further change where the grey matter is in contact with the white matter. Altogether there are some five or six varying cellular appearances representing distinct layers of cells, the presumption being that each layer has in some at present unknown way a distinct function to fulfil. It is this grey matter which in one or more of its layers performs the highest possible mental functions, and it is in the study of this that the phrenologist is therefore most deeply interested.

THE WHITE MATTER.

The white matter of the Cerebrum is composed of myriads of fibres, or intensely fine threads, only microscopically visible. These afford a means of communication from every part of the Brain to every other part, putting the whole mass into immediate and simultaneous

connection, enabling the operations of each part to synchronise with that of all the other parts. These fibres are known to operate in at least three different directions, and are described accordingly :—Peduncular fibres, which connect the grey matter with the base of the Brain; Commissural fibres, which connect the grey matter in the two halves of the Cerebrum (and which in their passage from one half to the other are joined and form the mass known as the *corpus callosum*, previously referred to, which connects the two hemispheres at the base), and Association fibres, which pass from the front, or anterior, portion of each hemisphere to the back, or posterior, portion of the same hemisphere.

THE CEREBELLUM.

The Cerebellum, or small Brain, is also divided into two hemispheres. It is laminated in structure, having the appearance of being composed of layers. These when cut across present a beautiful appearance like a variegated leaf, showing the central and ramifying fibres with wonderful fidelity. This appearance has been called the *arbor vitæ*. The function of the Cerebellum has been held by many phrenologists to be purely amative; while, on the contrary, some anatomists contend that its function is limited to the co-ordination of movement. It is, I think, probable that, although its amative function is undoubted, this may be true of certain of the cerebellar lobes only, and that other portions of the Cerebellum may have co-ordinating functions.

THE MEMBRANES.

The Brain is invested with a series of membranes or coverings. The one in immediate connection with it

is the Pia Mater, a very thin, delicate structure of a vascular nature, which covers the whole of its surface; not only the external surface, but follows it down into the fissures, so that the surface of one convolution lying against the surface of the next is kept from actual contact; it is practically insulated by means of the double layer of Pia Mater which intervenes. Outside the Pia Mater there is the Arachnoid, a serous membrane which envelopes the Brain as a coat. This does not dip down into the fissures like the Pia Mater, but covers it as a whole, like the leather on a football covers the air bladder underneath. Between the Arachnoid and the outer membrane there is a space of extremely limited thinness, and not noticeable as an objection to Phrenology. It contains an exceedingly small quantity of cerebro-spinal fluid. Outside the Arachnoid coat is the Dura Mater, a tough, hard membrane through which ramify the arteries which convey the arterial blood to the bones of the skull. This membrane is as much a lining to the skull as a covering to the brain. From, and forming a part of, it there are certain projections or processes. One of these is the Falx-cerebri, or Falci-form process—a hard but thin scythe-shaped, flat substance, which dips down into the longitudinal fissure along the whole line from front to back of the brain, thus keeping the two hemispheres distinctly apart, and protecting them from the possibility of injuring each other by concussion or otherwise. The Tentorium is a similar process which, projecting from the Dura Mater at the lower part of the back of the head, passes horizontally between the lower, or tentorial, surface of the Cerebrum and the upper surface of the Cerebellum. A

hemisphere of the brain being a perfect organ of itself, as each eye or ear or hand is perfect and not absolutely dependent upon its corresponding member for its power of functioning.

The Lobes of each hemisphere are :—The Frontal Lobe, comprising the whole of the frontal brain anterior to (or in front of) the Rolandic fissure, and above the Sylvian fissure—the Parietal Lobe lying between the Rolandic and the Parieto-Occipital fissures, and above the horizontal ramus of the Sylvian—the Temporal Lobe lying immediately below the Sylvian fissure, and the Occipital Lobe situated behind (or posteriorly to) the Temporal Lobe and below the Parieto-Occipital fissure. There are other Lobes—the Island of Reil, the Cuneus, and the Quadrate lobule, the phrenological functions of which have not yet been definitely ascertained, and with which consequently I do not propose to deal.

CONVOLUTIONS.

The Lobes are themselves sub-divided into Convolutions, which are of three orders of importance—the primary, secondary, and tertiary. It being difficult to convey a correct idea of a convoluted brain by means of verbal description, I may say that as far as secondary and tertiary Convolutions are concerned no two brains are convoluted exactly alike, and the linear mapping of one brain would be no correct indication of the appearance of the Convolutions on another brain. Hence I shall confine myself to the primary Convolutions without reference to the lesser folds which appear on them.

The Frontal Lobe has four Convolutions known respectively as the first-, second-, and third-frontal and the frontal-ascending. The first two of these run as nearly as may be vertically from the front of the brain (corresponding with the brows) and parallel with the longitudinal fissure, the third lying on the side and underneath the anterior part of the Lobe. The frontal-ascending runs in front of, and parallel to, the fissure of Rolando, and obliquely to the other three.

The Parietal Lobe has four Convolutions, the parietal-ascending running parallel to, and behind, the fissure of Rolando; the superior-parietal-lobule lying at the upper part of the Lobe by the crown of the head; the inferior-parietal-lobule lying below the superior, and above the parieto-occipital fissure, comprising the Supra-marginal gyrus lying around the posterior termination of the fissure of Sylvius and the Angular gyrus, situated behind and below the Supra-marginal.

The Temporal Lobe has three Convolutions known respectively as the first-, second-, and third-temporal. The first or superior, which lies horizontally along the top of the Lobe; the second or mesial, which runs below, and parallel to, the first; and the third or inferior, which is also parallel to the other two, lying at the base of the Lobe.

The Occipital Lobe has also three Convolutions—first-, second-, and third-occipital, which lie under each other in the following order :—First or superior, second or mesial, and third or inferior at the base. It may be desirable to explain that the words “superior” and “inferior” in anatomy do not refer to quality, but position. The upper of two or more parts, as Convolu-

tions or Fissures, is the superior, the lower being the inferior.

FISSURES.

The Lobes and Convolutions are separated by Fissures or Sulci. These are grooves or furrows dipping into the brain, their formation being due to an extension of the surface of the brain to accommodate a larger amount of the grey cellular matter. The chief fissures are the Longitudinal, Rolandic, Sylvian, and the Parieto-Occipital, which are the boundaries of the Lobes.

The position of the Longitudinal fissure has been already described as dividing the cerebral hemispheres. The fissure of Rolando parts the Frontal Lobe posteriorly from the Parietal Lobe, running obliquely from near the middle of the Longitudinal downwards and forwards towards the Sylvian fissure. The fissure of Sylvius runs almost horizontally along the upper boundary of the Temporal Lobe, parting it from the Frontal Lobe, which lies above. This fissure is continued forward a short distance into the Frontal Lobe, and has a vertical branch, which also penetrates the third Frontal Convolution. The Parieto-Occipital fissure indicates the boundaries of the Parietal Lobe which lies above it, and the Occipital Lobe which lies below. The other fissures are of less importance, and indicate the divisions of the Convolutions.

I have tried explicitly, and simply, to explain sufficient of the anatomy of the Brain to enable any person of average intelligence (who will take the trouble to understand) to follow the teaching to be conveyed in subsequent chapters.

CHAPTER XI.

THE HUMAN BRAIN.—II.

BRAIN MEASUREMENTS AND WEIGHTS.

CONSIDERABLE value has been attached to the volume of brain possessed by individuals, and anatomists have produced figures giving the sizes and weights of brains of known celebrities, in addition to those of average men of various nationalities and races, from which they have deduced hypotheses which fail to conform to the known facts as to mental capacity which human experience supplies. The fact is, that the sizes and weights of brains are not sufficient data upon which to found a scientific opinion. The measurements and comparisons of regions, or limited areas of the brain, are the first essentials to a correct interpretation of its power.

BRAIN QUALITY.

That, however, has to be supplemented by an examination of the quality of its structure, which can be accurately gauged by the student as the result of a careful observation of the subject under scrutiny. Nature, in her structural formations, is homogeneous; hence, when you recognise the qualities which are inherent in one part of a structure you have a key to the condition of the rest. If the trunk of a tree be strong, closely textured and fibrous, we may be sure that, though unseen, the branches and leaves of that tree partake of the same nature and have the same characteristics. And so, in man, there is the same homogeneity. He is not coarsely-grained in one part of his structure and finely-grained in another. As is his foot so is his hand; as his body so his head; as

his external structure so is his internal; as is the quality of muscle and tendon and bodily fabric so is that of the brain; hence a knowledge of the texture of his organism is a second necessary factor in arriving at a decision as to his mental qualifications.

BRAIN HEALTH.

A third condition which it is also expedient to take into consideration is that of the health of the brain, which, in addition to partaking of the general asthenic condition of the body when disease attacks it, may suffer from some local malady, which, if suspected, should claim special attention, and the most careful enquiry. Should the brain be in a debilitated state then mental impotence will result in greater or less degree and the brain's power of functioning be correspondingly diminished; in certain cases it will be entirely inhibited. Even if the intellectual brain-areas or bulk be great, and the quality be high, should there be any check upon the power of functioning, the results may be ineffective from the point of view of mental manifestation. This, however, cannot be used as an argument against the phrenological position, though it severely condemns those who use it as such, showing, as it does, that they do not comprehend the real phrenological teaching, and are therefore guilty of inveighing against something of the nature of which they are ignorant.

BRAIN WEIGHTS.

A knowledge of the quantity of brain in the human head, bearing some relation as it does to the mental power of its possessor, is necessarily of considerable,

though not vital, importance to the phrenological student. This quantity is gauged in three ways—

1. By its weight in ounces or grams.
2. By its cubical contents in inches or cubic centimeters.
3. By linear measurements with tape and callipers.

The weights of brains of men assumed to be normal vary from 65 ounces to 30 ounces. Any adult with a brain of less weight than 30 ounces would, of necessity, be an idiot. The average brain weight of the savage is 42.3 ounces, and of negroes 45.8 ounces. The ordinary average Caucasian, or European, head varies from 47.2 to 50.1 ounces. The brains of the educated nations and classes are heavier than those of the uneducated. The following are the brain weights of some eminent men, in ounces:—Bismarck 65.17, Cuvier 64.5, Dr. Abercrombie 62.9, Dr. Webster 54.5, Kant 58.8, Byron 63.7, Dr. Spurzheim 55.01, and Dr. Chalmers 53. Fifty ounces is usually given as the average weight of the English adult male brain, of which the cerebrum is $44\frac{3}{4}$ ounces and the cerebellum $5\frac{1}{4}$ ounces. The adult female brain weighs $44\frac{1}{2}$ ounces, the cerebrum being $38\frac{3}{4}$ ounces and the cerebellum $4\frac{3}{4}$ ounces. The proportion of cerebellum to cerebrum in children is as 1 to 13. It was at one time believed that the human brain was the largest of that of any animal, but exceptions have been found in the brains of elephants, which weigh from 8 to 10 pounds, and of whales, which weigh from 5 to 6 pounds. Other scientists have asserted that the brain of man, if not absolutely the largest, was so relatively to the size of the animal, but that is also disproved by the fact that

the brains of song birds, the rodentia, and the smaller apes are heavier in proportion to their weight than are those of man. Hence it follows that man's superior intelligence and moral power must depend upon some condition other than the size or weight of the brain as a whole.

BULK OF BRAIN.

The cubical contents of brains necessarily vary as to their weights, and some observers place especial value upon this form of appraisement, as distinct from weight, inasmuch as it deals with skull capacity. In the vast majority of cases where it has been desirable to ascertain brain values, there have only been skulls available for the purpose, and the investigator has had to calculate the volume of the brain by measuring the internal capacity of the skull, which can be done with considerable accuracy in many ways; one, by filling the skull with certain seeds or sand and then measuring its cubical content, another by calculating the displacement of water on the insertion of the cranium, after the necessary preparation by stopping the foramina.

The average English adult male head contains 137 cubic inches, whilst the female has 120. The head contents in cubic inches of other races are as follows:—Mongolian 127, Malay 127, American-Indian 131, and Ethiopian 126.

As a guide to volume at various periods of life the following represents the approximate capacities at the specified ages. At 6 months, 72 cubic inches; 3 years, 98; 5 years, 104; 8 years, 114; 10 years, 121; 12 years, 124; 18 years, 133; maturity, 137.

HEADS AND HATS.

Though the volume of head is not in strict relation to its circumference owing to the variations in the height of the head, and the greater or less width in the upper development, yet it may be an interesting fact to know that the circumferential measurement of the head at the level at which the hat is worn indicates to the observer, the capacity within certain known limits. Heads which take hats :—

Sizes 5 to 6 contain 50 to 80 cubic inches.

„ 6 to $6\frac{3}{8}$	„ 80 to 90	„
„ $6\frac{1}{2}$	„ 90 to 100	„
„ $6\frac{5}{8}$	„ 100 to 110	„
„ $6\frac{3}{4}$	„ 110 to 120	„
„ $6\frac{7}{8}$	„ 120 to 135	„
„ 7	„ 130 to 145	„
„ $7\frac{1}{8}$	„ 140 to 155	„
„ $7\frac{1}{4}$	„ 150 to 165	„
„ $7\frac{1}{2}$	„ 160 to 180	„
„ $7\frac{3}{4}$	„ 175 to 195	„
„ $7\frac{7}{8}$	„ 190 to 210	„
„ 8	„ 200 to 220	„

Of two heads both taking the same size of hat, say size 7, the student can easily distinguish by observing the development of the upper head which most nearly approaches the 130 cubic inches, and which the 145. Of course, this is only approximate, yet sufficiently near to act as a guide, in connection with other data, in forming a judgment.

It may be interesting to know that Joseph Hume wore a hat size $8\frac{1}{2}$, Daniel O'Connell 8, Chalmers $7\frac{3}{4}$, Thackeray $7\frac{5}{8}$, Gladstone and Macaulay, each $7\frac{3}{8}$,

Robert Burns and Charles Dickens each $7\frac{1}{8}$, and Lord Beaconsfield 7.

TAPE AND CALLIPER MEASUREMENTS.

Although by a series of calculations based upon certain measurements of the head, it is possible to arrive at a very close estimate of the cubical contents and weight of the brain, yet Phrenologists have found that lineal measurements of the external surface of the head are sufficient for the purpose of indicating, not only the volume of the brain, but also the relative sizes of its parts or segments; and in practice accept these as data for forming their judgments, without entering into the somewhat complex calculations involved in arriving at the volume or bulk of brain matter.

The measurements usually taken by the phrenological practitioner are—with callipers—the greatest length of the head and its greatest breadth; and—with the tape—(1) the greatest circumference; (2) the arch from the edge of the brow (Glabella) over the middle of the head to the Occipital spine (Inion) at the back; and (3) the arch from the opening of the right ear over the head to the opening of the left ear. Some practitioners take other measurements, but these are the ones usually employed. The object in measuring the head is to arrive at a conclusion as to the general size of the brain and its parts, with special reference to the areas containing groups of organs having similar functions, as intellectual, moral, animal, &c.

AN APPROVED SYSTEM.

The Incorporated British Phrenological Society has approved and adopted a system of measurements

devised by Dr. C. W. Withinshaw (late Demonstrator of Anatomy in Edinburgh University, and ex-President of the Phrenological Society), which is here given :—

The system comprises two kinds of measurements, *vis.* :—

- (1) **Peripheral** or tape measurements.
- (2) **Straight-Lined** or calliper measurements.

PERIPHERAL MEASUREMENTS.

(1) **The Circumference.**—The level to be, anteriorly the Ophryon, and posteriorly the Occipital Point.

(2) **The Sagittal or Fronto-Occipital Arch.**—To be taken from the Glabella to the Inion.

(3) **Coronal or Intertemporal Arches.**—To be taken over the head and between the Pre-auricular Points.

(a) **The Central or Perpendicular Arch** over the centre of the crown.

(b) **The Parietal Arch** over the Parietal Eminences.

(c) **The Frontal Arch** over a point midway between the Central Arch and the Ophryon.

(4) **The Frontal Projections.**—To be taken between the Central Points or points of intersection of the Central Arch and the Circumferential line.

(a) **Lower Frontal Projection** passing over the Ophryon.

(b) **Upper Frontal Projection**, passing over the Frontal Eminences.

(5) **The Parieto-Occipital Projection** is represented by that part of the circumference posterior to the Central Points.

(6) **Depth of Temporal Lobe** equals the length of a line drawn from the Central Point to the Pre-auricular Point.

STRAIGHT-LINED MEASUREMENTS.

(1) **The Longitudinal Diameter**, or Length :—From the Ophryon to the Occipital Point.

(2) **Transverse Lines** or Breadth.

(a) **Frontal**.—Between the Temporal Ridges at their origin.

(b) **Intertemporal**.—Immediately above the upper attachment of the auricle.

(c) **Interparietal**.—Between the Parietal Eminences.

For explanation of technical terms see Chapter XIII.

It is desired that all Phrenologists should adopt the system, and keep records of all measurements for purposes of comparison, that in the future the Society may be able, in dealing with large numbers of cases, to arrive at more correct and definite conclusions than is at present possible in the matter of special and average developments. The advantage of this system is, that it gives as nearly as it can be ascertained, the sizes of the various lobes and consequently the power of functioning of the groups of organs of which they are the embodiment.

Dr. Bernard Hollander (also an ex-President of the Society) has produced a system of measuring the head which he has described and illustrated in his *Scientific Phrenology*, pages 286, 287.

VARIATIONS IN HEADS.

The average circumferential measurement taken round the Ophryon and the Occipital pole, of the English adult male head, is 22 inches; that of the adult female head being half-an-inch less. The circumference varies in different heads from 15 inches to 25 inches, though if the size be less than 18 inches it indicates idiocy, and in heads of 25 inches and over, it is desirable to look for signs of disease. The heads of the most powerful men intellectually, and the predominant leaders in all spheres of action, range from 23 to $24\frac{1}{2}$ inches; whilst many have keen and brilliant intellects and wonderful talent, if their brains are of superior quality, with measurements of $22\frac{1}{2}$ to $23\frac{1}{2}$.

The size of the head, however, is not a fixed quantity. It may be modified from time to time by the exercise of the mental powers in various directions—for exercise means growth—and careful observations and measurements of the heads of many prominent public men, taken over a number of years, by my honoured friend Mr. J. Millott-Severn, of Brighton (and the results of which have been recently published by him in his *Popular Phrenology*, pages 20, 21), demonstrate that fact very clearly.

CHAPTER XII.

THE HUMAN CRANIUM.—I.

BONES AND SUTURES.

NEXT to the brain the Skull is, to the Phrenologist, the most important structure in the human organism. Its growth from infancy to maturity is commensurate with, and in direct response to, the needs of the growing brain; its chief function being that of supporter and protector of that marvellous organ. Its arched, almost globular, form, with its system of sutures, is that best adapted to resist blows from without, while permitting expansion from within; and its toughness and comparative lightness makes it a perfect structure for the specific purpose for which it is designed. It is the brain's servant and bodyguard, growing with it and for it. In whatever direction the brain develops, the Cranium with absolute fidelity to its purpose, adjusts itself to the change. It does not confine the brain in the sense of restricting its growth, as is taught by many who should know better; but consistently performs its function of providing a suitable covering and protection for its master, the brain; no matter how strange the form or how varied its changes.

HOW THE SKULL GROWS.

In the early stages of development during uterine life the Cranium is simply a cartilaginous membrane of an ossific nature covering the foetal brain. At certain points in this texture known as centres of ossification the ossifying process begins, and the membrane is gradually converted into bone. From these centres little pointed spikes of bone (or spiculæ) form, having

an appearance as though they were thrust out in all directions from the centre, like star-rays. The intersections between the spiculæ are gradually ossified, until at birth the bones of the Cranium are practically shaped, though not completed at their edges; this being especially noticeable at the junction of the two Frontal and two Parietal Bones, known as the fontanelle, which still preserves its membranous character for a considerable time. Each centre of ossification indicates at first a separate bone, but during later stages certain of these combine together, forming single bones; as, for example, the Occipital Bone, which, originally formed from seven centres as seven bones, eventually becomes one structure.

THE CRANIAL CAVITY.

In dealing with the Cranium I propose to limit myself in this chapter to that part of it which forms the cranial cavity, or what is frequently less euphemistically called the brain-case.

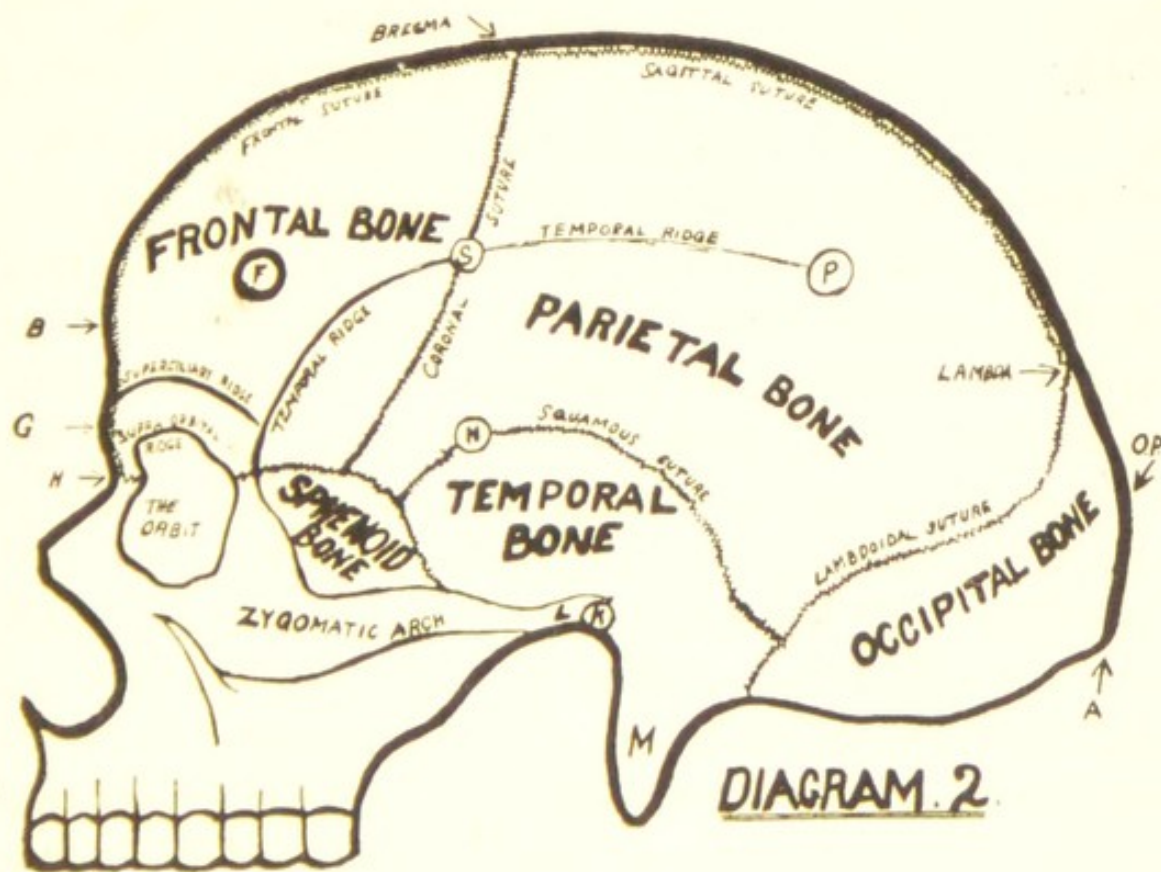
The bones forming the cranial cavity in the adult are eight in number :—

1 Frontal.	2 Parietal.
1 Occipital.	2 Temporal.
1 Sphenoid.	1 Ethmoid.

The Frontal Bone is formed from two centres, but in the great majority of cases the two bones unite in early life to form a single bone, though a considerable number of adult crania are found to preserve the original condition of two Frontal Bones, separated by the Frontal Suture. The positions of the various bones are shown on the accompanying diagram. The Sphenoid and Ethmoid bones lie on the anterior base

of the cranial case, and although having special value in relation to the structure of the Cranium, they afford no help to the Phrenologist.

The flat bones of the Cranium are built up of three layers, the inner and outer layers, or tables, being compact, hard structures, filled with minute cells, and provided with numerous canals for the passage of nerves and blood-vessels. The middle layer, known as the *Dipl e*, is a porous, medullary substance, which separates the two tables in such a way as to afford special protection to the inner table and its brain con-



DESCRIPTION OF DIAGRAM.—No. 2.

VIEW OF LEFT SIDE OF SKULL, showing Bones, Ridges, Sutures, Points, and other features. The Bregma, and Lambda, are indicated by arrow points. A., Inion; B., Ophryon; F., Frontal Eminence; G., Glabella; H., Nasion; K., Auditorary Meatus; L., Pre-auricular Point; M., Mastoid Process; N., Pterion; O.P., Occipital Point; P., Parietal-Eminence; S., Stephanion.

tents, so that should the outer table be injured or fractured the existence of the *Diplöe* may enable the inner table to escape serious hurt.

SKULL THICKNESS.

The total thickness of the combined three layers of the cranial bones varies in different skulls and in different parts of the same skull. In two sections of two Temporal Bones I have before me as I write, I find one is one-sixteenth and the other three-thirty-secondths of an inch; and in two Occipital Bones, the sections at their thickest part, across a ridge and just below the *Lambda*, their measurements are three-sixteenths and a quarter of an inch respectively. Except at the processes, these constitute the limits of thickness of the bones in ordinary normal skulls. There are, however, exceptions in the cases of persons of powerful osseous temperaments, which I shall deal with later. When handling a skull which may have been buried for many years, and finding it hard, solid, and apparently impervious, it seems difficult to realise that it was at one time capable of adapting itself to the growth requirements of the soft brain; but it must be remembered that it is now dead bone, and that there is a vast difference between living and dead bone. Bone is composed of one-third animal and two-thirds mineral matter (chiefly phosphate and carbonate of lime), and in dead bone the mineral matter alone remains. Compare such a skull with that of a sheep's skull direct from a butcher's shop. The bones of the latter, you will notice, are comparatively soft, containing not only all their structural animal matter, but are ramified by nerves and blood-vessels and charged with serous

fluids. It will, therefore, be more readily seen that with the whole machinery of life in motion the gradual elimination of useless and effete matter, and the deposition of fresh substance, is not only a possible but a necessary process. Hence the changes in the Cranium are easily understandable.

THE SUTURES.

The Bones of the Cranium articulate (or are connected) with each other by means of Sutures. These are of two kinds, serrated and squamous. Serrated Sutures are formed by uniting the edges of the Bones somewhat in the nature of dovetailing; processes from each bone growing into spaces in the edge of its neighbour. The serrated Sutures of the Cranium are the Coronal, the Sagittal, and the Lambdoidal. (See diagram.) Squamous Sutures are formed by the thinned or bevelled edge of one Bone lying over the bevelled edge of its neighbour, like the scales of a fish. The only cranial Squamous Suture is the Temporal.

The Coronal Suture connects the Frontal Bone with the two Parietal Bones; passing over the head, from the temple on one side to the temple on the other.

The Sagittal Suture connects the two Parietal Bones at their upper margins, passing along the central or mesial line at the top of the Cranium from the middle of the Coronal Suture to the Lambda.

The Lambdoidal Suture connects the upper edges of the Occipital Bone with the inferior edges of the two Parietal Bones, running from the posterior part of the mastoid process on each side, backward and upward at an angle of about 25 degrees, towards the posterior end of the Sagittal Suture. When about an

inch from the point of connection it turns suddenly upward, joining the Sagittal Suture at an acute angle.

The Temporal (or Squamous) Suture connects the superior edge of the Temporal Bone with the Parietal, taking, roughly, a somewhat circular form over the Zygoma, the posterior end of which may be taken as its centre. The edge of the Suture is at about one-and-a-half inches distance round this point.

The Frontal Suture connects the two Frontal Bones where they exist separately, and is in line with, and practically a continuation of, the Sagittal Suture, over the forehead and down to the Nasion.

The Nasion is the Suture which connects the nasal process with the Frontal Bone. It lies in the hollow at the root of the nose, below the Glabella.

CHAPTER XIII.

THE HUMAN CRANIUM.—II.

EXTERNAL AND INTERNAL FEATURES.

THERE are various Points, Ridges, and Processes on both the external and internal cranial surfaces, which should be well known to the Phrenologist. The external ones are shown on the diagram.

The Inion or Occipital Protuberance is easily felt in the living head at the base of the skull, where it joins the neck. It has no phrenological significance.

The Mastoid Process of the Temporal Bone is a prominent protuberance behind the ear. It has within it a number of cells which form a part of the organ

of hearing. Like the Occipital Process it indicates nothing phrenological, being used externally as an attachment for muscles.

The Zygomatic Arch is a bridge of bone lying horizontally above, and in front of, the Auditory Meatus. It is often used as a position from which to take vertical measurements.

The Parietal Eminence is the centre of ossification of the Parietal Bone, and is its most prominent point. It is situated about three inches above and one and a half inches behind a line drawn vertically from the Auditory Meatus.

The Frontal Eminences are the two most prominent parts of the Frontal Bone. In the living head they are situated about one and a half inches above the middle of each of the brows, and are easily recognisable.

The Meatus Auditorius, or opening of the ear, is easily seen, and consequently is frequently used by Phrenologists as a point of measurement by the eye, though it cannot be relied upon for strict accuracy.

RIDGES AND POINTS.

The Temporal Ridge forms an elliptical curve, starting from the outer angle of the eyebrow, rising at the angle of the Frontal Bone, and curving backward making a sweep on to, and beyond, the Parietal Eminence.

The Superciliary Ridge is that bony ridge which forms the brows, and lies immediately under the hair of the eyebrows.

The Supra-orbital Ridge is the upper arch of the orbit, and when pressed by the finger upwards pre-

sents a somewhat sharp edge. About one-third of the distance from the inner angle of the eyebrows, towards the outer angle on this ridge, is the Orbital Notch, which is readily found in the living head.

The Glabella is the central point between the brows, directly over the root of the nose. It is a valuable point from which measurements are taken.

The Ophryon lies above the Glabella in the middle of the forehead, and is directly over the frontal pole of the brain. It is useful for measuring brain lengths and circumferences, and is a useful guide in determining the depths of the Frontal Sinus.

The Bregma is the point of junction of the Coronal and Sagittal Sutures, at the spot where the fontanelle is found in the infant.

The Lambda is the point where the Sagittal and Lambdoidal Sutures meet at the back of the skull.

The Occipital Point is the extreme posterior point of the skull and lies between the Inion and the Lambda.

The Pre-auricular Point is a point directly in front of the opening of the ear (Auditorius Meatus) at the posterior end of the Zygomatic Arch.

The Stephanion is the point where the Temporal Ridge crosses the Coronal Suture. It can, in the majority of heads, be found with but little difficulty.

The Pterion is a point not so easily determined. It is situated exactly midway between the Stephanion and the upper border of the Zygoma, on a line drawn vertically to the Zygoma; or to put it in school language, let fall a perpendicular from the Stephanion to the Zygoma, bisect the perpendicular, and the point of bi-section is the Pterion.

The Points, Sutures, and Prominences given will be sufficient to enable the Phrenologist to locate upon the Cranium the lobes and convolutions of the underlying brain.

INTERNAL FEATURES.

The features of interest to the Phrenologist which lie within the Cranium are necessarily those which affect the parallelism of the inner and outer surfaces of the brain-case.

The Internal Occipital Protuberance lies directly under the External Protuberance, and is the meeting place of four Sinuses, or canals, formed in the bone to receive blood-vessels. They are :—

1. **The Superior Longitudinal Sinus** running between the inner table of the Cranium and the Dura Mater, on the line where the Dura Mater forms the falx cerebri; or under the mesial line of the Skull, from the Glabella to the Inion.

2. **The Occipital Sinus**, which, in direction, is a continuation of the Longitudinal along the mesial line of the Occipital Bone; but this has no phrenological significance, as it covers no phrenological organ.

3 and 4. **The Right and Left Lateral Sinuses**, which run from the Protuberance at right angles to the Longitudinal and Occipital. These two sinuses are often quoted by objectors to Phrenology, though they do not affect the phrenological position, as they lie beneath the Cerebrum and over the Cerebellum, being at the level of the attachment of the Tentorium to the Dura Mater, where no phrenological organs are situated.

The internal surfaces of the Parietal Bones are smooth, except for the indentations (which they have in common with the other cranial bones), in which lie the arteries; and the fossæ, or depressions caused by the convolutions.

The internal surface of the Frontal Bone holds the Anterior Ridges of the Longitudinal Sinus, but they are very small here, and a negligible quantity as far as Phrenology is concerned, as they lie along the central line, whilst the phrenological organs lie on either side of this line.

The Temporal Bone presents some difficulty as to its inner surface. Around and behind the Auditory Meatus, or ear, the bony formations surrounding the organ of hearing are very thick and prominent internally, and very great caution is necessary in properly locating the positions, and estimating the sizes, of the organs of Destructiveness and Vitativeness.

THE FRONTAL SINUS.

One other feature must be noted in this connection, viz. :—

The Frontal Sinuses.—These are formed by the separation of the two tables of bone under the Superciliary Ridges. The separation is widest directly under the Glabella, and narrows off to the extremities of the Sinus. The Frontal Sinuses vary considerably as to depth, and extent of surface covered, in different heads, and frequently differ in the two sides of the same head. In children they are practically absent, and where they exist are small in the great majority of women. In men, from the age of puberty, they must be looked for. It is not difficult to distinguish their

existence from the appearance of the brows. Recognising the Ophryon as the most anterior part of the brain, the projection of the Superciliary Ridge beyond that point will indicate practically one-half the depth of the Sinus at its widest point, and a little experience in manipulation will enable the Phrenologist to tell with considerable accuracy its depth and extent. Phrenologists should, however, carefully examine and note the appearance of crania which have been separated at the level of these sinuses.

CHAPTER XIV.

CEREBRAL TOPOGRAPHY.

LOCATION OF FISSURES AND CONVOLUTIONS ON LIVING HEAD.

THE following method of locating upon the Cranium, or the living head, the fissures and convolutions of the underlying brain, are the latest which anatomical science has advanced, and, therefore, may with confidence be adopted for phrenological purposes.

LOCATING THE FISSURES.

The Fissure of Rolando may be found thus :—Measure carefully from the Glabella along the mesial line of the head, over the Sagittal Suture, to the Inion. This distance is then halved and the point noted. The upper part of the Fissure of Rolando starts from a spot half an inch behind this point. A strip of flexible iron, provided with a sliding arm placed at an angle of sixty-seven degrees to the strip, is now laid upon the

Another method of locating the Fissure of Rolando is to find the Coronal Suture and the Parietal Eminence; then, two-fifths of the distance from the Suture to the Eminence will fall upon the Fissure of Rolando.

The Fissure of Sylvius starts from a point one-sixteenth of an inch directly in front of the Pterion, passing backward and slightly upward to a position about three-fourths of an inch below the Parietal Eminence, then turning up towards that point. The anterior limb of Sylvius runs forward from the same starting point and slightly upward. A Fissure is also called a Sulcus (plural Sulci).

The Pre-central Sulcus lies just behind the Coronal Suture and parallel to it. It extends to about the middle of the Rolandic Fissure.

The Superior Frontal Sulcus runs from the Orbital Notch upward and backward and parallel to the mesial line of the head. Its posterior termination is about midway between the Fissure of Rolando and an upward continuation of the line drawn from, and in the direction of, the Pre-central Sulcus.

The Inferior Frontal Sulcus lies beneath the Temporal Ridge, and follows that Ridge to the Pre-central Fissure.

The Inter-parietal Fissure starts from a point on a level with the junction of the middle and lower two-thirds of the Fissure of Rolando. It turns backward on a line parallel to the mesial line of the head, and drawn midway between the mesial line and the Parietal Eminence.

LOCATING THE LOBES.

These fissures are the boundaries of the convolutions, with the locations of which I now propose to deal. In the accompanying diagram the positions of the primary convolutions are shown upon the external cranium. The dotted lines represent the fissures, or boundaries, of the convolutions, and the thick lines the boundaries of the lobes. The latter are the first to be placed. Find the Fissure of Rolando by the rules already given, and then Sylvius; also note the position of the Mesial line representing the Longitudinal Fissure. These are the chief divisions of the brain into lobes.

The boundaries of the Occipital Lobe on its superior and anterior limits are not easy to define on the outer surface except at the Parieto-occipital Fissure; but a line drawn to this Fissure from the horizontal ramus of the Sylvian Fissure (shown as a dotted line in the diagram), and which I will call the Parieto-occipital boundary, is the nearest external indication of the division between the Parietal and Occipital Lobes. The anterior Occipital limit has to be determined in a similarly empirical manner. A vertical line drawn midway between the Auditory Meatus and the Mesial line, and parallel with the latter (also dotted in the diagram), which I will name the Temporo-occipital boundary, may be accepted as the boundary between the Temporal and Occipital lobes.

On reference to the diagram, the frontal lobe will be seen to occupy the forehead and upper front head; the Parietal Lobe occupies the crown and upper back head; the Occipital Lobe is in the lower back head;

and the Temporal Lobe in the lower middle head surrounding the ear. With reference to the Frontal Lobe, it is necessary to state that, although on the outer surface of the Cranium we can only follow it directly down to the brows, yet it passes under the brows and backward over the Orbital Plate; and on this part of the surface there are located some important phrenological organs, their development affecting the configuration of the brows, the positions of the eyes, etc., as will be shown later.

LOCATING THE CONVOLUTIONS.

Assuming my readers have acquainted themselves with the location of the fissures, I will define the positions of the convolutions as simply as possible, to enable every reader to be able to find them without difficulty in the living head.

The First or Superior Frontal Convolution (A) lies parallel to the Mesial line, and between that line and the Superior Frontal Sulcus. From the brows in the upward direction this Convolution extends slightly beyond the Pre-central Sulcus, and in the downward direction it passes under the brows, and lies along on the Orbital Plate.

The Second Frontal Convolution (B) lies parallel to the First, and extends laterally to the Temporal Ridge. It extends over the forehead, including the Frontal Eminences, and backward to the Pre-central Sulcus. It also passes downward beneath the brows and over the Orbital Plate.

The Third or Inferior Frontal Convolution (C) lies on the side of the front head beneath the Temporal Ridge, and covers the part of the head known as the

temple. It passes under, to the exterior part of the Orbital Plate.

The Frontal Ascending Convolution (D) lies in front of, and parallel to, the Fissure Rolando; and between that Fissure and the Pre-central, so that when Rolando has been located the position of this Convolution is easily recognised.

The Parietal Ascending Convolution (E) lies behind Rolando, and parallel to it. It extends upward to near the top of Rolando, which Fissure does not itself run up to the Mesial line, a fold of the Parietal Lobe intervening between the end of Rolando and the Longitudinal Fissure.

The Superior Parietal Lobule (F) extends from over the upper end of Rolando, backward between the Mesial line and the Inter-parietal Fissure, down to the Parieto-occipital Fissure and the Parieto-occipital boundary.

The Supra-Marginal Cyrus (G) is situated within the upper circular formation of the Inter-parietal Fissure, and its position on the head is recognised as being directly under the Parietal Eminence, which is easily found in the living subject.

The Angular Cyrus (H) lies midway between the Parietal Eminence and the junction of the Parieto-occipital and Temporo-occipital boundaries.

The First Occipital Convolution (K) is bounded by the Parieto-occipital boundary, the Mesial line, the Interparietal Fissure, and the upper border of the Lambdoidal Suture.

The Second Occipital Convolution (L) lies under the First, and extends downwards to the level of the

upper extremity of the Inion. It also passes outward to the Temporo-occipital boundary.

The Third Occipital Convolution lies under the base of the Lobe, and has at present no phrenological significance.

The First or Superior Temporal Convolution (M) is bounded by, and parallel to, the Fissure of Sylvius. It extends backwards to the Temporo-occipital boundary, and forward to about an inch in front of the pinna of the ear. Its lower boundary is a line drawn parallel to the Sylvian Fissure, and midway between the Fissure and the Meatus Auditorius.

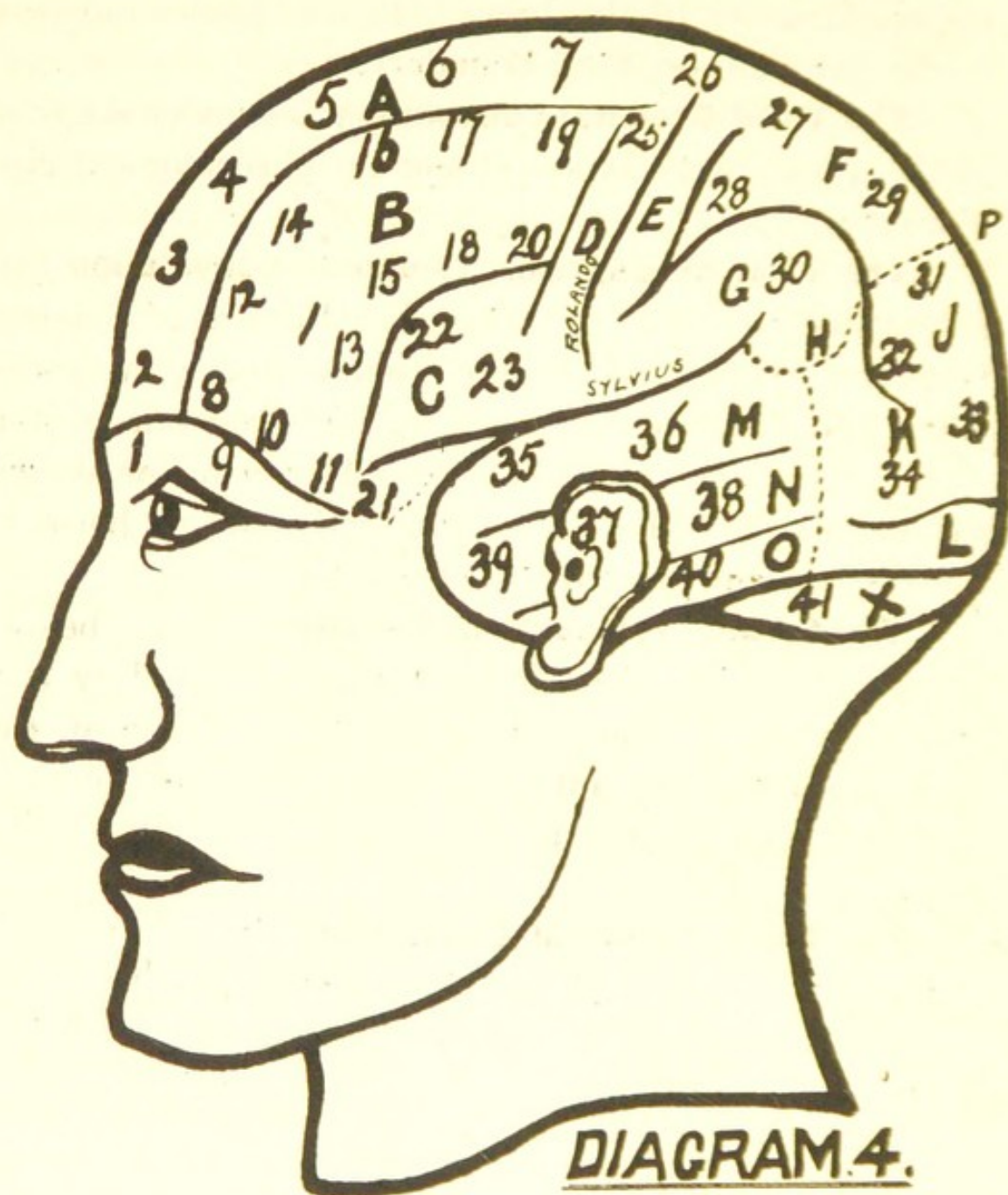
The Second Temporal Convolution (N) lies below, and parallel with, the First. Its lower boundary is a line drawn on a level with, and in continuation of, the upper border of the anterior portion of the Zygomatic Arch, extending back to the Temporo-occipital boundary.

The Third Temporal Convolution lies at the back of the ear, and on the base, or under-side, of the Lobe, and needs considerable care in locating on the living head.

CHAPTER XV.

THE BRAIN LOCATIONS OF THE PHRENOLOGICAL ORGANS.

To be able to correctly locate each phrenological organ upon the living head is a primary essential for the would-be Phrenologist, and one upon which too much insistence cannot be urged. Phrenological centres, or areas, have no actual known boundary lines. It is



DESCRIPTION OF DIAGRAM.—No. 4.

LEFT SIDE OF HEAD, showing *Convolution*s and *Location* of *Organs*. **CONVOLUTIONS.**—A., *First Frontal*; B., *Second Frontal*; C., *Third Frontal*; D., *Frontal Ascending*; E., *Parietal Ascending*; F., *Superior Parietal Lobule*; G., *Supra-Marginal Gyrus*; H., *Angular Gyrus*; I., *First Occipital*; K., *Second Occipital*; L., *Third Occipital*; M., *First Temporal*; N., *Second Temporal*; O., *Third Temporal*; P., *Parieto-Occipital Fissure*.

ORGANS.—1, *Form*; 2, *Individuality*; 3, *Eventuality*; 4, *Comparison*; 5, *Human Nature*; 6, *Benevolence*; 7, *Veneration*; 8, *Size*; 9, *Weight*; 10, *Colour*; 11, *Order*; 12,

altogether impossible to tell where the influence of one organ ceases and that of its neighbour commences. The utmost that can be stated with our present knowledge is that the operative centre of a particular organ is known to be in a given convolution and in a special part of that convolution, but its boundaries cannot be determined. Nor is it necessary to attempt to define these boundaries, as it is possible to judge, from the greater or less development in the immediate region of any centre, the relative power of such organ in any mental operation.

An apology is due to the public from the recognised Phrenologist because of the false and mischievous impressions he has assisted to create by the publication and almost universal distribution of charts and model heads representing the head as being divided into sections more or less square, each section representing a phrenological organ, the sides of the square being their boundary lines. The false impression thus unwittingly conveyed has done much to retard the spread of Phrenology among educated persons. On behalf of Scientific Phrenology I disavow these productions as being in no sense a correct presentation of the facts of localisation, and modern Phrenologists are

Locality; 13, Time; 14, Causality; 15, Congruity or Wit; 16, Imitation; 17, Wonder or Spirituality; 18, Ideality; 19, Hope; 20, Sublimity; 21, Calculation; 22, Tune; 23, Constructiveness; 24, Language; 25, Conscientiousness; 26, Firmness; 27, Self-Esteem; 28, Approbativeness; 29, Continuity; 30, Cautiousness; 31, Inhabitiveness; 32, Adhesiveness; 33, Philo-progenitiveness; 34, Conjugalitv; 35, Acquisitiveness; 36, Secretiveness; 37, Destructiveness; 38, Combaticiveness; 39, Alimentiveness; 40, Vitativeness; 41, Amativeness.

not justified in continuing their use. This disavowal is necessary, as otherwise those of my readers who are acquainted with the illustrations referred to may, in attempting to reconcile them with the facts I am about to present, find themselves in no little difficulty.

NUMBERING THE ORGANS.

I shall now proceed to locate the various organs in their convolutions, and in doing so I shall use the more familiar words "above," "below," "in front," and "behind," instead of the recognised terms "superior," "inferior," "anterior," and "posterior." I do this to render the subject easier to my lay readers, who I trust will find it a convenience. I shall not in this chapter attempt to deal with the functions of the organs, but simply with their positions in the living head.

In locating the organs, I have indicated their positions on the diagram as near the brain centre as I can by means of numbers. The numbers given are my own. On referring to all the great phrenological authors I find that their systems of numbering differ so much from each other that I found it quite impossible to accept either as representing an universal standard. To show their variations I will take an example of the numberings of the five chief authors accepted by English Phrenologists. The Organ of "Imitation" is thus numbered by Gall 25, Spurzheim 33, Combe 21, Vimont 29, and Fowler 22; and the Organ of "Firmness"—Gall, 27, Spurzheim 18, Combe 15, Vimont 35, and Fowler 14. Hence for the purposes of my article I have adopted a numbering based upon the positions occupied by the organs in the

various Convolution, commencing with the Intellectual, or Frontal, Lobe.

FIRST FRONTAL CONVOLUTION.

No. 1, Form.—This organ is situated on the under surface of the Convolution, and lies upon the Orbital Plate, about midway between its posterior margin and the Superciliary Ridge. Its effect when well developed is to increase the prominence of that part of the bone which lies between the eye and the nose, beneath the inner angle of the brow, and appears to set the eyes farther apart from each other.

No. 2, Individuality.—This is situated directly under, and on either side of, the Glabella, and the student's special attention is directed to the probable existence of a Frontal Sinus. By passing the flat hand over the Glabella it will be easy to detect even a slight protuberance, and a reference to the position of the frontal pole of the brain will indicate to the student the size and depth of the Sinus.

No. 3, Eventuality.—This organ lies on either side of the Ophryon, and its size is sometimes affected slightly by the Sinus.

No. 4, Comparison.—A line drawn between the centres of the Frontal Eminences where it crosses the Convolution being dealt with, gives the correct centre of this organ.

No. 5, Human Nature.—Is situated in that portion of the Convolution which lies under the upper curve of the forehead, at the margin of the hair-growth in ordinary heads.

No. 6, Benevolence.—This organ is situated on either side of the Mesial line, about midway between the upper curve of the forehead and the Bregma.

No. 7, Veneration.—This is directly under the angle of the Frontal bone which lies in front of the Bregma, on either side of the Mesial line, and is therefore easily located.

SECOND FRONTAL CONVOLUTION.

This Convolution contains more organs than any other, and their locations require particular attention on the part of the student.

No. 8, Size.—This organ is located on the under-side of the Convolution, but near the anterior margin. Its development is shown by the prominence of the brow directly over the Orbital Notch.

No. 9, Weight.—This also lies upon the under-part of the Convolution, and posterior to Size. It is difficult to locate in the head, but its chief effect is to cause the Orbital Plate to grow lower in the orbit, giving a fulness to the brow, and tending to protrude the upper eyelid near its centre.

No. 10, Colour.—This organ lies exterior to Size in the anterior region of the Convolution, and its external position in the head is seen in the prominence of the brows directly under the Frontal Eminences.

No. 11, Order.—This organ lies on the margin of the Convolution, where it borders on the Third Frontal. Its external appearance is a fulness of the brow at its exterior angle, but internal to the Temporal Ridge.

No. 12, Locality.—This is located on the upper surface of the Convolution, and above the organ of Size. It shows its presence by enlarging the region at a spot midway between the Glabella and the Frontal Eminence.

No. 13, Time.—This is also located in the upper surface and exterior to Locality. It can be found in the head, midway on a line drawn from the Frontal Eminence to the external angle of the brow.

No. 14, Causality.—This organ lies directly under the Frontal Eminences, and its development is gauged by the greater or less prominence of these centres.

No. 15, Wit.—This organ lies on the outer margin of this Convolution, and is located on the head, at a point on a level with, and midway between, the Frontal Eminence and the Temporal Ridge.

No. 16, Imitation.—Is situated on the inner margin of the Convolution, and above the Frontal Eminences. Its external effect is to give a fulness to the top of the front head and a square appearance to the upper part of the forehead.

No. 17, Wonder or Spirituality.—Lies directly in front of the spot where the Coronal Suture crosses the inner margin of this Convolution.

No. 18, Ideality.—This organ is situated on the outer margin of the Convolution, above the Temporal Ridge and in front of the part where the Convolution is crossed by the Coronal Suture. It gives a fulness to the upper sidehead, over the temple.

No. 19, Hope.—Lies in the upper part of this Convolution. Its location is found at a point where a

line drawn from the Frontal Eminence parallel to the Mesial line crosses this Convolution at the back of the Coronal Suture.

No. 20, Sublimity.—This lies in the lower part of the Convolution, and is found at a point where a line drawn from the Frontal Eminence to the Parietal Eminence, terminating at a spot directly behind the Coronal Suture.

THIRD FRONTAL CONVOLUTION.

No. 21, Calculation.—This organ is located on the under surface of the Convolution, and lies upon the Orbital Plate. Its appearance externally is at the anterior portion of the temple, on a line with the brows, but external to the Temporal Ridge. Along with the other organs in this Convolution it has to be examined carefully, as it lies under part of the temporal muscles which varies in thickness in different heads, and a cursory examination only may give erroneous results.

No. 22, Tune.—This organ lies on the upper surface of this Convolution, directly under the Temporal Ridges and in front of where the Ridge is crossed by the Coronal Suture. This organ is affected by the Temporal Muscles.

No. 23, Constructiveness.—Is also on the surface of the Convolution, which lies beneath the temple and under the bottom end of the Coronal Suture. This is also affected by the Temporal Muscle, and must be examined with great care.

No. 24, Language.—This organ is on the under surface of the Convolution which lies upon the Orbital

Plate, on its posterior and lateral portion. Its external effect (by which its development can only be judged) is by causing the Orbital Plate to be depressed in the posterior region, to thrust forward the eye somewhat; hence a large organ of Language is indicated by a prominent eye.

FRONTAL ASCENDING CONVOLUTION.

No. 25, Conscientiousness.—This is the only known organ in this Convolution. It lies a little in front of the upper third of Rolando, and is therefore easily located.

SUPERIOR PARIETAL LOBULE.

No. 26, Firmness.—This organ lies in an anterior fold of this Convolution, which crosses the top of the Fissure of Rolando, and its external location is correctly indicated by a point in front of the top of Rolando and near the Mesial line.

No. 27, Self-Esteem.—Lies posteriorly to Firmness, near the Mesial line, and at the crown of the head where it curves towards the back.

No. 28, Approbateness.—The position of this organ is at the superior posterior part of the Parietal Bone, on either side of the Mesial line, and is midway on a line drawn from the Parietal Eminence to the Mesial line through Self-Esteem.

No. 29, Continuity.—Is in the lower region of the Lobule, just above the Parieto-Occipital Fissure. Its external location is found about half an inch from the Mesial line, above a horizontal line drawn between the two Parietal Eminences.

SUPRA-MARGINAL GYRUS.

No. 30, Cautiousness.—The centre for this organ is the only one known in this Convolution. It lies directly under the Parietal Eminences, and is one of the chief landmarks for the localisation of other organs.

FIRST OCCIPITAL CONVOLUTION.

No. 31, Inhabitiveness.—This organ lies on either side of the posterior end of the Sagittal Suture, just above its point of junction with the Lambda.

No. 32, Adhesiveness.—This is located below the Parieto-Occipital boundary, and about an inch and a half from the Mesial line, in the average-sized adult head.

SECOND OCCIPITAL CONVOLUTION.

No. 33, Philoprogenitiveness.—Is situated at the lowest posterior part of the Cerebrum, and is found on either side of the Mesial line, just above the Inion. It is usually distinguished as being at the extreme backward limit of the Cranium.

No. 34, Conjugalitv.—Lies anteriorly to Philoprogenitiveness, and beneath Adhesiveness, immediately above the fullest part of the Cerebellum, and about midway between the Mastoid Process and the Inion.

FIRST TEMPORAL CONVOLUTION.

No. 35, Acquisitiveness.—This organ lies at the extreme anterior portion of this Convolution, below the Fissure of Sylvius, and above, and in front of, the pinna of the ear.

No. 36, Secretiveness.—Lies in the posterior part of this Convolution at a point about midway between the Meatus Auditorius and the Parietal Eminence.

SECOND TEMPORAL CONVOLUTION.

No. 37, Destructiveness.—The location of this organ externally is directly above the Meatus Auditorius; when large, it pushes out the upper part of the pinna, and gives great breadth to the head in this region. It occupies the middle portion of this Convolution.

No. 38, Combativeness.—Is in the posterior part of this Convolution, and is recognised externally as lying above and behind the Mastoid Process.

No. 39, Alimentiveness.—This organ is in the anterior part of this Convolution. It lies in the hollow under the posterior end of the Zygomatic Arch, and is covered by the temporal muscle. It gives prominence to the side head in front of the ear above the level of the Auditory Meatus.

THIRD TEMPORAL CONVOLUTION.

No. 40, Vitativeness.—This organ is situated on the under surface of the Lobe at its posterior part. Its effect, when large, is to render prominent the part of the skull immediately behind the back of the ear, below Combativeness and behind the Mastoid Process. It is difficult to gauge its actual size.

THE CEREBELLUM.

No. 41, Amativeness.—This organ is situated in the small brain which lies below the Cerebrum. Its situation is found externally as being below the Inion, but on either side of the nape of the neck. When large, the upper part of the neck is broad and full. With but little observation its size is easily recognised.

ARRANGEMENT OF FACULTIES.

The faculties may be conveniently arranged in groups according to the nature of their functions, and this is rendered the more desirable because of the contiguity in the brain of the organs of faculties having functions of a similar character. To simplify and systematise the study, therefore, I will arrange them in their various departments, and deal with each in its special group or section. I shall, however, use the same numbers as already given in this chapter.

As this work will fall into the hands chiefly of students, I have thought it desirable to give not only the primary function of each of the organs, but also the effect of their action, when they are developed in excess of other organs, as well as when they are deficient in size and consequently in power of action. I have also appended brief rules containing advice for cultivating and restraining the action of each organ, so that students may pass it on to such subjects as may need it.

CHAPTER XVI.**INTELLECTUAL FACULTIES.****THE PERCEPTIVES.—No. I.**

THE perceptive group is comprised of those faculties which bring us into relation with the outer or material world. It cognises things, or objects, by means of the special qualities which characterise them, and without a knowledge of which it would be impossible to describe them. The faculties in this group are divisible into two sections—viz., those faculties which give the

perception of the objects themselves and their qualities, and those which deal with them in their relation to other objects. They are all situated in the anterior-inferior portion of the frontal lobe.

In the first section are :—

INDIVIDUALITY. No. 2.

The cognition of an object as an individualised thing, without reference to any of its special features. It sees there is a distinct something which by its own power it is unable to analyse. When acting in connection with the reflective faculties it perceives individual ideas and scientific details. It is the chief factor in the ability to receive knowledge dealing with separate and individual facts.

EXCESS of this faculty is shown in—An obtrusive looking at, and prying into things and trying to get at their details of structure. A constant habit of seeking to know the individual acts of persons, and of analysing their motives. An offensive curiosity.

DEFICIENCY is indicated by—Inability to separate the individual object from the mass. Incapacity to notice the individual items which form a scene such as trees, flowers, rocks, water, etc., while regarding the scene itself with pleased attention. Lack of ability to analyse any compound into its separate elements or parts. Incompetence to master details and elementary facts.

TO CULTIVATE.—When looking at objects scan their minutest details. Examine carefully everything which comes to your notice. Carefully scrutinise every item in a picture or a machine. Learn to analyse and

dissect. Use the microscope, and take every opportunity of describing in detail what you see.

TO RESTRAIN.—Cease to pry and to offend by undue curiosity. Do not be always examining into the details of things which do not concern you. Avoid the tendency to constantly criticise the minor points of a piece of work, also keep from particularising unfavourably the special acts or words of others.

FORM. No. 1.

The perception of shape. It perceives the forms and figures of objects, and can remember and reproduce them after any interval of time. It conceives and imagines forms only, its attention being concentrated on shapes, and no other quality is perceived by it. When well developed it is valuable to the artist, the designer, the architect, and to all to whom a knowledge of, and ability to produce, forms or shapes are a necessity.

EXCESS of this faculty is shown in—Unreasonable criticisms of forms. Such as figures in pictures or sculpture. Grotesque ideas as to lack of harmony in shapes and outlines. Irrational suggestions for improvements, and distorted ideals as to what is beautiful and graceful in forms.

DEFICIENCY is indicated by—Total incapacity to grasp the significance of shapes. Inability to distinguish between unlike forms having a general resemblance. Incompetence to recognise or utilise geometrical figures, or to remember patterns, pictures or faces without great difficulty and only after considerable acquaintance.

TO CULTIVATE.—Learn to examine the shapes of everything you see. Study geometry. Learn to draw maps and outlines of objects. Study picture books and contrast one picture with another. Notice the lesser differences in form between articles of the same general kind, as flowers, grasses, leaves of trees, persons' faces, hands, bodies and heads.

TO RESTRAIN.—Cease to be critical as to forms of objects. Think more of their other qualities, such as their colours, sizes or arrangements, and less of their shape. Try to think that nature and the great artists have produced the most perfect forms and most graceful figures, and conform to accepted ideals.

SIZE. No. 8.

The perception of size or dimension. All objects, however minute, have a recognisable size, and this faculty takes cognisance of this quality. The words "large" and "small," but for the operation of this faculty, would have no meaning for us. It distinguishes, remembers, and reproduces the size of any object to which its attention has been directed. Its action is of great value in many departments of commercial and industrial life. Architects, builders, engineers, etc., could not successfully pursue their occupations without a good development of this faculty.

EXCESS of this faculty is shown in—Always placing an undue value upon the quality of size in any object, without regard to its other qualities. Censorious criticism of all objects which are considered faulty as to their dimensions and proportions, and a

constant in-and-out-of-season reference to imperfect productions in that particular feature.

DEFICIENCY is indicated by—Total inability to judge sizes such as the length or height of a table or a room, the measurement of a book or any object large or small without the use of rule or tape. Impossibility to gauge distances or relative proportions of objects not in actual proximity to each other.

TO CULTIVATE.—Exercise this faculty of judging sizes by taking mental notes, and seeking by conjecture to divine the exact length, breadth or circumference of the object. By constant application of this method perfection is attainable. Test the accuracy of your judgment each time by means of the measuring rule or tape.

TO RESTRAIN.—Do not look upon the size of an object as its chief quality. Think of the purpose for which the object was designed and try to see the value of its other qualities in that relation. Its apparent error and disproportion may be necessary to the purpose of its existence.

WEIGHT. No. 9.

The perception of resistance. The ability to estimate the force required to prevent objects from falling, thus taking cognisance of their weights. Its action is necessary to the correct use of tools which require a definite amount of force to overcome resistance—as the plane, the chisel, the hammer, etc. It regulates and adjusts the force employed to the work to be done. It assists the musician to manipulate the keys of his instrument, and the engraver to ply his graving tool.

It is also useful to the gymnast in helping him to preserve his equilibrium.

EXCESS of this faculty is shown in—Boastfulness as to ability as to guess weights. Venturing opinions as to the weights of objects impossible to be told. Braggart actions, embracing reckless exploits, such as dangerous climbing, high wire dancing. Rash and hazardous use of machinery, relying upon skill in balancing the body to avoid danger.

DEFICIENCY is indicated in—Inability to judge of, or remember, the weights of objects. The impossibility of effectually using tools requiring the exercise of definite measures of power as the chisel, plane, graver, etc. Incompetence to undertake enterprises requiring great personal risk, as daring riding, climbing heights, etc.

TO CULTIVATE.—Try to judge the weights of objects from a pencil to a man, from a stool to a locomotive. Get your judgment verified if possible by finding the actual weight, by the scales, of the objects judged. Pull and push, guessing the actual power exerted and then ascertain if correct. Commit the weights of objects to memory and recall daily until learnt.

TO RESTRAIN.—Intellectually this is scarcely necessary, but physically take less risk in climbing, riding, and deeds of daring. Be guarded in dealing with dangerous machinery and always exercise great caution.

COLOUR. No. 10.

The perception of colour. The ability to distinguish shades and tints, and to judge of their relative

harmonies and contrasts. It gives the memory of colours once seen, and the ability to reproduce the impressions made by them. This faculty is of the greatest importance to artists and all employed in decorative work; also to horticulturists, and to those who have the arrangement and matching of colours and coloured goods.

EXCESS of this faculty is shown in—Severe and uncalled for criticisms of lack of harmony in colour schemes. Pictures, dress, house decoration, etc., in which colours are not artistically blended are subjects of condemnation and annoyance, thus rendering the critic's life unpleasant as well as that of others.

DEFICIENCY is indicated by—Colour blindness. A total inability to recognise colours, or to distinguish one colour from another. Failure to notice any difference in the appearance of objects due to their varying colours.

TO CULTIVATE.—Examine and classify flowers, wools or other objects which are of different colours; have each labelled with the name of its exact tint and try to fix upon the mind its special appearance so as to recognise it again in the future. Study paintings and nature's colourings in grass, flowers, foliage, sky and sea.

TO RESTRAIN.—Be less fastidious in the matter of colour. Remember others do not see with your eyes, and recognise beauty in other qualities of objects which you fail to see. Colour is not the only charm, often not the greatest, frequently not even an important item in the make-up; do not let it therefore worry you. Give other qualities their due share of attention.

CHAPTER XVII.

INTELLECTUAL FACULTIES.

THE PERCEPTIVES.—No. II.

THE second section of the Perceptive Group contains those faculties which deal with objects in their relation to other objects, and are the following :—

EVENTUALITY. No. 3.

The perception of objects in motion, and of their relation to surrounding objects by means of which the motion is demonstrated. It takes cognisance of events which transpire, and remembers and reproduces these when required. It is necessary to the observer of any natural phenomenon which produces change, and to the historian who registers events the result of experience. It is useful to the cricketer, as it can trace the flying ball, and to the man who uses the bow, or gun, who would hit the mark with the arrow or bullet. The discernment of change produced by action. Sagacity for memorising historical occurrences.

EXCESS of this faculty is shown in—Inordinate curiosity to know what is going on. Intrusive penetration into private affairs to find out what is happening. Prying and troublesome questionings as to actions of persons or societies. Neglect of ordinary affairs for the purpose of seeking news.

DEFICIENCY is indicated by—Indifference to what is going on within the range of sight. Unconcern as to all that is transpiring in the world around. Lack of interest in historical matters. Apathy as to the significance of events, national, political or otherwise.

Inability to remember incidents even in one's personal career.

TO CULTIVATE.—Keep your mind alert, and your eyes open to see what is going on around you. Take notice of every act and the change it causes. Read the current news. Watch the actions of men and recall these things frequently to the mind. Keep a note book and write in it all things worth noting. Peruse it often.

TO RESTRAIN.—Be less curious to know what others are doing and refrain from prying into their affairs. Live in your own thoughts more, and try to worry less about the daily happenings among your friends and neighbours. Try to forget much that you now remember; it will be to your advantage.

LOCALITY. No. 12.

Sense of space. The perception of the position of an object in relation to the position of other objects. It remembers locations and positions, and not only with regard to large areas, or spaces, but also the minute. It would remember the position of a monument in a scene, or the positions occupied by the various parts of a machine relatively to other parts, such as the wheels of a watch. It is of paramount importance to the surveyor, astronomer, geographer, and all whose occupation depends upon a ready and correct appreciation of areas and distances.

EXCESS of this faculty is shown in—A desire to see new places and range through space. A revelling in a sense of limitless spaciousness bound by no confines. A roving disposition having no aim but that of gratifying the sense of space.

DEFICIENCY is indicated by—Inability to recognise places though frequently visiting them. Incapacity to find the position of an object though seeing it often in its place. Lack of memory for the situations of buildings, statuary or other public features in large towns. No desire to travel for purposes of observation only.

TO CULTIVATE.—Notice and try to remember the positions of objects. Fix upon your mind the situation of the main streets and features of any town you visit. Travel, and see all there is to be seen. Try to feel the delight of being free to revel in space without limit.

TO RESTRAIN.—Keep the desire to visit new localities within bounds. Be determined to chain yourself to one spot and do the duty which lies near to hand. Remember that wherever you are is the centre of a universe, and that any place presents infinite scope for the exercise of the power of this faculty.

ORDER. No. 11.

System, arrangement, method. The recognition of sequence. It gives attention to the correct placement of objects in order of their value, their importance, their power, or their general effectiveness, for the purposes designed by the other powers. It arranges and systematises whatever is brought to its attention. When acting in co-operation with the other intellectual powers it deals with scientific facts, details, and minutiae, placing them in their proper order, and assists in classifying them into their correct genera, orders, and species. Students dealing with a multiplicity of detail, and business men con-

trolling varied assortments of goods, require a special share of this faculty. It is the basis of method.

EXCESS of this faculty is shown in—Attempts to arrange and methodise that which is incongruous and incompatible. A fad for far too much organising. Worrying to keep things in order. Annoyance and constant torment when things are displaced or out of their usual sequence.

DEFICIENCY is indicated by—A lack of necessary order. Confusion in place of arrangement. Negligence in the disposal of objects out of their proper places. Absence of all method either in intention or action. Unconcern as to system or routine in business, or in personal affairs.

TO CULTIVATE.—Learn the old proverb—"A place for everything and everything in its place" and act up to its teaching. Be methodical in all you do. Do everything that requires to be done daily, at the same time and under the same conditions, such as rising, eating, retiring, etc. Put all things in their proper places after use, even if it means inconvenience and trouble to you.

TO RESTRAIN.—Do not think it necessary to submit everything to rule and system. Be less particular as to the placing of objects. Have more regard for comfort and less for appearances. The constant effort to keep everything in "apple-pie order" is worrying and wearying you. Think that a little "sweet neglect" is often more artistic and pleasing than a rigid and systematic arrangement.

TIME. No. 13.

Sense of duration. The power which enables us to instinctively measure a period of time. It occu-

pies the same position in regard to duration as locality does to space. It remembers how long was taken over a particular visit, or piece of work, and how far back in its history any particular event took place. Its attention is directed to all the intervals of time, and it is consequently concerned in the correct rhythm of music and poetry. A good measure of this faculty is useful to all who desire to be punctual, but is specially necessary to musicians, railway traffic men, and travellers, also to trapezists who jump from one swinging bar to another vibrating at regular intervals.

EXCESS of this faculty is shown in—A rigid regularity as to time amounting to punctiliousness. Distracted feelings on hearing false time in music or faulty rhythm in poetry. Vexation at the lack of punctuality in others, and an exaggerated idea of the value of time in the affairs of life.

DEFICIENCY is indicated by—Inability to gauge any duration of time with even approximate accuracy. Incapacity to keep time in music or singing. Lack of memory relating to times of domestic or other occurrences, although familiar with other details. No idea of poetical rhythm or the measured motions of dancing.

TO CULTIVATE.—Take especial notice of the time which lapses between the regular incidents of daily life. Think of it, measure it mentally and try to parcel out similar periods at other times. Note what 15 minutes mean, and keep on during your occupation trying to measure similar periods, testing them by your watch. You will soon find this perception improve. Always be punctual.

TO RESTRAIN.—Do not be so strict in your adherence to rule as to time. Vary the times of your meals and appointments. Do not listen to inferior music and thus escape annoyance. A little irregularity in your habits as to time, will add variety to your life that will act as a charm.

CALCULATION. No. 21.

Sense of number. The ability to correctly distinguish a number of objects; to count and to remember numbers. It seems impossible to train even the most intelligent animals to comprehend any number over four or five, further efforts resulting in failure. Man alone has this faculty so fully developed as to understand the meaning of large numbers and to use the knowledge so conveyed. Much of our civilisation is built upon the action of this faculty. Without it astronomical calculations, geometrical and arithmetical, and consequently engineering formulæ, systems of commercial bookkeeping and banking would all be impossible. This faculty is universally necessary, but of special importance to engineers, accountants, statisticians, astronomers, and all whose occupations necessitate the process of calculation.

EXCESS of this faculty is shown in—A tendency to measure everything by a numerical standard; to count everything, as the steps taken during a walk, the number of persons met, the paving stones, etc. Mental multiplication with other workings of figures, with no object. Useless but elaborate calculations simply to demonstrate skill.

DEFICIENCY is indicated by—A repugnance to any form of calculation. A total inability to reckon

figures or compute their values even in their simplest forms. A decided aversion to undertake any duty requiring a knowledge or application of figures.

TO CULTIVATE.—Try to learn the use and value of figures. Start by learning correctly the multiplication table, making the calculations mentally, only referring to the book to verify your results. Count everything you come across. Add the numbers on the houses as you pass them. By constantly acquainting yourself with figures, and their operations, you will develop this faculty.

TO RESTRAIN.—Do not make figures the full measure of your mental equipment. Cease counting your steps, and the vehicles, etc., you pass, and calculating their possibilities when multiplied by days and years. Do not waste time in useless computations. Find some other employment for your mental energy.

CHAPTER XVIII.

INTELLECTUAL FACULTIES.

THE REFLECTIVES.

THE faculties given in this group are those of the highest intellectual order, and are usually known as the reasoning faculties. Reason, however, is a function of all the intellectual faculties, each of which reasons on the matter within its immediate cognisance. Colour reasons about harmonies in tints, and Calculation reasons about numbers, but their reasoning is based entirely upon data supplied by their perceptive instincts, and is limited to their own subject.

The operations of the faculties in this group do not necessarily rely upon material facts or physical phenomena for their action. They deal principally with abstract ideas, rather than with facts or experiments. The forces which in other faculties may be termed instincts, in this group may be considered as intuitions.

CAUSALITY. No. 14.

The power, which from the nature and effects of mental and physical phenomena, deduces the causes. The quality which recognises the relationship between cause and effect. The ability to infer the unknown from the known. This faculty imagines and conceives ideas, and reasons and judges of their relationship to each other, dealing with them as substantive things. Its operations both in their nature and in their results are purely mental. Abstract, metaphysical reasoning and speculation are its chief occupations when fully developed. It is useful to the philosopher and theologian, and to all who value theory as a means to an end. It is the creator of hypotheses.

EXCESS of this faculty is shown in—A constant desire to theorise upon all kinds of subjects practicable and impracticable. Philosophising upon subjects of a highly metaphysical nature without any conceivable prospect of a rational solution. Interminable argument upon minor matters or on speculative assumptions.

DEFICIENCY is indicated by—A lack of thought. Inability to reason or argue upon any purely theoretical matter. Indifference to the causes and origins of things; and insensibility to the value, or importance,

of knowledge of a metaphysical or philosophical nature. Want of originality in thought and conception of ideas.

TO CULTIVATE.—Seek to know the causes of the things transpiring around you, how they came to be, and what would be the result if the causes were but slightly different. Try to think out why things are as they are in religion, politics, commerce, literature, etc. Study the natural sciences—botany, geology, etc. Reason with others upon these things, and try to arrive at definite conclusions upon them.

TO RESTRAIN.—Cease to reason upon assumptions and theories only, and base all your logic upon well attested facts. Experiment instead of argue, and confine yourself to dealing with physical facts capable of repeated demonstration in proof of their validity.

COMPARISON. No. 4.

The power of cognising resemblances in things and ideas; the ability to compare objects and ideas, and to judge of their similitudes. Every faculty has the power of comparing the things of which it has cognisance. Weight can compare one weight with another; Calculation can compare one number with another; but this faculty of Comparison can compare a weight with a number, a form with a colour, or a tune with an idea. It compares the unlike as well as the like. It is useful to poets, preachers, orators, authors, and all whose occupation requires the use of verbal illustrations.

EXCESS of this faculty is shown in—The distortion of facts for the purpose of trying to demonstrate their resemblances to other facts. Redundancy of illustration by the use of parables, similes, and figures of speech.

DEFICIENCY is indicated by—Inability to recognise resemblances in forms or ideas. Incapacity to illustrate arguments, or to convey knowledge in a simple form. Incompetence to analyse substances, expressions or ideas, for the purpose of tracing the similarities or likenesses of their parts.

TO CULTIVATE.—Trace the resemblances between things that are nearly alike. Study the proverbs of your language which convey analogies—"A rolling stone gathers no moss," "A good name is better than a golden girdle," "Idleness consumes more than rust," etc. Read parables and the fables of *Æsop* and *La Fontaine* and try to illustrate your ideas by comparing with recognised facts.

TO RESTRAIN.—Use no illustrations nor metaphors in conveying information, state the simple facts only; give the data upon which your statement is based, but do not amplify nor draw analogies.

CONGRUITY OR WIT. No. 15.

The power of discerning the fitness or pertinence in the relation of ideas to each other. The faculty which enables the writer and speaker to present their ideas in logical sequence and with due regard to their consistency. It readily perceives the inappositeness of that which is incongruous, and it is this phase of its action which produces mirth, and to which it owes the name of Mirthfulness. The term Wit is applied to its action in so associating unlike ideas as to make them appear apposite and consistent. Wit proper is a combined effort of this faculty with Language and the perceptive.

EXCESS of this faculty is shown in—An extreme biting criticism of that which appears to be incongruous. Scathing and undeserved satire. Cutting sarcasm over inconsistencies of speech, and a display of wounding irony of the nature of fun to the speaker but death to the victim.

DEFICIENCY is indicated by—Inability to distinguish that which is incongruous or mirth-provoking. Incompetence to discern the pertinence or suitable relationship of ideas to each other. Failure to see or appreciate the humorous in speech or action.

TO CULTIVATE.—Study the writings of humorous authors and notice particularly the phrases which cause you to smile, and trace the peculiar relationship of the words or ideas to each other. Observe also the actions of men who succeed in raising a laugh and mark the incongruity of their actions. Imitate these until they become familiar and easy.

TO RESTRAIN.—Do not be constantly looking for occasions for the exercise of your humorous satire. Laugh only at that which is intended for your amusement. Be merciful to those who have committed unintentional errors through inadvertence or ignorance. Withhold your sarcasms, and find fun and diversion in legitimate channels.

HUMAN NATURE. No. 5.

Intellectual sagacity. The power of penetration, of looking behind, and beyond mere appearances. The ability to see below the surface of things. This faculty enables its possessor to perceive the mental conditions attached to material appearances. It enables him to judge of the innate qualities of things,

and to penetrate beyond the exterior when dealing with man in relation to his mental nature. It is of inestimable value to pastors, doctors, judges, Phrenologists, and all to whom a knowledge of the inner nature of men is a necessity.

EXCESS of this faculty is shown in—Exaggerated ideas as to the causes which prompt individuals to act in a certain manner. Attributing motives of an ulterior character to actions which are unpremeditated and for which no motive exists. Complex and abstract explanations as to the mental origins of material acts.

DEFICIENCY is indicated by—Lack of ability to judge of prompting motives, or to see why men act in a certain manner under particular conditions. Incapacity to recognise the mental incitements which underlie physical action.

TO CULTIVATE.—Study men in all the relations of life, and all animate nature. Look not alone at what they do, but the reasons why they do it. Motive is the well-spring of action. Every act of every man, and of every intelligent creature, has a reason behind it which prompts it. Try to find what that reason is. Study Phrenology and the laws of being, mental and physical. Lay yourself open to be impressed intuitionally as to the causes of particular acts.

TO RESTRAIN.—Do not attribute ulterior motives where no ground exists for them except your own suspicions. Remember people usually act from simple incitements, and complex explanations are not necessary.

IMITATION. No. 16.

The power of comprehending the physical expression and the ideas of others, and of correctly reproducing them. The ability to copy and imitate. This faculty enables its possessor to understand and assimilate the reasons and judgments of others, and their methods of manifestation, and to recall and reproduce the manifestations as the result of its operation. It is useful to minor statesmen, debaters, actors, and all who find it necessary or expedient to adopt the style and methods of others.

EXCESS of this faculty is shown—In adopting almost exclusively the ways and manners of others, imitating their walk, talk, gestures, and general methods of conducting themselves, even to repeating their phrases and simulating their deformities and weaknesses. Too great a desire to do as others do whether right or wrong, without thought of the consequences.

DEFICIENCY is indicated by—Total inability to copy the acts or methods of others. Incapacity to comprehend the significance of the means adopted by others to convey their thoughts or intentions; and consequent inability to assimilate them, or follow on the same lines. Saying and doing everything as prompted by nature, regardless of the conventionalities of society.

TO CULTIVATE.—Seek to do as others do. Note what is good and worthy in them and imitate them in these matters. Try not to appear odd in society. By conforming to the methods of those around you, you will add to the amenities of your surroundings. Learn

to draw from copies, and by way of amusement try to mimic the peculiarities of others.

TO RESTRAIN.—Cease to do as others do. Be original. Speak your own thoughts in your own voice and language, and in your own manner. Do not permit yourself to be a sham someone-else or a counterfeit imitation of others.

CHAPTER XIX.

THE INTELLECTUAL FACULTIES.

THE EXPRESSIVES.

To enable the operations of the mind to be conveyed to the world so as to be understood, we have been supplied with certain powers, the functions of which are, above all others, adapted to the purpose of expressing our thoughts, desires, intentions, and abilities, so as to render them intelligible to others and make them of practical service to the race. The faculties in this group express the combined operation of the powers of the whole man in a special sense of which no other faculties are capable. For this reason I have placed them in a class by themselves. Their organs are all closely related, being in the third frontal Convolution.

LANGUAGE. No. 24.

The expression, by means of speech, or written characters representing speech, of thoughts and ideas. The use and memory of words. This is one of the most important of the purely human faculties, no

other animal being able to formulate words to express any idea of its own. The parrot and other birds may be taught to utter words, but without any understanding of their meaning or purpose. The power of intercommunication with our fellows in all departments of life, and of receiving knowledge and wisdom from past generations, or distant peoples, through the written page, by means of this faculty, is of enormous and incalculable value. To be able to express our thoughts and feelings in a manner so simple and yet so perfect is a privilege too great for our fullest appreciation. To it we are indebted for the poet, author, journalist, printer, etc. Its ramifications are innumerable, and its influence beyond description. In combination with Tune, this faculty especially assists the orator, reciter, singer, poet, etc., to express themselves.

EXCESS of this faculty is shown in—Exuberant verbosity, pleonastic babbling, excessive garrulity, unrestrained and circumlocutory loquacity. The unnecessary use of an extended vocabulary as just illustrated, instead of the simpler forms meaning the same thing as too great freedom of speech. Superfluity of talk.

DEFICIENCY is indicated by—Inability to clearly express ideas or thoughts in language. Impossibility of finding the correct words in which to convey to others the desired information. Difficulty of transmitting to others through the medium of speech correct impressions as to what it is the intention to impart. Great hesitancy in talking. Inability to learn languages.

TO CULTIVATE.—Read carefully the works of authors who use good language, as Dickens, Thackeray, or the poets. Try to accustom yourself to use the same words as they to express your meaning. Write out your thoughts, using the best words you can find to express them. Let a good dictionary be your constant companion and refer to it frequently. Talk whenever opportunity offers. Enter into debate and try to impress your views upon others.

TO RESTRAIN.—Talk less. When tempted to speak—don't. Use less high-flown language to express yourself. Learn to listen without interruption. Never speak unless it is absolutely necessary.

TUNE. No. 22.

The expression, by means of sounds of varying pitch, of certain ideas or emotions. The sense of perceiving and remembering tones. This faculty expresses thoughts of a special nature and in a specific manner. It uses sounds to attract the attention of others and as a means of manifesting thoughts and feelings. When powerful it is capable of conveying to sympathetic minds the ideas which its possessor desires, through the medium of musical harmonies. In connection with Language (whose intonations of speech it modifies), it assists the orator, and, in connection with Language and Time, it makes the singer. In co-operation with Constructiveness, Weight, Time, and Ideality, it makes the master musician and instrumentalist.

EXCESS of this faculty is shown in—Constant indulgence in singing, or the playing of instruments at unreasonable times and under unsuitable conditions.

The neglect of duty for the gratification of this desire. Severe and unfavourable criticism of the music of others.

DEFICIENCY is indicated by—Inability to remember or repeat musical tones. Insensitiveness to harmony or modulation of tone. Incapacity to produce the musical octave with the voice, or to recognise intervals in the pitch of sounds. Incompetence to detect discord or to appreciate harmonies.

TO CULTIVATE.—Give your attention to the playing of music by others. Note from which instrument you seem to derive the greatest pleasure (or the least annoyance) and procure one of these for your own practice. Learn the differences between the sounds of the various notes in the musical octave and try to reproduce them with your voice. Hear the best music possible and give your emotions full play under its influence.

TO RESTRAIN.—Cease singing and playing, except on suitable occasions. Do not neglect any duty to indulge the desire, or to gratify the whims of others in this direction. Do not at any time sing or play to the annoyance of others.

CONSTRUCTIVENESS. No. 23.

The power of expressing thoughts and ideas in tangible form, and in a manner apparent to the senses. The power of practically demonstrating the existence of the idea by producing its physical counterpart in the form of a material object. This method of expressing oneself is the most practical and most necessary to us as a race. To it we owe all our manipulative skill, all the material advantages which constitute civilisation, and all that immeasurable superiority we possess

over the animal world. Manufactures of all kinds, especially the production of machinery, upon which nearly all others depend; building, engineering, and every other form of labour and mechanical output is but the result of the human mind expressing itself through the operations of this faculty.

EXCESS of this faculty is shown by—The expression in mechanical or other forms of crude and improperly digested ideas of new contrivances, or unworkable machines. The erection or building of useless structures. The devotion of time and energy to the production of impracticable or useless inventions.

DEFICIENCY is indicated by—Inability to produce by manual dexterity any idea of the mind. Lack of inventive skill and knowledge of the right use of tools. Ineptitude in the matter of mechanism and any form of construction. Absolute incapacity to manifest any manipulative ability whatever. Failure in the attempt to adopt the constructive method of demonstrating any mental suggestion.

TO CULTIVATE.—In trying to use tools, watch what others do. Follow their methods and copy their work until you are fairly expert; then make some article without a copy. Remember much practice is necessary, and you will have to count many failures before you succeed. You will soon be able to work out your own ideas.

TO RESTRAIN.—Cease wasting time in making useless articles, or designing profitless inventions. Make nothing for which there is not a need, or for which you will not get adequate remuneration for time, energy and money used in the making. Let other subjects, as music and the natural sciences, claim a larger share of your attention.

CHAPTER XX.

THE MORAL POWERS.

THE sentiments and emotions which constitute this group are the highest in our nature. They bring us into relationship with all that we know or can conceive of the moral and spiritual forces which influence us. They create for us ideals, and inspire us with the desire to climb to their loftiest heights. In the strictest sense they differentiate man from the lower animals. Their organs are situated in the superior part of the brain, chiefly in the frontal lobe.

CONSCIENTIOUSNESS. No. 25.

The sense of right. The basis of conscience. It urges us to do what we know to be our duty, but of itself it is unable to decide what is our duty, or what is right. It requires justice to be done, but cannot perceive what is just. The intellect and other organs must discriminate between right and wrong, and when that is determined this faculty impels us to do the right and avoid the wrong.

EXCESS of this faculty is shown in—An unnatural and morbid sense of justice. Estimating certain claims beyond their value, and thus creating abnormal conditions, and giving warped ideas of what is right. Self-condemnation due to testing one's-self by a false standard. Remorseful feelings and an abnormal tendency to penitence for a supposed lapse from moral principle.

DEFICIENCY is indicated by an—Utter disregard of the principle of right. There is no sense of justice or honesty and a total insensibility to the claims of duty. The character is devoid of consistency, and every at-

tempt to elevate or aggrandise self is made regardless of moral restraint, or undeterred by feelings of remorse.

TO CULTIVATE.—Be determined to always do what is just. Find out what is right in any case and then do it, no matter what the consequences may be. Be truthful, and do not seek to evade duty under any circumstances. Try to set up a high standard for yourself by which to judge all your actions, and endeavour to live up to that standard.

TO RESTRAIN.—Take a wider view of your sense of duty. Remember human beings are all imperfect and therefore be not so severe in your judgments either of others or yourself. Do not constantly load yourself with remorse for trivial or apparent neglects of moral duty. You must get rid of such morbid feelings. Try to do as others do and measure yourself by others' standards.

VENERATION. No. 7.

The sense of respect and reverence. It defers to all persons or powers which it conceives to be superior to itself in might, knowledge, virtue, or rank. It does not of itself decide what is superior—that is the function of the intellectual faculties; but when that has been decided, this faculty bows to the selected authorities, and assumes a position and state of humility and deference. It is the chief faculty in religious worship, and, when unduly powerful, tends to fetishism.

EXCESS of this faculty is shown in—Servile deference to rank. Slavish submission to social customs. A craze for antiquarianism regardless of present day utility. Sense of adoration in devotion

to the Deity. Inordinate fervour in religious exercises, Superstitious reverence for mysterious powers, as storms, thunder, lightning, earthquakes, etc.

DEFICIENCY is indicated by—A disregard for authority and for customs. Derision of religious ceremonies. Lack of respect for age and rank. Inability to recognise superiority of a moral or spiritual character. Disobedience of, and rebellion against, constituted authority.

TO CULTIVATE.—Learn to recognise that there are persons and forces in the world superior to yourself, intellectually and morally, who should command your respect. Do not be disrespectful in the presence of aged people. Try to submit yourself to persons who represent authority. Do not sneer at the religious sentiments of others, but be tolerant and considerate of them.

TO RESTRAIN.—Do not be ready to bow to every person who assumes authority. Assert your own dignity in the presence of so-called superiors. Do not lend yourself to the carrying out of old customs which have nothing but age to recommend them. Cut yourself away from ceremony and superstition. Feel that as a man you are entitled to as much respect as you give.

BENEVOLENCE. No. 6.

Compassion, sympathy. It loves mercy and gentleness. It is easily excited into activity by the sight of pain or other suffering, and its impulse is to relieve the sufferer. When powerfully developed, it manifests the most lavish generosity, and willingly sacrifices itself to the claims made upon it. Our hospitals,

homes for incurables, and societies for relieving distress, are the practical outcome of the operations of this faculty.

EXCESS of this faculty is shown in—Lavish and promiscuous almsgiving, regardless of the actual need or the nature of the object. The sacrifice of self and self interests without reason for some imaginary good to others. Exaggerated expressions of compassion for persons whose sufferings may be purely imaginary; and strong feelings of sympathy with causes of a quixotic and eccentric character.

DEFICIENCY is indicated by—Indifference to suffering and a callous disregard of others' needs and woes. Indulgence in cruel sports. A cynical neglect of claims for charity or other humane purposes.

TO CULTIVATE.—Determine that you will in future be kind to those in need and who are suffering. Enquire into, and see for yourself the real condition of things. Forget yourself for a time in contemplating the best methods of helping others. You will be surprised at the self-satisfaction which follows generous deeds. Be always seeking opportunities for doing good.

TO RESTRAIN.—Always submit your generous impulses to your reason and do not give time, money nor sympathy until you are satisfied that the need is great and has a claim upon you. Do not give what your own needs require, and until the claims of other legitimate demands are met. Pay your debts before making gifts.

HOPE. No. 19.

The emotion of hope. The desire for a future experience. It cannot decide upon the objects of

expectation. The intellectual and other faculties determine the nature of the expectancy, and then Hope brightens the prospect, and helps to render the attainment possible by surrounding it with the halo of successful achievement. When over-developed it tends to speculation, and in connection with other faculties to gambling. When weak it holds no check over the tendency to despond, and may negatively, therefore, assist the suicide to his doom.

EXCESS of this faculty is shown in—Expectation of good fortune for which there is no foundation. Building “Castles in the Air.” Delusions of coming wealth. Misplaced confidence as to ultimate great results from ordinary causes. Taking undue and unreasonable risks, as in speculations, wagers, etc.

DEFICIENCY is indicated by—A feeling of despair and a conviction that nothing you do can possibly succeed. Pessimistic talk and gloomy forebodings. A giving up of hope in cases of illness and a settled feeling of despondency and melancholy. Lack of desire to better the position or the conditions of life. A recognition of failure without an effort to succeed.

TO CULTIVATE.—Remember that everything has a bright side; life is not all dull and cheerless. Others are happy and cheery, why not you? Get rid of your sad, melancholy feelings. Mingle with people who are gay and bright, and try to catch some of their happy feeling. The future has plenty of sunshine for you. Look out for it and enjoy it.

TO RESTRAIN.—Do not anticipate in the future any results for which your reason cannot give you ample justification. Calculate how and why the profit is coming when you are tempted to speculate. Avoid

gambling. In fact, expect nothing for which hard, dry facts do not warrant your anticipation.

WONDER. No. 17.

Faith, spirituality. The desire to accept as realities things outside material experiences. It believes in the marvellous, and accepts what are usually thought to be miracles without the necessity of submitting them to the tests of reason or experience. It is inclined to recognise as actualities—omens, visions, and presentiments.

EXCESS of this faculty is shown in—Blind and unreasoning superstition. Fanaticism in support of extravagant religious claims. The seeing of visions and faith in the portent of dreams. Extreme credulity and acceptance of the wildest and most weird stories without question, if asserted with some force.

DEFICIENCY is indicated by—A rigid scepticism in regard to everything which cannot be proved by test or experiment. Incredulousness of any stated fact which is outside personal experience. Inability to believe in a future existence of which the proofs are only such as appeal to the faith.

TO CULTIVATE.—Do not condemn the strange and mysterious simply because you do not understand it. There is more in Heaven and Earth than you dream of. The knowledge of to-day upon which you rely was the mystery of the centuries long passed. Think over, and ponder upon, the unknown causes of much of nature's phenomena; be ready to absorb new ideas and new truths. Rely more upon your intentions and your inner consciousness.

TO RESTRAIN.—Let reason reign. Do not be misled by any wild fancy which enters your mind, nor give

undue prominence even to accepted religious creeds. Remember they are all of human make and therefore fallible. Subject any strange or wonderful experience to the stern analysis of reason. Find the natural or physical cause of all happenings and do not fear anything you cannot see.

IDEALITY. No. 18.

Sense of perfection. Desire for the beautiful in nature and art. It gives great elevation of thought and feeling, and excites an emotion of rapt ecstasy in the presence of the beautiful. It assists all the other faculties in raising lofty ideals for their many activities. It is one of the chief qualities in the production of poetry, painting, sculpture, and all other refining works of the artist and the *littérateur*.

EXCESS of this faculty is shown in—A too exacting nature, finding fault with everything which falls below the highest standard. Dainty squeamishness. Scrupulousness in all matters of taste, and ultra punctiliousness in questions of behaviour and etiquette. Undue attachment to some absurd ideal and neglect of the practical side of life.

DEFICIENCY is indicated by—A coarse and low condition of taste in music and the arts—if any taste at all. The inability to see real beauty in anything. The acceptance of the commonplace as the highest standard. A lack of the sense of perfection and of imagination to conceive the higher states of beauty, either of grace of form or glory of colour.

TO CULTIVATE.—Go among things that are beautiful. Carefully examine flowers, leaves, and plants. Visit picture galleries and museums of art. Watch,

study, and admire. You will soon find a charm in them you had not previously thought possible. Improve your own appearance, dress well, and get into refined society. Try to excel and be perfect in all you do.

TO RESTRAIN.—Do not elevate yourself above your fellows in the matter of taste, nor pose as an æsthete. The ideal is all very well for a sprite, but remember you are a physical as well as a mental being, and material things must have your serious attention. Come down from your imaginative heights and learn to be a man amongst men.

SUBLIMITY. No. 20.

Sense of the sublime. The awe-inspiring emotion. It is excited by an appeal to the senses, of the great and stupendous, as vast landscapes viewed from a mountain top; the limitless ocean, the measureless star-depths, the lightning's flashes, the reverberations of thunder, the echoing volume of organ music in a cathedral, or some glorious deed of heroism. It delights in greatness.

EXCESS of this faculty is shown in—Exaggerated descriptions and extravagant statements. Under its influence a cottage would be described as a castle, and a small garden as a landed estate. Boastfulness is a common quality of its over-development. It represents everything with which it has to do as being the best, the largest and the most important of its kind.

DEFICIENCY is indicated by—Lack of appreciation of the vast and stupendous. Failure to comprehend the grandeur and majesty of nature in her immensity and illimitable magnificance. Stulted imagination of

glorious scenes. Inability to even comprehend the meaning of poetic imagery.

TO CULTIVATE.—Learn to admire nature in her greatness. Look up into the sky and contemplate the power and magnificence of the sun, the glory of the moon, the immensity of the star-gemmed vault. Get a view through a good telescope at these and consider their origin and purpose. Look at the mountain heights, the vastness of the ocean's expanse, the power of mighty rivers, etc., and learn to admire.

TO RESTRAIN.—Do not boast. Try to describe everything in very simple language and without the least exaggeration. Do not waste time in contemplating nature's greatness. Remember the little things are as important as the great, and they demand your personal and practical attention.

CHAPTER XXI.

THE SELFISH SENTIMENTS.

THE faculties included under this head are served by the parietal lobe, and are all of a nature relating to the personality of the possessor, their functions being of a protective and dignifying character. They are effective in the direction of individualising the personality. Any one or more of them in manifestation offer strongly marked characteristics of the majority of individuals, and serve to readily distinguish them.

CAUTIOUSNESS. No. 30.

Circumspection, wariness, prudence. It says "Beware," "Take care." It is the instinct which

compels a man to look before he leaps. It prevents rashness in action. It would prompt a man to carefully inspect a boat before trusting himself on board, or a ladder before mounting. It takes precautions, and is not easily led into speculations. It hesitates to pledge itself in advance for fear of a possible failure. It is usually more powerful in women than in men.

EXCESS of this faculty is shown in—Terror in the presence of danger. Extreme fear, and a panic-stricken dread at a sudden oncoming of difficulty.

DEFICIENCY is indicated by—Extreme rashness. Carelessness for personal safety. Imprudence. Indifference to positions of positive danger. Lack of foresight, and recklessness in matters of finance.

TO CULTIVATE.—Be ever on the alert for dangers and troubles, or they will come upon you when you are not prepared. Do not run any risks, but be ready for every contingency which can arise. Be careful and watchful. Do not trust others too implicitly, but protect yourself by continual watchfulness from possible dishonesty or trickery.

TO RESTRAIN.—Act immediately—do not hesitate, “Take the bull by the horns.” Do not worry about what is going to happen. Have no fear as to the results of your actions. Do not feel anxious about your friends or your property. To-morrow need not trouble you, it can look after itself. Try to encourage a happy-go-lucky frame of mind. Be fearless.

APPROBATIVENESS. No. 28.

Vanity, desire for praise. It gives a love of display, and is an incentive to meritorious work in view of the resulting commendation. It asks, “What will

people say?" "What do they think of me?" There are few of the relations of life in which we have dealings with our fellow-creatures where it is not exercised. It shows itself in dress, in ornamentation of home and person, and in affableness in manner and diction. It seeks to please others, and is valuable in its action, as it usually results in adding to the amenities of life.

EXCESS of this faculty is manifested in Vanity, Pomposity, Obsequiousness, undue or ostentatious display in dress, style of living, and boastfulness of expression.

DEFICIENCY is indicated by—A disregard for personal appearance. Indifference to the opinions or praise of others. Insensibility to the wiles of the flatterer. Neglect of dress, fashion, and ceremony. Unconventionality to the point of eccentricity.

TO CULTIVATE.—Seek the goodwill of others. In whatever you do, try to please and do not rest satisfied until you have succeeded. Always be pleasant and try to win the approval of others, and be worthy of their good opinion. Seek to secure a good name and reputation. Look after your personal appearance, and keep yourself smart and attractive. Be more regardful of the plans and methods of others and conform to their manners and customs.

TO RESTRAIN.—Do not allow the opinions of others to affect you. Try to be indifferent to what they think or say about you. You are altogether too sensitive to their approval and disapproval. Be less vain and affected in your speech and manner. Let others praise or blame you if they will, always do what you know to be right regardless of their opinions.

SELF-ESTEEM. No. 27.

Sense of dignity and superiority. Self-confidence and self-reliance. It is self-centring. It asks no assistance from others, and needs no praise to prompt to effort. Sets its own standard, and works to satisfy its own ideals. It helps its possessor to act upon his own initiative, and successfully carry through his undertakings.

EXCESS of this faculty is shown in—An undue exaltation of self. The constant use of the word “I.” Self-commendation. Egotism. Hauteur. Self-conceit. Patronising treatment of equals. Supercilious condescension to others. Imperiousness. Arrogance. Overbearing presumption.

DEFICIENCY is indicated by—Lack of self respect. Slavish humility. Servility. Apologetic manner. Submissive demeanour. Distrust of own powers either of thinking or doing. Inability to take on responsibility.

TO CULTIVATE.—You are of much greater value than you think yourself. Do not stand by while others are advanced before you. Hold your head high as becomes a man. Feel the dignity and worth of your being, and cultivate that feeling of self-reliance which others less worthy than yourself often assume. Stand for your rights, and never shirk your share of responsibility.

TO RESTRAIN.—Do not value yourself so highly. You overrate your ability and assume a bearing of arrogance and assertiveness which your powers and attainments do not warrant. Try to yield to the opinions of others, bend yourself to their wishes, and

have less confidence in your own plans and methods. Humble yourself.

FIRMNESS. No. 26.

Determination. Inflexibility. One of the chief factors in the manifestation of will. It stands by the decision of the other mental powers, and until directed by them it is immovable. It is powerfully developed in the autocrat and the dictator. It furnishes endurance to the martyr to withstand the torture and the flames, and aids the stoic to perform his heroic task.

EXCESS of this faculty is shown in—Obstinacy, stubbornness. Unwillingness to change or alter. Unyielding to persuasion or even the lash. Stoicism. Immoveableness.

DEFICIENCY is indicated by—Inability to decide. Irresolution. Being swayed by every wind, and in any direction. Feebleness of opinion. Inability to face difficulties. Yielding to others even against better judgment and knowledge.

TO CULTIVATE.—Be resolute on all matters. Make up your mind on every subject which concerns you, and stick to your decision in the face of every difficulty, and in spite of opposition. Do not yield to the opinions and wishes of others, but decide for yourself. Persevere. Be steadfast. Do not permit yourself to be moved from any position you have taken, but maintain it at all costs.

TO RESTRAIN.—Do not be so confident and decided. Remember that others are quite as capable of deciding as you are and that they have come to other conclusions. Be willing to listen and consider. Do not make up your mind so determinedly and positively.

Avoid unyielding stubbornness. Be anxious to know what others think, and, if reasonable, let it influence your own decisions.

CONTINUITY. No. 29.

Persistence. Continucus application. Consecutiveness, protractedness. The desire to do one thing at a time and to continue to do that thing. The power directing the mind to a single subject of study. The retention of loves or hates for long periods. Unchangeableness. This faculty, though generally accepted as a primitive one, is, however, questioned by many whose opinions are worth consideration, and further observation is desirable ere it be considered as finally established. It acts blindly, and simply prompts to persist in any course of study or action that the other powers desire. It is opposed to change of any kind, and leads to prolixity.

EXCESS of this faculty is shown in—Prolixity. Constant repetition. Diffusiveness. Wearisome reiterations. Perpetual harping on one subject long after all excuse for it has passed.

DEFICIENCY is indicated by—An undue and unreasonable desire to alter and vary work and opinions. Constant change. Diversity and unnecessary variety. Encouragement of new departures and innovations regardless of their value.

TO CULTIVATE.—Do one thing at a time and never commence a second thing until the first is completed, no matter how inconvenient it may appear to you. Don't get weary, but keep on at the same thing. Compel your mind to dwell upon the matter in hand, and dismiss all other subjects. Be persistent. Repeat

your exercises, and try to reproduce the same ideas in the same way.

TO RESTRAIN.—You are too persistent, and this makes you appear tedious and tiresome to others. Try to get out of the monotonous rut in which you are now moving. Put more variety into your life. Seek changes of occupation, of pleasure, of residence, of acquaintance. Of all the phases of your life which tie you to a single course, change is the only remedy for you.

CHAPTER XXII.

THE SELFISH PROPENSITIES.

THE PROPENSITIES.

THE faculties which constitute this group are those which we have in common with nearly all animals. They are the powers which are necessary to the preservation and sustentation of life itself, and are consequently of fundamental importance to us as physical beings. Their organs are all situated in the temporal lobe, and are as follows :—

VITATIVENESS. No. 40.

The love of life. The desire to live, which is inherent in us all. It makes all things subservient to the necessity for living. It struggles to preserve existence against all the forces which tend to destroy.

EXCESS of this faculty gives—A fear and horror of death and a terrible dread of annihilation.

DEFICIENCY is indicated by—A loose hold on life and a ready yielding to disease and other weakening influences.

TO CULTIVATE.—Decide that life is worth living. Study the lives and methods of those who find delight and enjoyment in it, and follow their example. Determine that you will usefully employ every minute. Laugh at disease and physical ailments and resolve that come what may you will hold on to life and its pleasures.

TO RESTRAIN.—This is hardly requisite. However, do not be afraid to die. Contemplate death as the natural end of life, and as an escape from life's troubles when age and feebleness become unbearable.

ALIMENTIVENESS. No. 39.

The desire for food. The instinct which prompts living beings to feed. The young of all animals instinctively take food without teaching or assistance. The chick unerringly selects its seed from a heap of other particles, and the kitten, although blind, discovers and closes its mouth on its mother's teat without aid, and sucks automatically. This power is universal and is necessary in order to sustain life.

EXCESS of this faculty results in—Gluttony, unrestrained indulgence in foods, and the neglect of other duties for the gratification of a gormandising desire.

DEFICIENCY is indicated by—A feeble desire for food, and scarcely strength enough to enable life to be sustained, and consequently a weak and badly nourished system.

TO CULTIVATE—Select foods which appeal to your taste and have them properly cooked and daintily served. Have regular meal times, and devote a specified and sufficient time to each meal. Tempt your appetite with various dishes, and determine to enjoy what you eat.

Take your food in pleasant company, and indulge in quiet and agreeable conversation during the meal.

TO RESTRAIN.—Determine just what is sufficient at each meal to replace the wasted bodily tissue, and eat no more, no matter what claims your appetite may make upon you. Do not take any sauces, condiments, or alcoholic drinks. Eat slowly and chew deliberately all foods until they are dissolved in the mouth. Don't hesitate to go without a dinner or supper occasionally.

DESTRUCTIVENESS. No. 37.

The power to destroy and overcome obstacles in the endeavour to procure food and other necessities. In flesh-eating animals it may be called the carnivorous instinct, as it enables the lion, tiger, wolf, etc., to kill or destroy the prey which it selects as food. It is in these a blind instinct, but when, as in the average civilised man, it is controlled by the moral powers, its action is modified in a moral direction, and may result in anger or moral indignation only; although when it is possessed in a powerful degree, or is unduly excited, it may result in murder. When, for some reason, real or apparent, it may be considered desirable to use this in its primitive sense, it becomes active as in the case of surgeons, butchers, and vivisectionists.

EXCESS of this faculty is shown in—A resort to brute force, uncontrollable rage, wanton cruelty, revengeful passion, malicious hate and unreasoning anger which may sometimes result in murder.

DEFICIENCY is indicated by—A lack of energy, a yielding to brute force exercised by others. Weakness of propelling power. Want of forcefulness and execu-

tive ability. Inability to kill even the smallest animal, or to witness pain.

TO CULTIVATE.—When others seek to crush you rouse yourself to action. Be energetic and determined to oppose their selfish demands. Assert yourself and seek to carry out your own designs in your own interests. Do not let others impose upon you, but retaliate when they attempt it. Do not hesitate to express your anger and indignation when they have been excited, and steel yourself to witnessing pain, especially when you may be able to render soothing service to the sufferer.

TO RESTRAIN.—Curb your anger. Be governed by reason, not passion. Be more forgiving and less revengeful. Never take a life, even that of a mouse. Abstain from all animal food. Let your indignation be exercised on the evils of life and society, and on the causes of poverty, crime and intemperance.

COMBATIVENESS. No. 38.

The instinct of self-defence. It operates in the protection of self, friends, and property or possessions. It is the foundation of contentiousness. It will be found in a powerful degree in successful warriors and prize-fighters. When acting in co-operation with the intellectual faculties it is forceful in argument and debate, and when associated with the moral faculties it is a powerful aid in championing and defending great moral causes. It gives courage, pluck, and boldness.

EXCESS of this faculty is shown in—A condition of irritating opposition. Quarrelsomeness. Contradiction for the sake of contention, and pugnacity.

DEFICIENCY is indicated by—Cowardice. Lack of spirit. An acceptance of any argument or position rather than contradict or contend for another view. A desire for peace at any price.

TO CULTIVATE.—Have opinions of your own; stick to and defend them to the best of your ability before all comers. Let no one trespass upon your rights without resistance on your part. Take part in public discussions, and take sides in political and other subjects. Defend yourself and your friends against any attack which may be made, and act boldly and defiantly under all circumstances.

TO RESTRAIN.—Avoid all cause of quarrels. Try to think that the opinions of others are as good as your own, and do not endeavour to enforce your views. Avoid the society of quarrelsome people, and do not let yourself be drawn into discussions, especially of an exciting nature. Determine not to be led into striking a blow, no matter how great the provocation.

SECRETIVENESS. No. 36.

The protective, hiding instinct, giving a tendency to cunning and deception. It withholds the manifestation of the other powers in the presence of a possible enemy. Under its influence human beings preserve a non-committal attitude, are evasive, and reserved. It is a marked feature of diplomacy and policy, and assists in planning and scheming for the attainment of special objects. Reserve, discretion, evasion, equivocation. It hides desires, thoughts, and feelings from others, also plans and methods of operation.

EXCESS of this faculty is shown in—Suspicion. Cunning. Deception. Hypocrisy. Craftiness, and Secrecy.

DEFICIENCY is indicated in—Inability to keep secrets. Openness. Indiscretion in word and deed. Confiding implicitly in others without due reserve. Bluntness, and self revelation of personal plans, desires, and intentions.

TO CULTIVATE.—Be more reserved. Do not confide all your thoughts and wishes to others. Treat them as though they would take advantage of your confidences. Control your desire to ask advice of all your acquaintances. Be less outspoken, and guard the incidents of your secret life and family from the ever ready listener who may be a false friend, and thus save yourself irreparable injury.

TO RESTRAIN.—Do not nourish your feeling of reserve toward others. Be outspoken and truthful regardless of the result—it cannot harm you to tell the truth. Be sincere, do not attempt to conceal things, nor suspect everybody of evil designs upon you. Do not evade a direct issue, nor suppress your real feelings.

ACQUISITIVENESS. No. 35.

The hoarding instinct. Governed by its influence animals bury their food, or otherwise save it against a possible future need. It gives a desire to acquire and hold. It does not indicate what shall be held—that is decided by other faculties—but covets, and when possible secures, the objects desired by the other powers. When powerful, out of proportion to the moral organs, it is one of the chief factors in theft. Economy, carefulness and close bargaining are incidental to the action of this faculty.

EXCESS of this faculty is shown in—Penuriousness. Avarice. Covetousness. Greed and miserliness.

DEFICIENCY is manifested in—Wastefulness. Spendings greater than earnings. Indifference to value of things, debt and chronic impecuniosity.

TO CULTIVATE.—You should save everything you have except that actually required for present use. Be careful to get all possible and keep it. Determine to put by a certain sum out of your income, and do it; no matter at what apparent inconvenience to yourself. Keep a detailed account of your receipts and expenditure. Do not give or lend to others. Do not incur debts, nor hold yourself responsible as a security for the debts of others.

TO RESTRAIN.—Do not trouble so much about your possessions. Be more generous and spend your money freely. Never mind the future, that will take care of itself. Enjoy what you have without counting the cost of every item. Devote more time to study, recreation or public affairs, and associate with the promoters of philanthropic efforts.

CHAPTER XXIII.

THE SOCIAL INSTINCTS.

THE faculties comprising this group deal chiefly with the affections, not only as between members of the same family, or even of the same species, but equally so as between individuals of differing species. It also has regard to the special instincts of family or home life, and also for the place, as well as for the individuals associated with it. Its location is the occipital lobe.

CONJUGALITY. No. 34.

The pairing instinct. Monogamy. Association with one conjugal partner. Exclusiveness in matrimony for the one loved-one. Concentration of affection upon a single object only. Opposed to polygamy and polyandry. While some Phrenologists accept this as a primitive function, and include it in their list of mental elements, others reject it. It is a fact, however, that certain animals live in pairs, as the fox, the eagle, the pigeon, etc., whilst others, as the dog, horse, bull, etc., appear to have no such tendency. In the human race the practice varies with different primitive peoples, but in civilised countries it is the usual practice to live in the married state, though this is largely due to the moral condition involved rather than to the influence of a powerfully monogamous instinct in man.

EXCESS of this faculty is shown in—Overweening fondness. Uxoriousness. Jealousy. Unreasonable and foolish waste of time in the quest for the loved one.

DEFICIENCY is indicated by—Fickleness. Faithlessness in love affairs. Inconstancy. Promiscuous loving without regard to the married state. Disregard of the marriage bond.

TO CULTIVATE.—Fix your affection upon one individual who reciprocates the feeling, and be steadfast and constant to that one. Resolve to let no other face or form attract you, and act with inflexible determination when others seek to lead you from your resolve. Continue your attentions after marriage as though courting days were still fresh, and do everything in your power to preserve the charm first experienced.

TO RESTRAIN.—If your affection has been centred on an unworthy object, or where it is not reciprocated,

turn your thoughts to other subjects. Try to transfer your affections to the suffering of humanity, and join in some philanthropic effort. If your love has been blighted by the death of the loved one, remember there are plenty of affectionate and lovable persons still living. Try to forget your loss, and seek for solace in the companionship of another worthy of your love.

ADHESIVENESS. No. 32.

The instinct of friendship. The desire for companionship. All persons in a normal condition appear to have a desire for the companionship of their fellows. Absolute loneliness is one of the greatest dreads of men, as manifested by prisoners and others who have once had the experience for a lengthened period. This desire for fellowship is not confined to man, nor is it limited to objects of the same species. Strong bonds of friendship have been formed between men and horses, men and dogs, lions and dogs, dogs and horses, and many other animals beside.

EXCESS of this faculty is shown in—Too great confidence in those professing friendship. Undue love of unworthy persons even after their unworthiness is proven. Indiscriminate attachment to individuals without regard to their suitability or harmony of disposition. Indiscreet action at the bidding, or under the control of friends.

DEFICIENCY is indicated by—Hermit loneliness. Love of solitude. Want of sociability. Avoidance of society. Churlishness. Selfish disregard of all the claims of social life or duty.

TO CULTIVATE.—Seek the society of those whose words and works you appreciate, you will find them

companionable. Go to gatherings and society meetings dealing with subjects in which you are interested. Join in conversation with others having similar views and tastes, and you will desire to repeat the experience. Try to give your confidences to someone, with mutual feelings and sympathies, and you will find there is more pleasure in life than you have thought possible. Do this often, and with determination, and this faculty will quickly develop.

TO RESTRAIN.—Be more wary in the selection of your friends. Have fewer acquaintances. Do not fraternise with everybody into whose society you are thrown. Before accepting the friendship of anyone, find out the person's character and worthiness. Keep your confidences to yourself. Be more independent of friends. Do not rely upon them for advice and guidance, or follow their examples or methods.

INHABITIVENESS. No. 31.

The home instinct. It gives the desire to remain at one spot. The fox has his special hole in the earth, the lion his den, and man his home. It is the centre from which he works, and holds a good share in his affections. It inspires the patriotic sentiment. Removal from its select place results in home-sickness, and its feeling is well expressed in the emotion which accompanies the singing of "Home, Sweet Home."

EXCESS of this faculty is shown in—An overweening fondness for the place called home. Home-sickness, when away, and misery due to a longing for, and pining after, home. Quixotic and sentimental patriotism. Remaining in the place after all reason for doing so has ceased to exist, preferring to starve in the native place rather than migrate.

DEFICIENCY is indicated by a—Roving disposition. Apathy concerning home. Constant desire for change of residence. Anxiety to travel. A general disregard for the home spot. Vagrancy.

TO CULTIVATE.—Remain more at home. Do not go away to find companionship and recreation, there is abundance of pleasure to be found at home. Take a special interest in the upkeep of the home, its decorations, the garden, or its other features which interest you, as well as in the associations with persons and institutions which surround it. Believe and feel that “There’s no place like home.”

TO RESTRAIN.—Do not cleave and cling so much to home. There are many other happy spots if you but seek them. Journey far afield and compare other places with home. There is a charm in travelling, or even in wandering over unknown places. Try it. Seek employment in various towns and centres; learn to know their pleasant features, and try to enjoy them, without feeling homesick.

PHILOPROGENITIVENESS. No. 33.

Love of offspring. The instinct which impels us to protect the young and helpless. It is usually much larger in women than in men; although in many species of animals it is equally large in the male and female. Persons in whom the faculty is powerful long for the privilege of parenthood, and when such have no children they lavish affection on the children of others, or upon living creatures of other species, as cats, dogs, birds, etc.

EXCESS of this faculty is shown in—An unreasoning anxiety as to the welfare of their children, and an

extravagant sorrow on the death of a child. It induces undue indulgence towards children and the spoiling of those for whom the solicitude is evinced. Inordinate affection and care for animals and other pets.

DEFICIENCY is indicated by—An antipathy to children and a dislike of their society. Neglect of the interests of the young, and an aversion to taking any responsibility with regard to them. If in control of them the treatment will be harsh and severe. Blows and kicks more in evidence than kisses.

TO CULTIVATE.—Learn to look kindly upon the little ones whose innocence and helplessness plead for your sympathy. Interest yourself in their doings and sayings. Be gentle and forbearing when they annoy you, and remember they err through want of knowledge, and not wilfully. Do not be harsh or unkind to them, but learn to love and protect them from all harm.

TO RESTRAIN.—Do not constantly humour children nor yield to their every demand. Give them only that which is absolutely necessary for their comfort. Do not fret nor worry over them, nor allow the loss of a child to be a constant source of sorrow to you. Be firm and determined with them. Your commands must be obeyed. Remember that ofttimes “to spare the rod is to spoil the child.”

AMATIVENESS. No. 41.

Although not strictly a member of this group, it is the faculty which is the most important of all in relation to it. It is the propagating instinct, and its function is absolutely necessary to be exercised, for the multiplication and preservation of the race. But for its

operation the race would cease to be; hence its action under right conditions is the first and basal necessity of domestic life. The basis of sexual love. Desire to love and be loved. Sexual attraction and admiration. The location of this organ is in the Cerebellum. Its influence on life and character is enormous, and must always be considered in estimating the force of instinctive impulses upon the actions of men, and indeed of all animals. It is located in the cerebellum.)

EXCESS of this faculty is shown in—Extreme vulgarity. Wantonness. Depravity of the other propensities. Licentiousness. Libertinism. Lewdness in speech and action. Sensual affection unhallowed by moral considerations.

DEFICIENCY is indicated by—Celibacy. Unlovableness. The seeking for companionship of the same sex only. Indulgence in fault finding and adverse criticism of persons of the opposite sex, and treatment of them with reserve and dislike or even aversion.

TO CULTIVATE.—Your dislike of the other sex is unnatural. You should cultivate a closer acquaintance and learn to study their excellencies, and their high intellectual and moral capabilities. Try to please and entertain them. Be agreeable. Call out their kindly feelings towards you, and seek to win their smiles and their approval. Make up your mind to marry, determining to win the best of your circle available to mate with you.

TO RESTRAIN.—Direct your thoughts away from the physical charms of the opposite sex, and think more of their mental powers. Do not seek their society. Spend more time in intellectual and moral studies, and give yourself plenty of outdoor exercise as cycling,

running, rowing, etc. Eat no animal food, or other exciting diet. Restrain your appetite and cultivate your higher powers.

CHAPTER XXIV.

ATTRIBUTES OF THE FACULTIES.

MODERN philosophers, in their various attempts to analyse the human mind, have, as I have previously indicated, arrived at different conclusions as to its nature and the particular powers it is capable of exercising. By way of illustration I will refer to the analysis by Dugald Stewart as being not only a fair sample of the school, but one of the best, as proven by the fact that many of his definitions have been appropriated by Dr. Annandale in his splendid and authoritative edition of the Imperial Dictionary, a work of reference surpassed by none for its erudition and comprehensiveness.

The faculties or mental elements given by Stewart as primary powers of the mind are Attention, Abstraction, Conception, Association, Perception, Memory, Judgment, Imagination, Appetite, Instinct, Affection, Passion, Reason, and Will. Not one of these is in itself a fundamental faculty of the mind. This may be considered a bold statement when it is remembered that all the chiefs of the modern school of philosophy include one, or more, of these in their lists of faculties.

It may reasonably, therefore, be asked what is a faculty of the human mind? What standard can be applied by which a faculty may be known as such, and be recognisable by the student or observer? If Atten-

tion, Memory, Imagination, Will, etc., are not faculties, what are they?

In the first place, what is a faculty? It is a basic mental power which is, in its action, independent of all the other mental powers; a radical or root element; being one of the constituents, and therefore absolutely essential to the existence of the human mind. It is a mental quality, the power of which is directly measurable by the size of its organ, in the brain. Every such quality or power should conform to the following tests, and if it fails to do so, then its claim to be a fundamental faculty cannot be sustained. The tests to be applied are as follows :—

WHAT IS A FACULTY?

1. A faculty is a mental quality which grows, or decreases, independently of, and at different times from, that of the growth or decay of the other powers.

2. A quality which at any time is more or less active than are other qualities.

3. A quality that is able to maintain its activity when all the other powers are paralysed.

4. A quality that may be absolutely inactive or powerless when all the other faculties are in the full force of their activity.

5. A quality which may be subject to mental disorder without any of the other powers being affected.

6. A quality which may be healthy and perfect in its action, while all the other faculties are insane.

7. A quality which is always found in one particular species, but which is always absent from another.

The whole of these tests may be applied to each of the fundamental faculties recognised by Phrenology

with success in every case, but the same tests applied to the so-called faculties of Dugald Stewart and others, demonstrate at once their failure. It would be an interesting exercise for each student to apply these tests for himself. I do not feel called upon to devote space to the further discussion of this point, as my object is rather to demonstrate Phrenology than to combat other theories. In explaining the correct place and function of these philosophical entities I shall, I hope, lead the student to comprehend the phrenological position.

If Attention, Memory, Imagination, etc., were fundamental faculties, they would be equally powerful in all directions; but that they are not so is easily seen after a few moments' reflection. For instance, if there were a faculty of Memory it would act universally. It would remember words, forms, sizes, tunes, figures, places, and ideas equally well. If the faculty were very powerful it would remember all things perfectly; if it were weak it would not remember anything. Our experience, however, is that all men remember some things better than others. Some have a memory for faces, but forget names; others remember tunes, but forget colours; and so on throughout the whole range of the mental faculties, thus distinctly showing that Memory is not an independent power, and therefore not a fundamental faculty.

In the same way, it can be shown that neither of the other Stewartian "faculties" are fundamental powers. But if they are not faculties, what are they? To this question I answer, They are methods and degrees of manifestation of the various mental powers; or perhaps they may be more correctly defined as qualities, or attributes, of the faculties themselves, and are

manifested by them when acting either singly or co-operatively.

EXPRESSIONS OF A FACULTY.

Each faculty has its own memory. The faculty of Form remembers shapes; Tune remembers music; Colour remembers tints and shades of colour. Memory, therefore, is one of the attributes or characteristics of these, and also of all the other fundamental powers. The same principle applies to other qualities. Each faculty has its own Perception, Attention, Instinct, Passion, Imagination, Appetite, Affection, Judgment, etc., the power of their various manifestations being in proportion to the size of the organ in the brain through which the faculty functions. Some of these attributes, such as Judgment, may also be exercised by several of the faculties acting in combination; while Reason and Will are both resultants of collective action of the fundamental powers.

A logical sequence of the foregoing is that, when faculties are deficient in power, their attributes, that is, their Memory, Judgment, Imagination, etc., are also weak, or deficient, in their degree of expression; and experience shows that this is so. If a faculty be entirely lost, its attributes are non-existent; for no man, nor animal, can perceive, remember, or imagine any object or idea which they have no capacity to conceive.

From this it may be readily inferred that the degree of expression of an attribute is in proportion to the power of the faculty, and as that is in direct ratio to the size of its organ, the expression of the attribute must also be measurable by the same standard—viz., the development of the organ. I will illustrate this by

showing how the attribute of Attention is manifested by the faculty of Ideality. If this faculty were feeble, and its organ consequently small, it would devote no attention to poetry. A larger organ would take a little notice of it; a still larger organ would have a desire to read it and would give it some attention; a yet larger organ would be arrested by it; whilst the largest organ would have a passion for it, and devote its concentrated attention to it. All the other attributes would be similarly affected by the operation of the faculty in its various stages of development.

EXPRESSIONS OF THE ATTRIBUTES.

The expressions of the attributes are manifested in connection with each of the faculties under the following conditions :—

1. When normally developed, there is in every fundamental faculty a power of **Perception** which perceives all that relates to its especial function.
2. When the faculty is in active operation, dealing with its special object, there is **Attention**.
3. When impressions are renewed by the faculty involuntarily, there is **Passive Memory**.
4. When impressions are deliberately renewed, or purposely called into existence, there is **Active Memory**.
5. When the faculty compares the relations of the objects of its attention, there is **Judgment**.
6. When it creates by its own inherent energy some apparent presentation of the objects of its function, there is **Imagination** and **Invention**.
7. Reasoning is comprised in a series of judgments either of the same faculty, or a combination of faculties. When these judgments are of the reflective faculties, they constitute **Reason**.

The teachings of the philosophic school having for so long held undisputed sway, and been universally accepted without question, it may be desirable to give some further explanation of certain of the attributes referred to, so as to prevent misapprehension, and I will therefore deal with them singly, but briefly.

CHAPTER XXV.

NATURE OF THE ATTRIBUTES.

ATTENTION: CONCENTRATION.

Attention proceeds from a power; it cannot, therefore, be a fundamental faculty; nor the source of a power. It is exercised necessarily on everything we deliberately do, or are conscious of doing. When the power from which it proceeds is deficient it is impossible to fix the attention, and any attempt to do so ends in speedy failure. Whilst, however, the attention of one faculty as to matters relating to its function is weak, because of the deficiency of the organ of that faculty, the attention of another may be capable of concentrated effort, because its organ is large and healthy. A young man endowed with a large share of Self-Esteem and Approbativeness, and having but small intellect, will give considerable and insistent attention to the window display of a tailor and outfitter's establishment, but will pass with indifference a library of scientific works, and fail to bestow an instant's attention upon it. Handel, when only a child, gave concentrated attention to music, at which an engineer would possibly have sneered, and Bidder gave such persistent attention to

figures as would have been repugnant to a musician or a poet.

JUDGMENT.

Judgment is an attribute of each of the moral and intellectual faculties. If Judgment were a root faculty it would be operative in all cases, and with equal force—that is, a man with a powerful faculty of Judgment would be able to judge all things equally well. His judgment in relation to figures would be equal to his judgment of colours, or reasons, or the choice of language; but experience teaches us that this is not so. A man may be an excellent judge of weights, or distances, but find it impossible even to express an opinion on architecture, or music, because his faculties dealing with these subjects are deficient. Hence we are driven irresistibly to the conclusion that Judgment is not a fundamental faculty. As its power is limited to a method of manifestation of certain known faculties, it can only be accepted as an attribute of these. The person who has a large organ of any faculty has necessarily a good judgment in relation to the objects cognised by that faculty; whilst with regard to organs which are very small, his judgment in regard to their functioning would be simply imbecile.

A carnivorous animal has an unerring judgment as to the distance he must spring to jump upon his prey, but one cannot conceive of the same perfection of judgment being exercised by him in the matter of moral distinctions, or intellectual considerations. Judgment, then, is not a fundamental faculty, but an attribute of the intellectual and moral powers.

IMAGINATION.

Imagination is an attribute of all the faculties whose action is independent of the external world. It enables these faculties to express, what I may call, a sublimated view of the effect of their operations. As the result of its action, it, in a sense, creates, or builds with but slight material, drawn from its memory, a visionary presentation of the objects with which the faculty is concerned. It cannot, however, create any vision or picture of the nature of which it has not had some previous knowledge, resolving itself, therefore, into a form of constructive memory. The faculty of Locality, with its inherent sense of space and its experience of localised objects, obtained through the senses, can, by a series of combinations of known data, think out, create, or imagine a new landscape or scene. In the same manner Tune can imagine new combinations or variations of tones; Number can create, imagine or invent new problems; Constructiveness can produce, invent, or imagine new methods of arranging mechanism; and other faculties, each in their own sphere, can exercise this attribute to carry out the purposes of their existence. As with the other attributes, men may possess brilliant imagination in a certain class of subjects, but in others be absolutely barren of any imaginative power. If Imagination were a fundamental faculty, men should be equally imaginative on all subjects. That this is not so may be seen on every hand; for instance, authors of fiction are supposed to be especially endowed in this direction, as they usually produce what are called works of imagination. These reveal the fact that, whilst in one the faculty of Locality enables him to imagine scenes, his faculty of Human

Nature fails him when trying to depict the characters of his created beings; whilst another is excellent at characterisation, but poor at scenic description.

REASON.

Reason is the resultant of the judgments of the higher intellectual faculties when acting in concert. It necessarily supposes the existence of other powers. It cannot operate without data, and these have to be supplied by the intellect. Men cannot reason about all things equally well; they reason best upon things which involve the exercise of the most powerful faculties in the particular mind; and with least effect upon subjects which are the special function of the weakest faculties. This proves Reason to be but an attribute of the fundamental powers, and not an independent faculty. A simple faculty could not constitute Reason, it being the result of the simultaneous action of all the intellectual faculties.

Metaphysical reasoning is the especial consequence of the co-operation of the reflective faculties only. It is this reasoning which distinguishes man from the brute; for although they have many intellectual faculties in common, the purely metaphysical belongs to man alone. Even many men have good perceptive intellectual powers, but are so weak in their reflective faculties as to be almost totally deficient in the ability to reason on metaphysical subjects, or subjects outside and beyond their actual observation and experience of physical things. This phase of reasoning is due to reflection alone, and is the product of the combined action of the reflective faculties.

WILL.

Will, or "The Will," as it is more frequently called, or, rather, miscalled, is not a simple elementary or fundamental faculty of the mind, and has no special brain organ. It is the resultant of the combined action of all the faculties of the mind operating at any one time. It embodies, and is an expression of, the whole of the fundamental powers which for the time being are exercising their functions. It may be that on a certain subject some fifteen or twenty of the faculties only are engaged, then the decision finally arrived at as the result of their operation constitutes the Will concerning it. The same would be the case if the number of faculties being employed were four or forty. When, therefore, one hears of a man exercising his Will in any direction it simply means that he is putting into operation the decision arrived at by the mental powers, be they few or many, which have been employed in regard to the special subject concerned.

Will is always in operation during the state of consciousness. Wills are stated to be strong or weak, but it will be readily seen that not being a fundamental power it has in itself no claim to be a recognised standard of strength. If it had such a standard it would be equally powerful in all directions; whereas it is well known that a man may exercise a powerful Will, or what is so-called, in one direction and play the dictator, whilst in another he is unable to hold his own. It depends entirely upon the faculties which have been exercised in forming the particular Will. If the decision is the combined result of the most powerful faculties, including the intellectual, and those of Firmness and Self-Esteem, then the resulting Will may be

very powerful; but when these faculties are not called into the conference, the resolution of mental forces may be but weak and ineffective. I trust I have made it clear that the sum total of the simultaneous operations of all the faculties called into action in relation to any subject constitutes the person's Will in regard to that subject, whatever it may be.

To attempt a comprehensive definition of Will I would suggest the following :—Will is the resultant of the simultaneous and co-ordinated action of all the mental powers in operation at any one time during the conscious state.

OTHER ATTRIBUTES.

The other so-called faculties of the mind given by Stewart need not be entered upon, as, after what I have already said, it will be apparent to my readers that their claims to be considered fundamental powers are not so strong as those with which I have already dealt, and I think a little contemplation will convince the thoughtful that they occupy a position somewhat similar to them. I refer to Abstraction, Conception, Association, etc. Each of these can readily be recognised in the operations of the primary powers. There are other mental manifestations which are not claimed to be faculties, such as Modesty, Meekness, Terror, Anguish, Despair, Jealousy, Anger, Joy, Ecstasy, etc. It will not be necessary for me to review these individually; I need only remark that they are simply involuntary expressions, either of single faculties or combinations of faculties. To study the persons who manifest them, and from an examination of their heads to deduce their source and origin, and then to look for their expression

from persons with heads of similar types, will be excellent practice for students, and one I would urgently recommend.

The true philosophy of the mind is beautiful in its simplicity, and worthy the study of the most profound thinkers and investigators. No subject will give equal satisfaction, no labour yield the same reward, as that which is involved in following out the injunction "Man, know thyself."

CHAPTER XXVI.

THE PHRENOLOGIST'S QUALIFICATIONS.

LIKE poets, painters, and engineers, Phrenologists must be born—not made; for, although it may be possible for the great majority of persons to learn the facts of Phrenology, and to apply them to many of their legitimate purposes, yet to be able to use them in attempting to unravel the involved workings of the mind needs a special endowment.

In the properly equipped Phrenologist the following qualifications may be considered indispensable :—

1.—The perceptive faculties should be large, and Benevolence, Human Nature, and the reflective powers should be well developed. The domestic faculties should be beyond the average, while the selfish propensities should be in subjection. The predominance of the Nerval temperament is also expedient. These give a keen and acute perception to enable him to observe details, and study their relations; an intuitive insight into motives; a strong sympathy with the subject; the power to deduce effects from causes; and a mental alert-

ness which registers and acts immediately. A good all-round development is eminently desirable, but the powers named especially so.

2.—A sound knowledge of the science and philosophy of Phrenology and of the methods of applying it practically. No person can apply a knowledge which he does not possess; and it must be accepted as an axiom that a perfect application of Phrenology is only consistent with a perfect knowledge of the subject, and of the methods of its application. The nearer to perfection the knowledge is, the more likely is its application to be accurate and acceptable.

3.—A wide knowledge of people of every type and class; the rich, their occupations, pleasures, and environments; the poor, their work and their play; the learned and their delights; the ignorant and their methods of passing their lives; a knowledge of all sorts and conditions of men, who have been the constant subjects of observation and study, under all conceivable circumstances. In practice, it may be that the Phrenologist will be consulted by persons of all classes, and that he should be able suitably to adapt his remarks and advice to each case this information is absolutely necessary, if the consultation is to benefit the person seeking counsel.

4.—A knowledge of all businesses and employments in which men and women engage, and the necessary mental and physical powers required for the proper conduct and performance of each. It must be palpable to the weakest intelligence that without this knowledge it is impossible to tender advice to persons as to the occupation for which they are best adapted, or

to select for an employer those most suited to the requirements of his business.

5.—A good development of each of the brain regions, which by their action affect character; for how can one tell to a lover of music the rapture he feels when under the spell of some wonderful harmony, unless he, too, has been thrilled by melody's marvellous power? Who can estimate the effect of eloquence upon another to whom it is as an enchantment, if his own brain has not throbbed with emotion, and his own pulses quickened under the magical sway of an inspired orator? To rightly estimate the influence of any faculty upon character, the delineator must, to an appreciable extent, have been subject to the power it wields, and be able to recognise and trace its mark across the page of his own life.

6.—A wide life-experience of business and pleasure, of sorrow and joy. Herein lies much of the value possessed by the adviser. It is this which puts him into psychic touch with others, and excites his personal sympathy. The fact that he has himself sounded the depths of sorrow, that he has engaged in the struggle, borne the labour, and endured the pain, will stamp his words with a priceless value to the suffering one; and, if he has felt in his own experience the gladdening delight of a delirious joy, or has risen to the holy impulse of a noble inspiration, how much more effectively can he portray their influence in the character of others, and measure the effect on their lives.

A SKULL TABULATOR.

This, then, is the high-measure standard of the true Phrenologist. It is quite possible, however, for

any fairly intelligent person to acquire a knowledge of the location of the organs and their functions, and to accurately gauge their power and influence on the mind; but the tendency of such an one is to rely upon his tape measure and his callipers, and to become a mere tabulator of skulls, a describer of lifeless and passionless mentality. He who desires to interpret the living, breathing, sentient man, and faithfully portray his sensations and passions, in addition to the application of callipers and tape, must penetrate beyond the material veil, and with a mentalometer more exact, and more sensitive, than any devised by scientist, gauge the heart-throbs and the emotions, which are the true measures of life's pleasures and pain. My readers must not think that in so writing I am disloyal to the scientific teaching I have been hitherto advancing; that is not so. As far as science can help us in investigating the physical basis of our mentality, so far will it be not only desirable, but absolutely indispensable; there is, however, a limit to its power, and a boundary beyond which the material eye cannot penetrate. But even here a knowledge of scientific methods is of value, for, as I have previously explained, thoughts, expressions, emotions, and sensations are as much natural phenomena as sunshine and rain, or the appearance of meteors and comets, and may be studied, classified and arranged in accordance with scientific methods.

THE LIMITATIONS OF PHRENOLOGY.

I do not in this statement make any claim for a meta-science or super-science, but simply an extension of existing methods into the realm of mind, a possibility which would be simple in its application, and

fruitful in its results. Whatever others may do, the Phrenologist must utilise all his powers—physical, mental, and intuitional—in searching into, and revealing, the mystery of mind, and the more fully this is done on well defined scientific lines, the more lasting and satisfactory the work will be.

While the scope of Phrenology is great, yet it has its limitations; for, although it may gauge capacity, it cannot give it. It can, however, instruct how a feeble power may be exercised so as to develop and be increased. It can tell the size, and consequently measure the power, of each brain organ, but it cannot tell, by simple examination of the head, how the organs have been influenced by education and environment. It can indicate congenital defects, but it cannot necessarily, unaided, recognise brain disease and consequent mental derangement. It can tell how a brain would manifest its power under normal conditions, but, with our present knowledge, may fail to do so where the conditions are strange or abnormal. Hence, it is as necessary to know its limitations as its powers. We have not yet attained the *ultima thule* of knowledge on this subject. We are only upon the margin of its realm, and I would urge every earnest student to so equip himself that he may be ready to march into the unexplored land as a discoverer, and as the result of his observations and labours reveal to us its marvels and its glories.

CHAPTER XXVII.

CHARACTER DELINEATION.

PHRENOLOGY may be applied in many directions, and to many different purposes. In Ethnology it is one of the most useful guides in classifying intellectually, and racially, the various types of men, ancient and modern, which are the subjects of its inquiry. It can also be applied to Criminology in its classification of criminals, and in its efforts to distinguish not only persons of the criminal type, but also those individuals who, though apparently normal, have in them all the potentialities of the criminal. Insanity, too, furnishes many opportunities for its beneficial application, enabling the medical practitioner to more accurately diagnose the causes of the afflicting mania, and so the more readily to apply remedial measures. Phrenology can also be profitably applied, and is, in fact, the only safe guide in the matter of the right education of children, each according to its specific needs; in the selection of suitable employment; in the choice of friends or partners; and in the thousand and one circumstances in which we have relations with our fellow men and women.

It is the popular application of Phrenology, however, with which I propose to deal in this article; that phase of it which is commonly, but erroneously, known as Character reading.

WHAT IS CHARACTER?

Many persons confound character with reputation. While doubtless in many cases these may be practically the same thing, in others they are as wide asunder as the poles. There are men of splendid reputation, who

present to the world a fair and attractive exterior, whose inner life and prompting motives would not bear a moment's examination; and there are others, whose methods of manifesting their thoughts and feelings would secure for them but a poor reputation (due, possibly, to their holding unpopular views, their inability to express themselves attractively, or to their lack of suavity), while their characters are of the noblest and best, every act being inspired by the most conscientious motives, and based upon the highest integrity.

The actions of a man and the motives which prompt them are the bricks with which his character is built, and to rightly ascertain the resulting character, one must be able to accurately decipher the obscure problems involved in the mysterious and intricate workings of the human mind. Can Phrenology do this? Are there any external appearances indicative of any special act or thought which the Phrenologist can read or describe?—No. Decisively no. There are no such signs, and he who asserts their existence is guilty of gross deception. Phrenology lends no countenance to the pretensions of any who would assume the possibility of telling the actions past, present, or future, of any living person. The utmost that any Phrenologist can do by its means, is to tell the extent of a man's capacity in any direction by gauging the size of his phrenological organs in the head. He can tell that some organs are large, others small, and yet others of medium development. He can say which head is intense in its various activities, and which dull; but, phrenologically, he can go no further than this. Any further statement he is responsible for, and not Phrenology.

EXPERIENCE NECESSARY.

The expert Phrenologist, who is at the same time an earnest student of human nature, is, however, able to form estimates as to the probability that a head of a particular development will manifest a certain class of acts. Whilst it is impossible to say that a man will do a certain thing in a particular way, yet his experience and observation may have taught him that persons so constituted mentally, do usually perform a certain class of acts, or manifest special powers; and it is only in accordance with all experience that persons who have a capacity for doing a special thing will probably do it, and it is upon this basis that the Phrenologist founds his estimate. Primarily, he gauges a man's capacity, and forms a judgment as to its possible manifestations.

SELF-EXAMINATION.

In estimating character from brain development, the first subject should be self. The student should use photographs, measures, mirrors, anything which will fully acquaint him with the conformation and development of his own head, and then compare the teachings of Phrenology with his own experiences. It will reveal to him his strong points and weaknesses in a manner nothing else could; and if he followed faithfully the warnings which such a revelation would necessarily convey, he would at once commence a course of improvement which would better fit him to deal with the characters of others. To undertake to point out to others the course of life they should adopt to make the best use of their powers, or the discipline to which they should subject themselves, to the end that they may be truer and better men, is a great and serious responsi-

bility, and yet, when the Phrenologist examines a head and tenders his advice, he frequently takes no heed of the responsibility, and is indifferent to its effect upon his subject. This should not be. The statements of Phrenologists are frequently treasured for many years and some men rule their lives as the result of a phrenological examination. How important, therefore, and how necessary, to carefully weigh every word with a due regard to the receptivity of the person to whom the statement is made.

HOW IT IS DONE.

When applying Phrenology for the purpose of gauging mental capacity, and estimating its power of expression, the first thing to be done is to ascertain the condition of the subject's health, remembering that unless every part of the physical structure be sound, particularly the vital organs and the brain and nervous system, the mental output is weakened or warped, and the judgment of the examiner at fault. The state of health to the experienced eye is easily discernible; but in any event where doubt exists, the subject, upon inquiry, is usually able and willing to enlighten one.

The next thing is to notice the balance of the temperaments, as to which, if any, has a preponderating influence. These give a definite clue to the form and method in which the whole nature will express itself. The nerval temperament, when preponderating, will indicate quickness and intensity; the arterial, energy and vivacity; the muscular, strength and force; the osseous, stability and solidity; and the nutritive, dullness and apathy.

DEFINING BRAIN LOBES.

Having arrived at a decision as to health and temperament, the next step is to carefully define the boundaries of the brain-lobes, and judge their relative sizes, noting which predominates, and consequently has the greater influence upon the character. If the frontal lobe is proportionately the largest, the tendency of the head is undoubtedly intellectual; though whether the intellectual processes are confined to observing and memorising, or include thinking and reasoning, depends upon the relative proportions of the perceptive organs behind the brows, and the reflective organs in the upper front head, which are easily determined by a glance at the parts. If the temporal lobe be the most prominent, the animal powers are in the ascendant, and the character influenced accordingly. Where the occipital lobe dominates, the person is powerfully influenced by domestic ties, and the *personnel* and associations of the home are the guiding forces which actuate conduct. The parietal lobe being greatest, gives the sentiments an opportunity of swaying the character, which must be judged accordingly. Where the head is more prominent in the upper region than the lower, the tendencies are moral and religious. The correct apportionment of the various brain divisions gives a definite idea as to the mental tendency of the subject and the general trend of his character.

GAUGING THE ORGANS.

A careful study is next required of the relative sizes of the individual organs in each lobe, commencing with the larger organs of the most prominent lobe; then the larger organs of the other lobes, and balancing the

probable influence of the latter on the former. For instance, if, say, in a large temporal lobe the organ of Acquisitiveness were the largest, it would, if unrestrained, impel a man to acquire and hold possessions of any kind, regardless of the methods of obtaining them. If, however, in the moral group the organ of Conscientiousness be also large, the two organs (to temporarily ignore all the others) would combine in their operation, and then the acquiring, though equally strong in itself, would only be in accordance with the dictates of justice, and, if held, it would be subject to the demands of righteousness.

This weighing up of the combined action of the various powers constitutes one of the chief difficulties of the phrenological examiner, especially of the beginner, but as the result of constant observation and practice, it becomes less difficult, and to a practitioner constituted as I have pictured the ideal Phrenologist to be, the trouble would be so slight, and the labour undertaken so willingly, that its mastery would be speedily assured.

* * * * *

For further information upon Phrenology, students should read "Combe's Elements of Phrenology," "Combe's System of Phrenology," and any works by Drs. Gall, Spurzheim, Hollander, and Vimont. A large amount of information is also given in papers now defunct, as the "Edinburgh Phrenological Journal," "The Popular Phrenologist," etc. All the volumes of the latter publication can still be obtained of Mr. Severn, of 68, West Street, Brighton. A library of phrenological works is also available at the offices of

the British Phrenological Society, 65 & 66, Chancery Lane, for the use of members and associates. Membership of the Society, subscription, men 10s. ; women 5s. annually, will secure the advantages of the library, as well as opportunities for the practice of phrenological methods. A request to its secretary for information will receive prompt attention.

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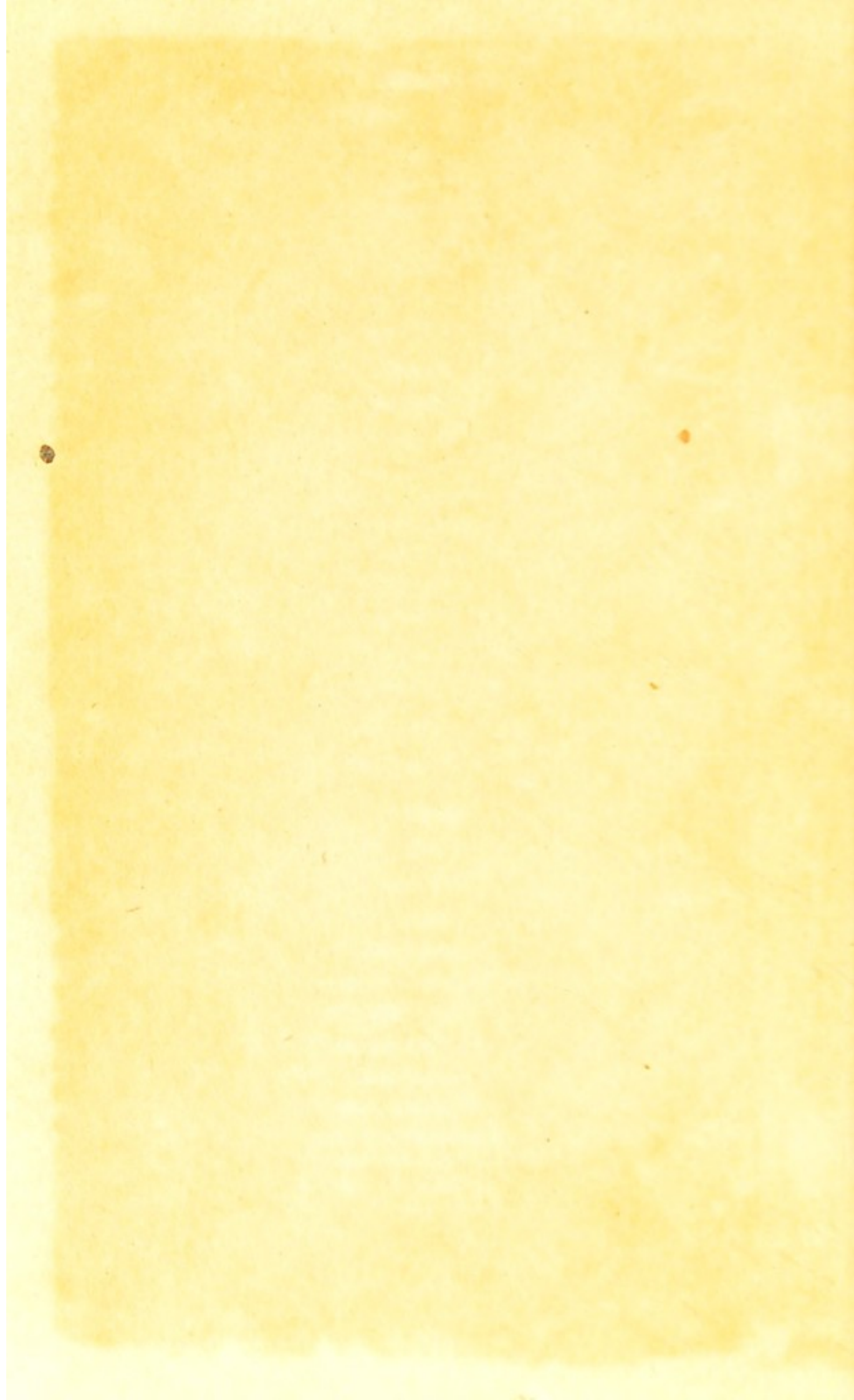
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