Applied psychology; or, Faculties of the mind.

APPLIED PSYCHOLOGY

JOHN WM. TAYLOR

APPLIED PSYCHOLOGY

OR

FACULTIES OF THE MIND

Faithfully Yours
J. W. Taylor

Frontispiece.

APPLIED PSYCHOLOGY

OR

FACULTIES OF THE MIND

By

JOHN WILLIAM TAYLOR

Professor of, and Lecturer on, Mental Science and Hygiene
Honorary Doctor of Phrenology (N.C.)
Diplomas of the Fowler Phreno. Institute, and of the British Phreno. Society Incorporated, London, etc.

AUTHOR OF
THE "HYGIENE PHYSICIAN," THE "UNIQUE SELF-TEACHER,"
THE "REVISED 20TH CENTURY PHRENOLOGY," ETC.

Illustrated

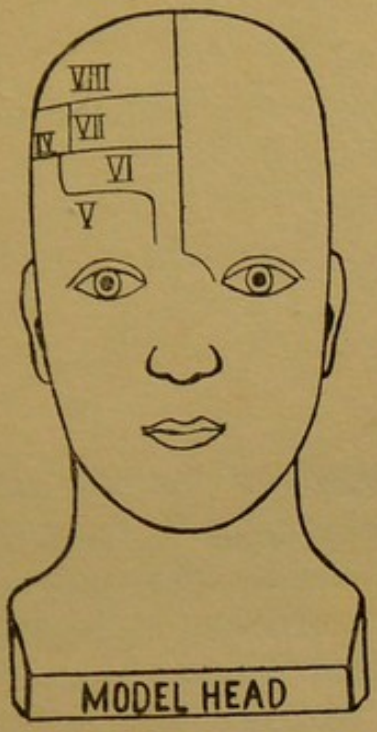
WITH NUMEROUS RECORDS FROM ACTUAL EXPERIENCE
AND CHARACTER SKETCHES FROM LIFE

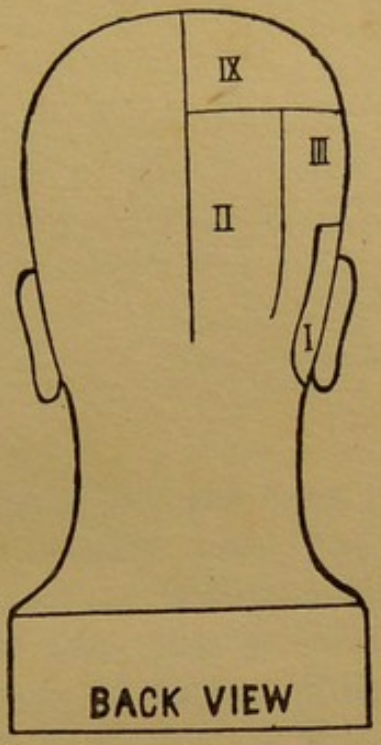
"My rule is deliberately to consider, before I commence, whether the thing is practicable. If it be not practicable I do not attempt it; if it be practicable, I can accomplish it, if I give sufficient pains to it; and, having begun, I never stop till the thing is done."—DR. HUNTER.

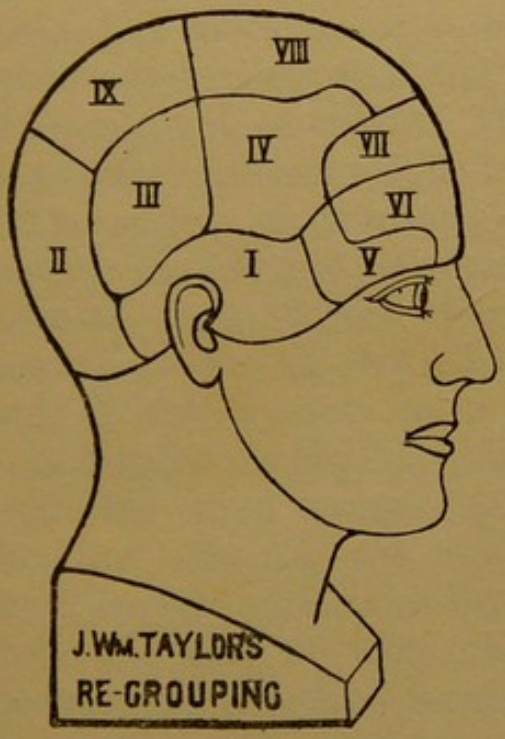
London
L. N. FOWLER & Co., LUDGATE CIRCUS, E.C.

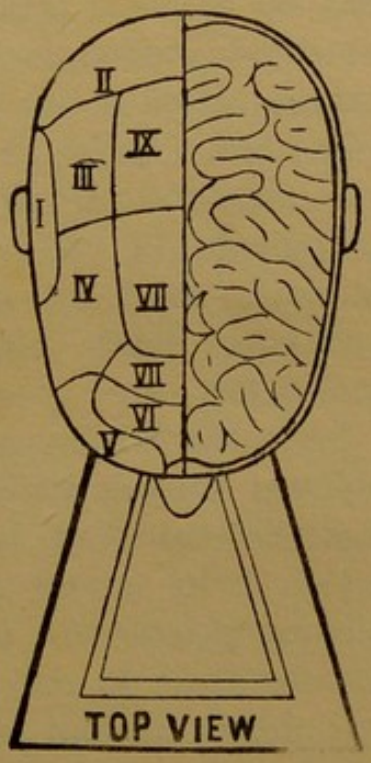
Morecambe
J. W. TAYLOR & Co., SKIPTON STREET

[1912]









PREFACE

THE Author ventures to suggest that no one who is thoroughly acquainted with the principles and proofs of what may be justly termed *Synthetic*, as distinguished from mere *Analytic*, Phrenology will deny that it forms the most concise and complete system of mental philosophy and practical psychology in existence. All the actual evidence of modern experimental research, as the writer has endeavoured to point out elsewhere, tends to prove conclusively that the brain is not a single organ, brain-segment, or centre. The writer's defence and reply to adverse criticism will be found in the introduction.

The system of psychology revealed by Phrenology is greatly in advance of that taught by Lock, Dugald Stewart, and others. For example, their primitive mental powers of Perception, Memory, and Judgment were, in truth, properties of several powers of the mind.

According to physiological and phrenological psychology, the mind consists of at least forty-two distinct faculties. Indeed, the evidence in favour of a forty-third faculty appears to be, thus far, reasonably conclusive. It may be truly said that one of their mental powers was a mental faculty of the highest order, i.e., Imagination (Cogitativeness), to which Dr. Spurzheim gave the name Ideality, not only because he considered it to be the source of all the ideal and æsthetic, but also because *its special desire is for advancement*—the faculty which is the source of all improvement—the very origin of progress and civilization. Chapters II., III., IV., and V. contain a Review of certain facts and various speculations relating to Evolution.

Twenty-five years' experience as a public and private demonstrator, in the scientific application of the principles laid down in this work, has led the writer to the inevitable conclusion that each brain-centre and its corresponding function is found to be strong or weak, normal or abnormal, healthy or diseased together, so that if the brain were a single centre each man's mind would vary only with the general size, quality, and health of the brain, whereas there are no two minds alike. This is conclusively shown by the study of different kinds of memory, corresponding with differing degrees of mental development.

There can be little or no doubt but that most thinkers and observers are agreed that the primary aim of education should be to assist the individual to make the best possible use of his natural gifts. This most desirable state of things, however, can never be brought about whilst we continue to treat most children as if they were so many stones or logs of wood used in the building of a school, possessing similar degrees of ability. Obviously, a system of education which treats most men as though they were equal in mental power or possessed of the same inherent capabilities must, to say the least, result in partial failure. In the light of past experience, the evidence seems to indicate that to achieve the greatest results man must be educated in harmony with his organization. Therefore, the first step necessary towards this end is to educate our children phrenologically.

The physical scientist has now entered the school for the purpose of inspecting the eyes, ears, teeth, and the general physical condition of the children, with more or less happy results, and the general good of the community. The mental scientist is likely to follow, in due course, for the purpose of estimating their relative degrees of mental capacity, etc. "A place for everything, and everything in its place," is an excellent maxim for the home, the place of business, the workshop, and the study. A place for every man, and

every man in his place, is equally excellent for the real happiness and advancement of the human race.

The writer takes this opportunity of expressing his sincere thanks to his critics and the profession generally for the very flattering reception accorded to his "Revised Twentieth-Century Phrenology," and the general appreciation of his Illustrated Lectures and Demonstrations given in various parts of England and the North of Ireland. Apparently these have, to a certain degree, revived interest in the application of Applied Psychology or logical and scientific Phrenology to the choice of vocation; in its utility as a guide to life's calling; its revelation of talents or special gifts; and its aid in selecting suitable partners for marriage; and accordingly has led to repeated requests for a new text-book, giving fresh light on these matters, from the standpoint of the practical demonstrator.

JOHN WM. TAYLOR.

MORECAMBE, JUNE 8th, 1912.

CONTENTS

LIST OF ILLUSTRATIONS

APPLIED PSYCHOLOGY

OR

FACULTIES OF THE MIND

CHAPTER I.

Introduction.

THE strange misunderstanding, and even gross ignorance, that prevails in regard to the progress which has recently been made in mental science, or the actualities of modern physiological and phrenological psychology, amongst those who ought to know better, is a most deplorable state of things.

Surely it cannot be the result of any innate dishonesty, or lack of intelligence in its practitioners, or want of sympathy for those who are engaged in this department of humane effort for the uplifting of humanity. After due consideration thereon, the writer has arrived at the conclusion that it is mainly the result of prejudice, superficial observation, and lack of careful reflection; and partly to insufficient time for thorough systematic study, and the weighing of evidence, combined with a greater or less degree of indifference about the truth.

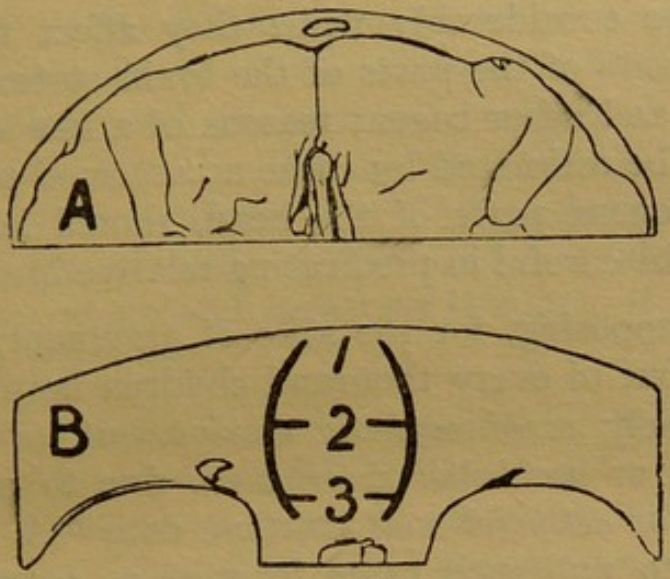
Apparently, this aptly illustrates the attitude of mind of "A. Ma.," the author of the article on Phrenology in the 11th Edition of the Encyclopædia Britannica. He

seems to be better acquainted with the various opinions expressed on Phrenology, by more or less eminent authorities in their own particular line, than with its recent scientific development, and successful application, in the direction of self-culture; the training of the young; the choice of vocation; the selection of a life-partner; the selection of servants; the treatments of criminals, and so forth.

He may be an Art Master or a Master of Arts, but it is absolutely certain that his practical knowledge of Phrenology leaves much to be desired, as is proved by the following quotation:

"Psychology, Physiology, and experience alike contribute to discredit the practical working of the system and to show how worthless the so-called diagnoses of character really are. Its application by those who are its votaries is seldom worse than amusing, but is capable of doing positive social harm, as in its proposed application to the discrimination or selection of servants and other subordinate officials."

How then does "A. Ma." account for the fact that during the last twenty-five years, in which the writer has given over 5,000 public test phrenological diagnoses of character and ability, amongst all sorts and conditions of men, women, and children, no one has come forward and made any real attempt *to discredit the practical working of the system*? [Further, how can *Phrenology be capable of doing positive social harm,* if *it is seldom worse than amusing*?] As indicated elsewhere in this work, "A. Ma." states that the localization of function is universally admitted by physiologists, and even quotes Herbert Spencer in defence thereof. But for all that, he gives himself completely away in his observations relating to the old frontal sinus bogey, which must have been exploded before, or soon after, he was born.



A—The interior, and B—the exterior, of the skull.

A.—The position of the frontal sinus is indicated by the small space between the inner and the outer plates of the skull, below which the brain extends downward about one inch.

B.—The outlines in the centre of the skull denote the relative size of the frontal sinus. The position of figure (1) indicates that both the plates of the skull, including the space of the frontal sinus, measure in thickness $\frac{1}{4}$ of an inch; (2) $\frac{3}{8}$ of an inch; and (3) rather less than $\frac{1}{2}$ an inch.

The qualified phrenologist, of course, is quite aware that the relative thickness of the frontal sinus, in different individuals, varies in proportion to the general development of the bony system, and naturally he allows for this in making his analysis and synthesis of character accordingly. Ordinary European skulls vary from one-eighth to the third of an inch in thickness. Occasionally, however, skulls are to be found that are only as thick as ordinary brown paper. Whereas heads differ in size from nineteen to twenty-four inches in circumference, these differences cannot be accounted for by the relative thickness in different skulls.

In his summing up, however, "A. Ma." asserts that he "has found such displacements in extremely scaphocephalic skulls; the same is true of accidental deformations due to pressure on the infantile skull before it consolidates. Artificial malformations alter the apparent

skull-shape considerably while they affect the relative developments of the parts of the brain cortex but little. All these and other cogent reasons of a like kind, whose force can be estimated by those accustomed to deal with the component parts of the head, should lead phrenologists to be careful in predicating relative brain-shape."

Now, supposing, for the sake of argument, we admit that one out of every thousand children born represents an extremely *scaphocephalic development*, or some displacement or *accidental deformation* due to pressure on the skull, or *artificial malformation*, does "A. Ma." wish seriously to put such cases forward as cogent reasons against the strong possibility of being able to form an accurate judgment on the 999 normal cases in a thousand whose brain-shape, in a most striking degree, corresponds to the general configuration of the skull? If he does, the facts of experience are against his assumptions. The expert phrenologist is usually quick to discern the abnormal from the normal mental state or condition, and judges accordingly. If he really means what his words imply, they contain neither fact nor argument against the foundation principles and practice of phrenological psychology.

Would that our critic's humility had been as great as his ignorance of the utility of Phrenology! His loss in knowledge would have been more than compensated by his gain in virtue. When again he essays to cross swords or pens with phrenologists, let him be sure that his blade is keen, that his logic is conclusive; know his subject, else be—silent! He should remember the crushing rejoinder of Appelles, the painter, to his critic—"Let not the shoemaker go beyond his last"; i.e., let no one meddle with what lies beyond his range.

In the article on Psychology, in the Encyclopædia Britannica (11th Edition, Vol. 22, p. 584), the writer thereof says:—

"In defining Psychology, however, the propriety of

avoiding the terms *mind* and *soul*, which it implies, is widely acknowledged; mind because of the disastrous dualism of mind and matter, soul because of its metaphysical associations." This theory may do very well for what may be termed vague or introspective psychologists, but for scientific phrenologists, or physiological psychologists, acute and sagacious thinkers, it can never be really satisfactory.

It may be asked, "What is matter?" and we may answer, "Never mind," and "What is mind?"—"Never matter!" First, there must be mind or thought, and then the thing. Therefore, mind and matter can never, in a scientific sense, be considered as synonymous terms. Hence, the inference is "that organic structures are not the result solely of material processes," that the mind flows into the material senses, and perceives, through them, what is impressed thereon by actual experience; and this, of course, involves the idea of mental direction, and in this way we add to our store of knowledge. Therefore, the writer wishes to frankly acknowledge that he is a dualist in the sense of being fully persuaded that mind is distinct from matter. It has been very aptly stated that "All appeals to our five senses are but the ringing of the house-door bells." The same rule applies to other instincts or faculties.

Even the atom, which for ages was thought to be an indivisible material unit, has now been invaded by the searchlight of modern science. The new elements of radium and radio-activity have completely exploded the theory which has held the field for 2,000 years. The atom, so-called, is now known to be a mass of electrons, and these electrons, it is suggested, "may consist of condensation of *nuclei* in the ether." It was, therefore, not at all surprising to learn that Prof. J. J. Thompson, in his presidental address to the British Association at Winnipeg, in August, 1909, said that "in all probability matter is composed mainly of holes." It must be very

discouraging to the old school of materialists to learn that their bedrock or foundation theory is now proved to be a mere delusion.

Now, notwithstanding the writer's general appreciation of Mr. Combe's work as a phrenologist, as is indicated in Chapter VI. of this work, he finds himself in agreement with Dr. James L. C. Carson's criticism of Combe's views on Materialism, wherein he states: "It is greatly to be regretted that Mr. Combe held the opinions which he did on materialism and kindred subjects, as the progress of Phrenology has been immensely retarded by their promulgation. They have made the religious public look with extreme suspicion on the entire question. This is hardly to be wondered at. But still the public cannot be justified for rejecting Phrenology on such grounds, because the obnoxious sentiments are not, in any instance, *necessarily* phrenological, but result from Mr. Combe's peculiar views."—"The Principles of Phrenology" (p. 12).

A.—Mr. Combe thought it was of no importance whether God had made a brain to think or a mind to think, because He could make the one immortal as readily as the other. This, of course, is merely begging the question. It is not a question of what God *could* do, but what He *has* achieved, in the works of Creation, which concerns us. It seems somewhat curious that Combe failed to perceive the fact that the arguments he used in relation to the nature of *mind* were equally conclusive in regard to the existence of mind.

B.—In regard to observation, amongst other things, Combe said: "No eye can penetrate the integuments of the head to obtain a view of the operations performed by the brain." No one will attempt to disprove this statement of fact, but this does not in the least affect the proposition that the brain is the organ or instrument of the mind, and that character and ability may be inferred therefrom. Indeed, his own records of mental

phenomena or manifestations of mind form a striking proof in defence thereof.

C.—Mr. Combe admits the existence of mind, and yet he asserts, "The solution of this question (materialism) is not only unimportant, but impossible." It may have appeared to be impossible of solution from his point of view, but that does not make it so. Because, he further says, "All our knowledge must be derived from either consciousness or observation, and as no other modes of arriving at certain knowledge are open to man, the solution of this question appears to be placed completely beyond his reach." Obviously, observation is the only sure foundation of physical science, but this fact does not exclude the possibility of either reason or Revelation as a mode of receiving information regarding a future state or the existence of a Supreme Mind in the universe. To assert that there are no other modes of arriving at certain knowledge open to man, other than consciousness or observation, implies a disposition to ignore the claims of Revelation, but the fact remains that it cannot be argued under either of these headings. That being so, Mr. Combe, according to his own showing, believed in the nature of mind without evidence; to put it in another form, to be truly consistent, he could not obtain certain knowledge from it on any subject, because he could not admit the existence of mind!

It is not within the province of Phrenology to demonstrate the immateriality of the soul, for that justly belongs to the domain of Revelation. The moral aspect of Phrenology, however, is strongly opposed to materialism.

In the introduction to the "Revised Twentieth Century Phrenology," the writer stated, amongst other things, that his programme was by no means completed; that, for a little while at any rate, he should watch the fate of that very modest effort before proceeding with any

other work. Having done so for eleven years, the time seems to be opportune for this effort.

The unfortunate failure of the printers whilst the previous work was in the press resulted in serious delay in the date of publication, to say nothing of the great annoyance and loss to the writer. But the general appreciation of the work—in numerous complimentary press reviews, and a large number of letters of thanks received from more or less prominent members of the profession—has, in a measure, rewarded him for his efforts.

Apparently, thus far, no serious attempt has been made to disprove the facts and arguments used therein in defence of certain definite suggested reforms. Further, the correspondence proves most conclusively that certain crude, antiquated, and misleading names and definitions are, in the light of modern research, absolutely absurd and ought to be discarded, for the simple reason that most persons will instinctively think and argue from a name in spite of whatever may be suggested to the contrary. The five basic principles on which the Science of Phrenology rests are as under :

1.—That the varied manifestations of mind depend, in a most striking degree, upon the condition of the brain, whether the brain be regarded as the organ or the instrument of the mind.

2.—That the mind is divided into a number of distinct faculties, and the brain into as many organs, segments, or centres.

3.—That each faculty of the mind is, accordingly, manifested by a different area or portion of the brain, and thus each faculty depends upon its own particular centre.

4.—That a close correspondence exists between the quality, size, and culture of a centre and its functional power of manifestation.

5.—That all the faculties of the mind are *innate* in Man and in Animals; that man has all the primary faculties necessary for his use; and that none of his faculties are the result or creation of education, though the latter may, and does, help to evolve or develop latent talent.

In the following chapters abundant conclusive evidence is given in support or confirmation of each proposition. Further, the great mental and moral contrast between Man and Animals, as indicated in the next four chapters, constitutes a strong argument in favour of the writer's contention that analogy with animals should and ought to be withdrawn from Phrenology.

As the writer endeavoured to point out in the "Revised Twentieth-Century Phrenology," our language was not intended for any mental analysis so condensed as that which is required by the recent developments of phrenological psychology; and yet we are obliged to keep to the rules of the dictionary, and must exercise great care to avoid error as far as possible. An important issue is raised by the change in the nomenclature, namely: it is not a question of what the specialist can do with each faculty considered separately, but what the average man does with them in combination. To be either a first-rate phrenologist or psychologist a man must unite practical experience and systematic research with intelligent theory. O. S. Fowler, in his great work, "Life: its Factors, Science and Culture," made an attempt to improve the nomenclature; but, like his predecessors, he left the subject in a most imperfect and unsatisfactory condition. Therefore a new work giving not only a more detailed analysis of the functions of the mental faculties, but also a more precise and connected synthesis thereof is, in the writer's judgment, greatly needed. Hence, as no one has up to the present time undertaken anything of the kind, the writer feels fully justified in his endeavour to

accomplish that purpose. All truth, so far as we are aware, is on the side of Applied Psychology, but it wants no speculation. Fact and experiment are her handmaids. Further, the first principles of Phrenology are in harmony with the principles of established science and logic. We do not mean by this all that has been claimed as Phrenology in the past. It justly claims for itself the corroborative evidence of true science. We mean science as distinguished from speculative philosophy founded on science, but not on logic. The highest point to which the human mind seems to be capable of developing in philosophy is the deduction of effects from causes. A tree is known by its fruit. "A correct theory can obviously only exist in relation to a sound philosophy, and these combined form the base of every science." Hence the necessity of all terms used in a particular sense being clearly defined, and with as little ambiguity as possible.

I.—The writer wishes it to be distinctly understood that he has never attempted in any sense whatever to undervalue the work done by Dr. Gall, or deny what is involved in the phenomena observed and the evidence collected by him. But what many scientific phrenologists, in common with the writer, *do* contend is that the founders of Phrenology directed attention mainly to abnormal developments and deficiencies, and, of course, made a serious mistake in naming the faculties and their nerve-centres accordingly. For example, the terms *Destructiveness*, *Combativeness*, and *Mirthfulness* represent the abnormal condition rather than the normal function of the faculties in question. The writer has endeavoured to take up the work where the founders of Phrenology left it; with no desire to undo, but to complete, as far as possible, their noble work. The science is a glorious and an ennobling one. The harvest is great, but the strenuous labourers are comparatively few.

II.—It must be admitted that we have greater opportunities for studying the natural functions of the faculties

—as manifested in the average man, in his normal condition—than had the founders of Phrenology. Hence, it would be most derogatory to our profession, our education, and our knowledge, were we not greatly in advance of our predecessors. Further, the "Revised Twentieth-Century Phrenology" was written for the express purpose of drawing the attention of the phrenological profession to some of the most serious defects in the old names and definitions; and with the hope of promoting a thorough discussion of the *pros* and *cons* of the subject, before giving what may (or may not) be the writer's final decisions thereon.

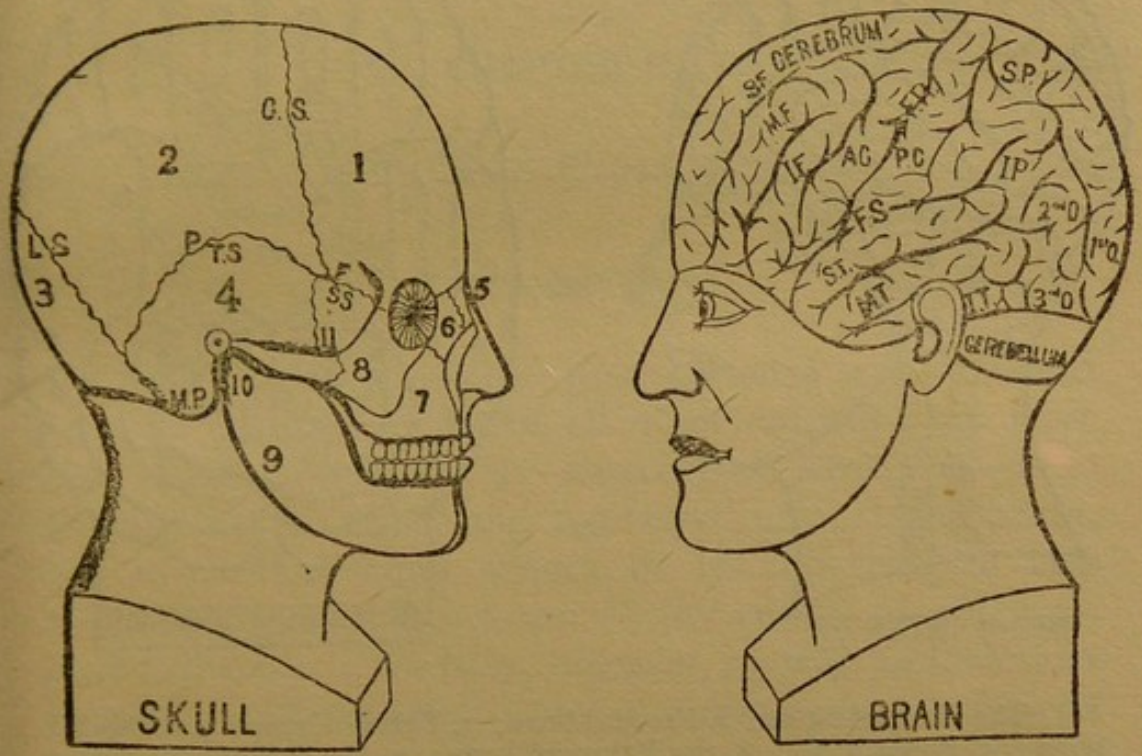
III.—In order to prevent any critic from assuming that any previous alterations in the nomenclature of the mental faculties were made merely for the sake of a change, the writer endeavoured to modify only the most misleading terms, and retain, in part, some of what appeared to be the least faulty of the old nomenclature. Surely the time has come when the entire nomenclature ought to be put into synthetical, scientific, and philological order.

IV.—In defence of the use of the suffix *ness*, the Editor of *Cross Fleurys Journal* for May, 1901, in a lengthy review of the "Revised Twentieth-Century Phrenology," put the case in a nutshell as follows: "What we have always objected to has been the use of the suffix *ness*, and particularly *iveness*. There seemed too much *hive* about the art or science, but after all we cannot but agree that *ness* expresses a state of being, something abstract which *ion* could not convey. *Nes* or *nysse* in Anglo-Saxon—German *niss*—represents a prominent quality, exactly as does the nose the face, the name of which organ springs from these same Teutonic roots. A tendency towards a certain principle on the part of a vivative power can only be explained by *ness*."

V.—The writer has given much attention, time, and thought to the study of names and definitions, and feels justified in presenting the results of his labours and

researches to all progressive students of mental science, until superseded by a more c mplete and perfect arrangement ; and propounds the revised analysis and nomenclature of the faculties of mind to be accepted, rejected, or improved, as new words come into existence, or as occasion requires.

Lastly, but not least, according to Ferrier's experiments, the destruction of certain area of an animal's brain is followed by a loss of perception of danger, and so on. Indeed, the whole inference from the following anatomical details are in favour of the five basic principles on which Phrenology rests.

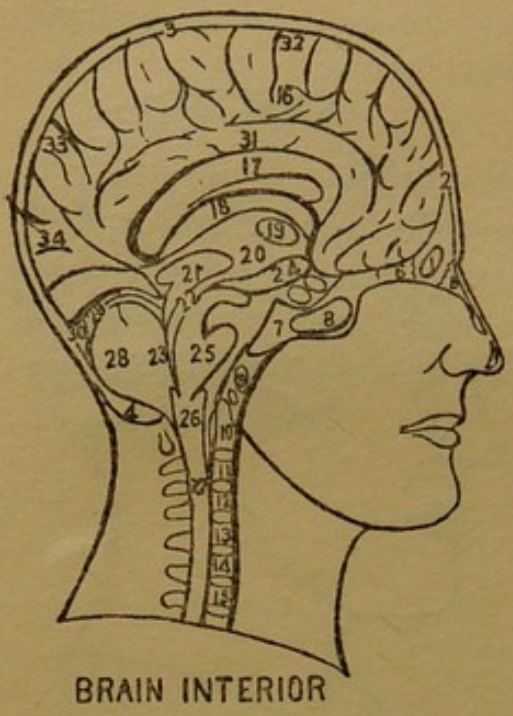


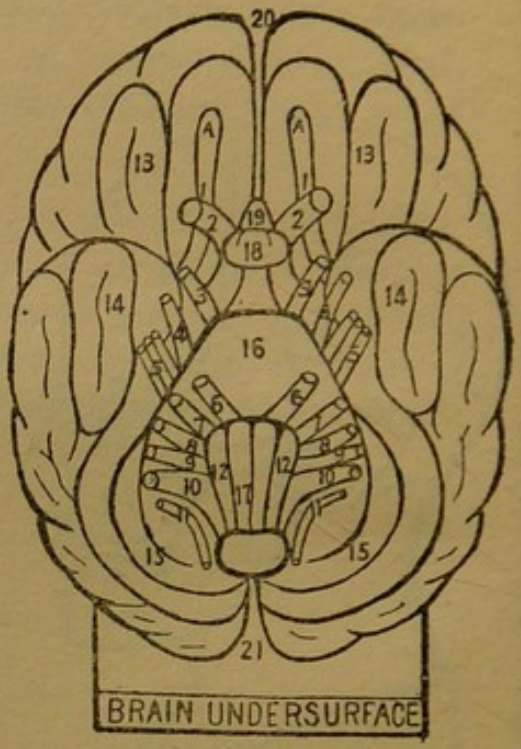
1, The Frontal bone; 2, the Parietal bone; 3, the Occipital bone; 4, the Temporal bone; 5, the Nasal bone; 6, the Lachrymal bone; 7, the Superior Maxillary bone; 8, the Malar bone; 9, Superior Maxillary bone; 10, the Condyle of the lower Maxillary bone; 11, the Great Wing of the Sphenoid bone.

C.S., the Coronal Suture; L.S., the Lambdoidal Suture; P.T.S., the Parieto-Sphenoidal Suture; M.P., the Mastoid Process.

The Brain.

S.F., the Superior or First Frontal lobe; M.F., the Middle or Second Frontal lobe; I.F., the Inferior or Third Frontal lobe; S.T., the Superior Temporal lobe; M.T., the Middle Temporal lobe; I.T., the Inferior Temporal lobe; 1st O., the First Occipital lobe; 2nd O., the Second Occipital lobe; 3rd O., the Third Occipital lobe; S.P., the Superior Parietal lobe; I.P., the Inferior Parietal lobe; P.C., the Posterior Central lobe; A.C., the Anterior Central lobe; F.R., the Fissure of Rolandow; F.S., the Fissure of Silverous.





1, The Frontal Sinus; 2, Frontal bone; 3, Parietal bone; 4, Occipital bone; 5, Nasal bone; 6, the Ethmoid bone; 7, the Sphenoidal bone; 8, the Sphenoidal Sinus; 9, the Atlas Vertebra; 10, Odontoid Process of the Axis Vertebra; 11, the third Cervical Vertebra; 12, the fourth Cervical Vertebra; 13, the fifth Cervical Vertebra; 14, the sixth Cervical Vertebra; 15, the seventh Cervical Vertebra; 16, Inner Surface of the Left Hemisphere of the Cerebrum; 17, the Corpus Callosum; 18, Fornix; 19, Middle Commissure; 20, the third Ventricle; 21, Corpora Quadrigemina; 22, Aqueduct of Silvius; 23, fourth Ventricle; 24, Pituitary Body; 25, Pons Variolii; 26, Medulla Oblongata; 27, Spinal Cord; 28, Cerebellum; 29, Tentorium Cerebelli; 30, Blood Sinus; 31, Gyrus Fornicatus; 32, Marginal Gyrus; 33, Precuneus; 34, Cuneus, etc.

Brain Undersurface.

1, Olfactory Nerves, with bulbs (A); 2, Optic Nerves; 3, Common Motor Nerves of Eyeball; 4, Pathetic Nerves to upper Eye Muscle; 5, Trifacial or Trigeminal Nerves; 6, Abducent Nerves of Eyeball; 7, Facial Nerves; 8, Auditory Nerves; 9, Glosso-Pharyngeal Nerves; 10, Pneumogastric or Vagus Nerves; 11, Spinal Accessory Nerves; 12, Hypoglossal Nerves; 13, Frontal Lobe; 14, Temporal Lobe; 15, Cerebellum; 16, Pons Variolii; 17, Medulla Oblongata; 18, Pituitary Body; 19, The Infundibulum; 20, Anterior Fissure; 21, Posterior Fissure.

CHAPTER II.

DESIGN IN EVOLUTION.

Introduction.

By whatever process the great mental and physical contrast between man and all other animals may have been caused—whether by creation or evolution—it is obvious that his animating, cogitative, critical, analytical, and synthetical mind cannot be the offspring of any animal which now exists, nor of any animal of which we have any relics. We have, however, no wish to be unjust in speaking of the lower order of animals, for, in various ways, most of them are gifted with marvellous instincts. They breathe, circulate their blood, digest food, and carry on most of the processes and functions of life; or, in a less degree, feel sorrow and joy, hate and love, as we do. Indeed, there seem to be a general unity, and a perfect chain of life on earth in regard to the composition of matter. Every creature indicates the handiwork and skill of the same Artist. The same Intelligence has formed and still sustains all things on the same general lines.

Mind and matter are governed by general laws and principles; localization of function is the universal law of nature; and analogy is the law of life and matter. Analogy, no doubt, is frequently confounded with similarity, but the latter, correctly speaking, denotes general resemblance; the former implies a general difference, with a likeness in one or more particulars. For example, between the wing of a bat and that of a

blackbird there is analogy, but no actual similarity; on the other hand, there may be a striking similarity between certain things, and yet no connection whatever.

1.—The Animal Characteristics.

All animals may be classified, for practical purposes, into three main groups as follows: (*a*) the structureless atom or one-celled creature termed *Protozoa*, which does not possess a bodily tube-space or cavity; (*b*) the *Cælenterata*, which possess a structure or bodily cavity; and (*c*) the *Cælomata*, embracing the echinoderms and all animals up to man, which possess a digestive cavity quite distinct from the general bodily cavity.

Edward Clodd aptly says: "Tabular forms are convenient for clear presentment, but their hard and fast divisions are apt to be mistaken for real lines of separation, whereas several sub-kingdoms merge one into the other, like the colours of the rainbow." The following quotation from the same author is worthy of careful attention: "Any consecutive arrangement can only broadly indicate the relative order of the several life-forms, because development has not proceeded in direct line—e.g. the ant, which belongs to the anthropoda, is the highest of all invertebrates; but it is not therefore most nearly allied to the lowest vertebrate."

Protozoa.

The lowest animal of this group is a very minute and slimy colourless mass possessing no specific organs for exercise of specific functions. Apparently, it contains no trace of a brain or nerval system.

The functions of all living things are naturally threefold: Nutrition, reproduction, and purpose; and all are performed by the organless moneron or protozon; that is to say, it absorbs food and oxygen anywhere; in other words, it breathes and digests its food, as required, all over the surface of its body.

Cœlenterata.

The tube-spaced-bodied animals are composed of two layers of cells, more or less modified. They are of very low organization, their mouth opening into the bodily cavity. They possess neither vital organs nor separate glands for absorbing and assimilating food, and conveying away refuse matter.

2.—The Function of Nerves.

The function of the nerval system is to bring every organism into harmonious relations with its surroundings, the nerves being the actual media of communication between the brain and every physical movement, and also between the body and the external earth or universe.

(*a*) Every portion of an organism is made up of cells, the functions of which govern their configuration. The origin of nerves appears to be due to a modification in cell-formation. The surrounding medium of various cells, apparently, determines their shape and limits; and further, owing to their very fine and exquisite structure, they are easily stimulated and, therefore, readily become responsive to the unceasing activity of external conditions, resulting in modifications or structural changes, of ever-increasing complexity, into nerve-cells, nerve-fibres, and brain-cells, as progress is made in the scale of being.

(*b*) Cell-modification applies to the entire body—to sinew, cartilage, and bone, equally as to the countless millions of nerve-cells and nerve-tissues that enable us to keep in touch with the laws of the universe.

"But," says Edward Clodd, "easy as it is to dissect and describe the nervous mechanism, the nature of the connection alike between nervous impulse and consciousness in man, and between sensation and contractile action in a moneron, remains an insoluble mystery."

The Advance in the Organism.

The infinitely small in nature is as profound a mystery and as difficult to grasp as is the infinitely great. Indeed, the ultimate analysis of the atom or cell is more difficult to define and equally as complex as are the dimensions and motions of the vast planets in the heavens.

The wings of the insecta, "cut into," have evidently been slowly developed from organs that in their origin were for breathing in the air, as occasion required, and that ultimately became proficient organs of flight, when the creature finally quitted the water for the land. The process of development, here as elsewhere, must have been very slow and gradual.

Numerous animals pass through well-defined changes in their march of progress. In the egg, for example, the food-elements of which, as a rule, suffice to meet the needs of development, very marked changes occur. When the food-supply is insufficient for the creature's needs, it may be observed to quit the egg-shell in an immature condition, e.g. passing through the metamorphoses of grub, chrysalis, and imago.

(*a*) The delicacy, exquisite beauty, and perfection in the structure of insect wings make their flight even more perfect than that of most birds. The following examples clearly indicate that the infinitely small in the universe is as complex, on the one hand, as magnitude is on the other :

I.—The *caterpillar* has fifteen hundred air-tubes.

II.—The *spider* possesses six hundred teats, containing as many spinning webs.

III.—The *dragon-fly* has twelve thousand eyes, each eye possessing its own lens, cone, and rod.

IV.—The *ant* manifests a great degree of intelligence and a variety of functions, viz. : its marvellous dexterity in the adaptation of means to ends ; its wonderful commonwealth and division of labour ; its political and

industrial methods of work, embracing farmers and miners; its defensive and aggressive fighting section; its slaves; its burial customs; its nurseries for weaklings, pets; and so forth. These striking features place it vastly above the ape in the rank of intelligence, and second only to man.

(*b*) Complexity and mental acuteness being the result of a predominant nerval organization, not of size only, mental, not mere physical development indicates the rank of any and every organism; in other words, the degree of intelligence is proportionate to the development of the nerval system, and especially its controlling centre, the brain, in comparison with the rest of the system.

(*c*) The more intelligent the creature, the longer the period of infancy, for in all cases where there is a highly complex nerval organization, its specialization continues after birth; on the contrary, when a creature is endowed with a very low degree of mental capacity, all the nerval connections of its system are practically developed before birth, and thus it begins life better equipped for its needs, and, accordingly, less dependent upon its parents. This independence of parental influence, however, seems fatal to its mental advancement.

The ant, in common with the bee and the wasp, has to pass through a comparatively long grub-life; this, to some extent, may account for its complex organization and highly cultured social instincts, which have had almost unmeasured time for their complete development. The ant seems to have reached its limit of development long ages ago. This cannot be said of man.

3.—The Vertebrates.

This brings us to the last and most important division of animal life: the sub-kingdom of all back-boned creatures, including man.

Professor Cope says that "the simplest expressions

which shall cover all organs are the solid segment, the hollow sac, and tube."

The back-boned animals have organs and parts as do earth-worms, and in a greater or less degree pass through similar grades of structure. Practically, all invertebrates, with the exception of the lowest, consist of a single cavity containing the vascular and nerval systems alike in common; and further, they possess a sort of hardened skin, which is termed an *outside* skeleton.

(*a*) The vertebrates, in contrast with invertebrates, consist of two cavities or tubes, enclosed in an *inside* skeleton, the lesser of which contains the brain, the central portions of the nerval system, and the spinal cord, and the larger of which contains the organs of digestion and assimilation, and the vascular system. The back-bone or spine, which separates these two sets of cavities, is perhaps the most important part, and is made up of jointed vertebræ or bones, bound together by very tough ligaments covering the entire length of the vertebral column, but between the bones of the vertebræ there is a certain amount of cartilage or gristly substance, which gives flexible action and allows not only free and easy movement to the whole column, but serves to break the shock whenever sudden force or pressure is applied to the spine. The wonderful convenience of this intelligent arrangement is observed in the free and easy movement of fishes, as they dart in every conceivable direction in the water, and in the skilful performances of many other animals.

(*b*) The vertebrates, like the anthropoda and annelida, in the structure of which one segment is put behind another, are bilaterally symmetrical; but apparently the juncture of the lines has been somewhat obscured by structural modification or overlapping muscles, as is shown in the formation of the skull.

(*c*) The body of insects and the crustacea is classified into a threefold division of head, chest, and belly. The

analogy with regard to the limbs of various creatures is, to say the least, most interesting: whether as fins of fish, or the limbs of quadrupeds, or the arms and legs of man, they are always in pairs and never exceed four in number.

(*d*) These may, as stated by Mr. Clodd, "all be modifications of one type, as in the prolonged bones of the bat's wing, which correspond to our fingers." But while admitting the analogy on the one hand, it must be conceded, on the other, that there is an immense difference between man and animals. The late Professor Huxley, who taught that man was a descendant of the lower animals, made the following striking admission: "No one is more strongly convinced than I am of the vastness of the gulf between civilized man and the brutes, or is more certain that whether *from* them or not, he is assuredly not *of* them. No one is less disposed to think lightly of the present dignity, or despairingly of the future hopes of the only consciously intelligent denizen of this world." —"Human Physiology," p. 142.

(*e*) No relative description of the general features of the highest animals can possibly cover the almost numberless variety of vertebral creatures. Amongst other items, the frog has no ribs; the shark and sturgeon possess a cartilage or gristly spine; the tortoise is encased in a powerful shell.

(*f*) Then there is the striking division of vertebrates into coldblooded, embracing reptiles and most fish, and warmblooded, including some fish, as, for example, the tunny and the bonito.

"But," says Mr. Edward Clodd, "no difference in detail can obscure the fact that vertebrates are all modifications of a common type, the variations in structure being due to the difference of function determined by unlike modes of life."

Does Mr. Clodd wish to infer that the various instincts and faculties in man and animals have been brought into

existence as required by circumstance? I take it that *the difference of function determined* by unlike *modes of life*, in effect, means this.

We sometimes find strange resemblances to mankind in various beasts and birds, striking examples of which are to be found in "New Physiognomy," by S. R. Wells. Thus, by constant association with a dog, a donkey, a hog, a goose, or any other creature, a man may, to a certain degree, grow to resemble that for which he has the greatest affinity or attachment. But here, as elsewhere, the mere resemblance between two things is no proof of a connection between them.

Relative deductions, no matter to what proposition they apply, are worse than useless unless their truth be absolute. No wonder, then, that great painstaking and industrious biologist, Charles Darwin, in his "Descent of Man," p. 66, uttered the following words of despair: "In what manner the mental powers were first developed in the lowest organisms is as hopeless an inquiry as how life itself first originated. These are problems for the distant future, if they are ever to be solved by man."

In conclusion: Dr. Alfred Russel Wallace, in his criticism of Darwin's "Descent of Man," rightly contends, "The present gigantic development of the mathematical faculty (or faculties) is wholly inexplicable by the theory of natural selection, and must be due to some altogether distinct cause."

Therefore, I may state my opinion in the beautiful language of Dr. Watts, though his words were never intended perhaps to express a fact of Sociological Science, that, notwithstanding our admiration of the wonders of the animal world, it still remains peculiarly true of all creatures, apart from man, "Like brutes they live, like brutes they die."

CHAPTER III.

THE VARIATION OF SPECIES.

"The great need of the doctrine of evolution is a theory of variation."
—HUXLEY.

THUS far, apparently, no single definition of "species" has been accepted as satisfactory by all naturalists. The numerous and ever-changing variations, even amongst minute organisms, make it well-nigh impossible definitely to describe what is called species. The same thing is true, to a greater or less degree, with regard to the term "variety." When, however, a naturalist can unite two creatures by what may be termed fairly close intermediate links, such a union is defined as a "variety." Obviously, variation is a universal law of nature; indeed, it operates in every conceivable direction, and in all living things.

1.—No Two Organisms of the Same Variety are Ever in All Details Alike.

(*a*) Abundant evidence could be given in support of this obvious fact. For example: The individual members of a brood of chickens are never exactly alike, or exactly resemble either parent; and this is equally true of every human family. The same general law of nature applies to both animals and plants.

(*b*) The fact that transmitted tendencies or distinct variations tend to become permanent seems to strengthen

the idea of design in evolution. Further, it is a matter of common knowledge that peculiar innate tendencies in the parent plant or animal re-appear in the offspring. We should not, however, overlook another important fact, namely: special tendencies frequently lie dormant in the second generation, but become most acute in the third; this is a well-known fact, in regard to both virtue and vice. This is termed "descent with modification."

(*c*) By experience, man has learned to take advantage of these transmitted little differences or slight modifications to produce new varieties of animals and plants. This is illustrated, and made simple to understand, by the following examples:

I.—In Scotland in the year 1793 a white rose tree produced a red seedling. In about twenty years, by careful cultivation, the gardener obtained twenty-six varieties, and in fifty years about three hundred, all derived from one special variation. Notwithstanding all this, the flower remains absolutely a rose.

II.—Precisely the same thing obtains with regard to pigeons, of which there are over a hundred varieties. Indeed, the same general law applies to the various races of dogs, sheep, oxen, horses, and other animals.

Apparently, "natural selection" has never *originated* anything. On the other hand, neither does variation explain its own causation. A mere knowledge of how the law of variation operates upon given organisms should not be confounded with the cause of its unceasing continuity. Indefinite variation, in all directions, is evidently a distinct tendency in every living thing—from the smallest atom up to civilized man. The law of evolution would have no meaning were this not the case; that is to say, the law itself does not explain this tendency, any more than the law of falling bodies explains gravitation.

In the words of Wordsworth :

"For I have learned
To look on Nature, not as in the hour
Of thoughtless youth. . . . And I have felt
A presence that disturbs me with the joy
Of elevated thoughts ; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man ;
A motion and a spirit, that impels
All thinking things, all objects of all thoughts,
And rolls through all things."

2.—The Survival of the Fittest.

The offspring of innumerable organisms is enormously in excess of those that survive and reach the age of maturity.

There seem to be few, if any, exceptions to this rule. All the available evidence of past ages clearly indicates that great changes have taken place, during immense periods of time, producing various successive modifications, and, so far as can be ascertained, invariably resulting in the survival of the fittest or " natural selection." This method or law is most favourable for the preservation of individual differences and variations, and the extermination of those which are injurious. This unceasing change in accordance with environment, and apparently always in the most adaptive state to survive, seems to indicate creative method or design in the beginning.

(*a*) Now, if the eight to nine million eggs which the roe of a cod-fish is computed to contain all matured to adult-life, the sea would, in a very short time, become inconveniently overcrowded ! The common house-fly, among other insects which might be mentioned, is a most prolific creature, so much so that it is estimated to produce twenty-one million progeny in a season. To quote the words of Darwin : " There is no exception to the rule

that every organic being naturally increases at so high a rate that, if not destroyed, the earth would soon be covered by the progeny of a single pair. Even slow-breeding man has doubled in twenty-five years, and at this rate in less than a thousand years there would literally not be standing room for his progeny."

(*b*) Suppose, for example, a plant only produced two seeds annually, and these survived and reproduced in like number, it is estimated that they would, in about twenty years, number a million. Should the seed be allowed to multiply without any interruption for a period of about ten years, the plants therefrom would cover the entire globe.

(*c*) In the physical universe, there seems to be an unceasing struggle for food and place. Therefore, in this race, at any rate, the advantage is to the swift and the battle to the strong; the weaker, in most cases, are driven to the wall. This is illustrated by the fact that the strongest birds on the wing reach the place to which they migrate, while the weakest frequently perish in the struggle by the way.

(*d*) The struggle between the males for the companionship of the females constitutes, at least, one of the secondary causes of modification among the animal species; the result being that the most powerful males not only secure desirable mates, but, in a greater or less degree, transmit similar tendencies to their offspring. This striking fact is well illustrated by Schiller's poetry:

> "Meanwhile, until Philosophy
> Sustains the structure of the world,
> Her workings will be carried on
> By hunger and by love."

3.—Natural Selection and Environment.

Most creatures, it would seem, must either adapt themselves to their environment or be exterminated.

(*a*) Emphasis has been laid on the unceasing interaction between organisms, and rightly so, because surrounding conditions do, evidently, tend to quicken, nourish, and maintain the balance between all living creatures.

(*b*) The tendency to vary seems to be an innate function in every living thing, it being stimulated by the interplay between all creatures and their surroundings; the degree of acuteness in the sense of touch obviously determines their capacity to win in the ceaseless struggle for food and place, and their survival under natural selection.

(*c*) Evidently, most things remain in a very similar shape to what they were in the beginning; that is to say, the whole variation in ordinal type of animal structure is estimated at only about ten per cent. The fossil-yielding rocks, for instance, give no clue to the origin of the main groups; every fossil thus far discovered can be found a place in existing classified divisions. Therefore, Professor Huxley was justified in stating: "The whole lapse of geological time has thus far yielded not a single new ordinal type of vegetable structure"; and although "the positive change in passing from the recent to the ancient animal world is greater, it is still singularly small." How strikingly this fact stands out when applied to the non-progressive ape, as compared with progressive man!

(*d*) Notwithstanding all this, we are conscious (I.) that the earth is by no means rigid; (II.) that it moves through space at a rate of over sixty-eight thousand miles an hour, a most terrific speed; and, seemingly, in perfect order, as is shown in the majestic sunrise and sunset, and in the unfailing regularity with which the seasons come and go; and (III.) of the climatic changes and upheavals, and of the alterations in the earth's crust which these produced. At one epoch, at the northern pole, there appear to have been water-lilies, plants, vines,

and even oak-trees, and at another a vast quantity of impassable ice. These varied circumstances must have seriously affected the efforts of most creatures to obtain desirable food.

4.—Modifications and Natural Selection.

Now, as like mutilations, practised on certain parts of the body, through successive generations of individuals, have utterly failed to affect the particular type, obviously we are quite justified in searching for modifications in the direction of Natural Selection.

If we must judge from the relics of structure, the inference is that modifications have the appearance of being, in a measure, due to exercise on the one hand, or disuse on the other.

(*a*) "The seal," as contended by Mr. Edward Clodd, may be "the modified descendant of the land flesh-feeders; the hind-legs have been developed, while the tail remains rudimentary." The evidence, however, appears to be incomplete.

(*b*) The plant-feeding deer appears to have developed teeth for grinding rather than for tearing its food, and a large stomach for the reception of bulky food; and, also, strong horns for self-defence.

(*c*) On the other hand, the flesh-feeding lion possesses great muscular strength, combined with powerful teeth and claws, adapted for attacking and tearing its prey.

(*d*) In these, and other animals, we perceive certain developments which, in their primates, were, in all probability, almost stagnant. The teeth, digestive organs, and limbs have, in a slight degree, been modified, but apparently there has been no development of structural organs of attack or defence.

5.—Brain-Power and Mental Acuteness Have Evidently Outwitted Mere Brute Force.

There appear to be good grounds for believing that the energy of plant-feeders, during the infantile period of animal development, became stored in the muscle; and in due course, in the primates, it was diverted to the formation of brain, the medium for the intelligent manifestation of mind, and, finally, of real consciousness in man.

Mr. Edward Clodd seems to think that from "the shambling gait of the man-like apes* others developed a mode of walking on the hind-limbs which entirely set free the fore-limbs as organs of support, and enabled them to be used as organs of handling and throwing. Whatever were the conditions which permitted this, the advantage which it gave is obvious. It was the making of man" (!)

If that be so, how is it that the ape has made no actual progress mentally for thousands of years? What evidence is there to support the mere assertion that *a mode of walking on the hind-limbs*, as practised by certain apes, *has entirely set free the fore-limbs as organs of support*? But to assert therefrom that *it was the making of man*, without adducing a scrap of either scientific data or logical argument in defence thereof, is, to say the least, most unsatisfactory and unscientific. It is, however, interesting to note that, although Mr. Clodd considers "the structural differences between man and the highest apes are insignificant," he admits "the impassable chasm lies in his larger and more complex thinking apparatus."

* "A Primer of Evolution," p. 126.

Professor Huxley says: "The *differences* between man and the highest apes are *great and significant*; every bone of the gorilla bears marks by which it may be distinguished from the corresponding bone of a man; and in the present creation, no intermediate link bridges over the gap between *homo* and *troglodytes*."—"Human Physiology," p. 140. These are weighty words, coming, as they do, from so great an authority on anatomical differences. Time and space will not allow, for the present, any further details.

(*a*) Now, as to Mr. Clodd's deduction "that the completely erect posture was acquired relatively late is shown, among other ways,* in the crawling of the infant on all-fours long after birth, and in the preference of adults for sitting," I must confess my inability to perceive any truth in this deductive assumption. As already stated elsewhere, mere relative deductions, no matter to what proposition they apply, are worse than useless unless their truth be absolute. The gorilla, like the chimpanzee and orang-outang, is a fruit-eating animal, and lives mainly in trees, on whose fruit it subsists. There is practically no evidence to the contrary. Precisely the very opposite is true of man; that is to say, with few, if any, exceptions he is not a tree-living animal. The deduction, in the light of the actual facts of the case, will not hold good; indeed, the deduction in question is based upon a false assumption.

In other words, the mere similarity of the *crawling of the infant* to the gait of the ape, put against the general differences between man and monkey, proves nothing.

(*b*) The *interaction* of *man's brain and hand* must have been a most important factor in his physical and mental advancement. Further, with regard to the claim that the enclosed foot of civilized man has, to a certain degree, lost its flexibility, there can be little or no difference of opinion. In all probability he could regain it.

* "A Primer of Evolution," p. 126.

THE CHIMPANZEE
(Troglodytes Niger).

THE GORILLA
(Troglodytes Gorilla).

THE ORANG-OUTANG
(Pithecus Satyrus).

I.—The *Chimpanzee* can only stand erect by clasping its hands above its head, and moves along on all fours, with the back of its closed fingers on the ground.

II.—The *Gorilla* has a heel, and therefore can stand upright with greater comfort than other apes; but this attitude is by no means common, owing to the comparative deficiency of some of the most important muscles in the back, hip, and thigh, which in man give strength to maintain the erect position, and keep the thigh, as required, straight with the back. The same thing is true with reference to the nature of the lower limbs.

III.—The *Orang-Outang* moves about in the boughs of a tree with perfect ease, but on the ground it hobbles on all fours in a most clumsy manner. There is, of course, some analogy between man and monkey, but there are also many striking differences in the comparative anatomy, to say nothing of the enormous mental chasm. It is, however, in the temperament, the brain capacity, and the superior and complex mind, rather than in the general skeleton, that the greatest differences between man and monkey are to be found. Still, judging from the slow and slight variation in ordinal types, I venture to think that it would require, at least, twenty-five birth-changes or distinct variations in the skeleton of the ape, by natural selection or otherwise, to make it harmonize with that of man.

The writer's best thanks are due to the Gresham Publishing Co., London, for their kindness in reproducing and supplying the illustrations of the Chimpanzee, the Gorilla, and the Orang-Outang from their magnificent work, "The Imperial Dictionary."

(*c*) Obviously, Darwin was reasonably justified in his contention that it was not possible to describe the difference between the savage and civilized man. So far as we have been able to ascertain, there seems to be an absolute likeness or similarity both in regard to the innate nature and to the number of fundamental instincts or faculties. The apparent difference is only in degree of capacity and culture.

(*d*) I will conclude in the words of Dr. Dallinger: "That Science, which has transformed the face of the world in fifty years, may be able to demonstrate the actual physical line of man's origin. But if that be so, if the line along which man's physical nature was moulded of the dust of the ground, by the Creative Mind and Will, were made so plain that none could refuse the evidence, it may leave undisturbed our mental peace, and unaltered our conviction of the dignity and majesty of man. It would leave our responsibilities undiminished, and our rights unfringed, and our hopes unclouded."

CHAPTER IV.

THE EVOLUTION OF MIND.

Introduction.

No matter whether the brain be regarded as the origin or the instrument of the mind, the results of my labours in mental research enable me to assert without any fear of contradiction that the varied manifestations of mind, in a most striking degree, depend upon the condition of the brain. Further, the once-ridiculed idea of the possibility of the localization of special functions, in definite areas of the cerebral cortex, is now an established fact, being the result of a vast accumulation of actual scientific evidence, combined with the corroborative evidence of experimental physiology and human pathology.

Furthermore, the phenomena of mind are just as capable of physical demonstration and explanation as the phenomena of the various elements of carbon, hydrogen, oxygen, and nitrogen, existing alike in the mineral, vegetable, and animal worlds.

Mr. Edward Clodd rightly asserts: *"If the theory of evolution be not universal, the germs of decay are in it." The evidence in support thereof seems to be complete—as applied to the development and phenomena of mind—manifestation. Were it otherwise, evolution would indeed be a mere speculative assumption, ill-adapted to amuse or interest even the curious.

* "A Primer of Evolution," p. 148.

In that case man, who, in a moral and intellectual sense, is universally admitted to be "the roof and crown of things," would be an actual witness against their general unity. Notwithstanding this, I am unable to perceive anything, in the innate power of sensation or potentiality of the protoplasm, which may be compared with the actualities of the spirit of man. The assumption, on the face of it, involves the idea of man being devoid of a moral rule of life or a lofty motive to conduct. To attempt such a thing is to make a comparison without analogy. That man is a part of physical nature is undoubtedly true, but it is equally true that he possesses an innate consciousness of being a citizen of a non-physical state of existence. This consciousness, or absolute belief in an after-life, involves the possession of a faculty which is no part of the physical universe; or, at any rate, he is possessed of a distinctive faculty which connects him with a higher power than himself. The fact that millions of human beings do struggle to live a most virtuous and exalted life, in spite of the most terrible opposing circumstances, is truly suggestive of a First Great Cause, having infinite sustaining power, outside the range of mere physical causation.

Professor J. J. Thompson, Cavendish Professor of Experimental Physics at Cambridge, most aptly states: "Physics must stick to the physical universe. For us there are Mass, Time, and Space. The mystery is not yet solved. Reduce matter to electricity and the mystery of electricity remains."

"If," says Mr. Clodd, "there be in man any faculty which is no part of the contents of the universe, if there be anything done by him which lies outside the range of causation, then the doctrine of the Conservation of Energy falls to pieces, for man has the power to add to that which the physicist demonstrates can neither be increased nor lessened" (?) From my point of view, there is no *if* in the matter; that is to say, man does possess a faculty

which enables him, in a sense, to act outside the range of mere physical causation.

1.—The Growth of Intelligence.

(*a*) That there is a striking similarity, in the embryological beginnings of man and the lower animals, must be admitted by all who have studied the subject, and in the elements of which both are composed, and in the process of development from the egg-form to adult-life. "But," says Mr. Clodd, "some repetition of the process of mental development from the lowest life-forms to the highest is needful." Quite so! But, apparently, *the needful repetition of the process of mental development does not take place.* On the one hand, the distinct physical analogy between man and animals must be admitted; on the other, it must be conceded that in the conception of moral responsibility and the degree of mind-culture, the difference between them is one of great magnitude, thus showing that we are quite justified in thinking that an equal difference in purpose and destiny is intended, and clearly indicated. The result, then, is that analogy with the lower animals, in a psychological sense, must be withdrawn from the study of man, for the simple reason that he differs from animals in several important aspects.

The human idiot, as a rule, possesses more brain than an ape, and yet the former is incapable of making any real progress in a life-time. How, then, came sane man to entertain the idea of his spirit having evolved from an ape?

Impassable Differences between Man and Ape.

I.—Man can originate, invent, make tools, make a coat, and build a house, to say nothing of a countless variety of other buildings; the ape has never shown capacity to do anything of a similar nature. Mr. Clodd

truly says : " For if man is not the only tool-user, he is the only tool-maker, among the primates."

II.—Man can discriminate between true and false analogies ; but there is not a shred of evidence, so far as I am aware, to prove that the ape is capable of doing anything of the kind.

III.—Man can forecast, predict, and judge of the future ; the ape shows no such tendency of mind. Further differences might be named, if it were thought to be necessary.

IV.—In view of these absolute differences, which distinguish man from the ape and all animals alike, is it not high time that physiologists ceased to slice away animals' brains under the mistaken idea of discovering functions of the brain which alone belong to mankind ?

V.—In the light of the foregoing facts, how could an unconscious monkey or dog manifest a mental condition anything approaching the intelligent action of man ?

VI.—No wonder, then, that Dr. Ferrier, in summing up his work, should feel compelled to caution his followers as to their deductions from his experiment, in the following words : " The application of the results of experiment on the brain of a frog, or a pigeon, or a rabbit (or a monkey), without due qualification, to the physiology of the human brain is very questionable, and may lead to conclusions seriously at variance with well-established facts."

(*b*) The various physical organs and nerves in the animal correspond in a remarkable degree, in their function and sensibility, with those in man. In the words of Professor Huxley : " Structure for structure down to the minutest microscopical details, the eye, the ear, the olfactory organs, the nerves, the spinal cord, the brain of an ape, or of a dog, correspond with the same organs in a human subject. Cut a nerve, and the evidence of paralysis, or insensibility, is the same in the two cases ; apply pressure to the brain, or administer a narcotic, and

the signs of intelligence disappear in the one as in the other. Whatever reason we have for believing that the changes which take place in the normal cerebral substance of man gave rise to states of consciousness, the same reason exists for the belief that the modes of motion of the cerebral substance of an ape, or of a dog, produce like effects." It will, however, be observed that Professor Huxley makes no claim of mental or moral likeness between man and ape.

In a public debate at Oldham, many years ago, on the "Moral development of man," one speaker asserted, without adducing any evidence in support thereof, that education could produce talent and capacity. In reply thereto I suggested that cats, and dogs, and monkeys should be sent to the colleges and universities.

No amount of education and training, could it be given, would ever enable a monkey to entertain the idea of insuring its life, to write a poem, paint a picture, compose an opera, play a violin or pianoforte solo, calculate an eclipse, invent and construct a locomotive, or analyse and classify the operations of its own mind, and write an essay on mental or moral philosophy. And why? Because the special brain-capacity required for such purposes is lacking.

(*c*) The most minute atoms possess no specific organs, and, therefore, are much the same all over their surface; hence, they readily respond to touch, "the mother-tongue of all the senses"; they appear to be continually on the move, and always varying and changing their make-up.

(*d*) Ascending a step higher, we perceive the formation of a layer at the surface; at this juncture, the responses to the stimuli seem to become localized, and apparently more acute, thus causing the molecules to be driven out of their position; and seemingly, with great speed, definite nerve-tracks are laid; and, in due course, the more sensitive portions of the skin are completed.

(*e*) The repetition of nerve-actions known as *natural reflex-actions* takes place in plants and animals automatically. Such are the closing of the leaves of a sensitive plant, the shutting up of a shell-fish when brought into contact with any object, the action of the heart, and breathing, and, indeed, every action which is performed unconsciously. There are also what are termed *artificial reflex-actions*; these are acquired by the exercise of our higher intellectual faculties, as thinking (of which we do too little), reading, writing, talking, and so forth.

2.—Instinct and Reason.

Instinct may be defined as an innate power adapted to perform a higher and more definite function than mere reflex-action.

Now, while it must be admitted that the various innate ideas of the mind, as of time and space, and many other things, in a greater or less degree are the result of "transmitted experiences" or tendencies, it must be conceded that many human beings have gained vastly more from personal than from *transmitted experience*; otherwise many persons who have become brilliant, mainly as the outcome of concentrated effort and industry, would have remained, in more senses than one, very dense and dull. Therefore, the assertion, put forward by Herbert Spencer, that "the constant and infinitely repeated elements of thought must become the automatic elements of thought of which it is impossible to get rid," can only be accepted in a qualified sense. The fact that man has proved himself to be something more than a mere automatic creature of circumstances refutes Mr. Spencer's unqualified assertion, which, of course, contains a most important half-truth, but not the whole truth.

(*a*) The exercise of instinct is clearly indicated in the following examples:

(I.) Every species of bird makes its own distinct type

of nest; (II.) the young bird forces its way through the shell; (III.) the spider continues to spin its web in the same old way; (IV.) the ant has not varied its mode of living or manner of work for long ages past; (V.) the bee constructs with marvellous precision its six-sided cell; (VI.) the new-born babe turns to its mother's breast; and so forth. Gilbert White, over a century ago, stated that "the maxim that defines instinct to be that secret influence by which every species is compelled naturally to pursue at all times the same way or track without any teaching or example must be taken in a qualified sense, for there are instances in which instinct does vary and conform to the circumstances of place and convenience." There is a small amount of truth in the assertion that instinct does slightly vary and conform to circumstances. For example: it sometimes occurs that a blackbird is compelled to lay its eggs in an unfinished nest owing to its original nest having been disturbed; otherwise, it would build a nest precisely like the one built by its ancestors, even though it might never have seen any nest-building. This and many similar slight variations that could be cited prove little or nothing.

(*b*) Apparently, the deduction made by Gilbert White is taken for granted by Mr. Clodd, without making due inquiry. He writes: "Herein that delightful observer, perhaps without suspecting what he was conceding to the brute, indicates where instinct is in process of passing into reason."* This assumption, however, is based upon a false analogy. There is *no actual evidence to indicate where instinct is in process of passing into reason*; in other words, there is no proof of any *blending of instinct with reason*. "For the main difference between the two," continues Mr. Clodd, "is that while the *one is done because the animal cannot help doing it*, and has no knowledge of the relations between the means and the end, the *other is conscious adjustment* of means to ends—

* "A Primer of Evolution," p. 150.

selection as *the result of reflection.* In the one there is no pause ; in the other there is a measurable interval ; the stimuli to action are more complex and less rapid, giving time for that perception of likenesses and unlikenesses in things—therefore, of their relationships, which is essential to rational action."

Precisely so ! But the logic of this quotation completely overthrows the vague assumption contained in the previous quotation. We should do well to retain in memory the fact that all modern philosophy is based upon "induction," "verified hypothesis," or "the cumulative argument." Not one of these is proof. Something is left to chance in all of them. For example, you can build up, from a given premise, what may appear to be a complete and logical argument by induction ; and yet be absolutely wrong, by simply commencing with, or building upon, a false analogy.

(*c*) Do Animals Learn from Experience?

Suppose an unqualified answer in the affirmative were given, it would be partly false and partly true. The lower animals, in a very limited degree, do learn from experience. The *Objective* powers in domestic animals, in common with us, constitute their aptitude for a small degree of education and improvement. But monkeys show even less capacity to learn and improve. Indeed, it must be admitted that monkeys are, in some of their external aspects, mere caricatures of mankind ; and, in an intellectual sense, are less like men than are ants, or bees, or beavers, or dogs, or elephants. But even in the higher animals, after the most careful and painstaking inquiry, I cannot perceive in their mental processes anything to be compared with the discriminative, analytical, and synthetical operations of the mind of man. There is, however, abundant evidence to prove that, in an *objective sense,* animals, in a greater or less degree, can *distinguish sounds, perceive numbers, details, colours,* the force of *gravitation,* and the *relative size* and *shape* of

objects. Further, they can, and obviously do, associate ideas or events; and therefrom, by experience, learn to act accordingly.

They may be able, as Hume says, to "infer that the same events will always follow from the same causes, and may even express feelings and desires to one another." But to reason discriminatively, analytically, and synthetically, on abstract ideas and principles, is a vastly different process. The fact is, there is no actual evidence to show that animals do really reason. Mr. Clodd, however, asserts without producing any evidence in support thereof: "There* is not a faculty of the human mind which is not possessed in a lesser or greater degree by them; oftenest in lesser degree, sometimes in larger degree, as in the many proofs of affection and devotion shown by animals which put man's selfishness to shame." But for all that the highest animal-devotion does not equal the highest human-devotion. The fact that some *debased human beings possess less affection and devotion* for their offspring than some animals proves nothing; that is to say, the social devotion of some animals, as compared with that of some human-kind, cannot be accepted as evidence of mental or intellectual equality between the lower animals and man. In other words, the contention that animals have every innate faculty possessed by man involves the idea of their possessing equal mental and moral capacity!

(*d*) Resemblance between the Lower Animals and Man in Certain Aspects.

It may be said of some of the higher animals that they make a certain approach to man in their passage through a period of helpless infancy, because the brain and its connections are not complete at birth; "And in this," says Mr. Clodd, "lies the explanation of the capacity for receiving instruction and profiting by experience which reaches its fullest development in man." This deduction,

* "A Primer of Evolution," p. 151.

unfortunately, is based upon a false analogy. Allow me to repeat what I have stated elsewhere—mere relative deductions, no matter to what proposition they apply, are worse than useless unless their truth be absolute.

3.—The Vast Differences Between Man and Animals.

Now, if capacity for receiving instruction, and so forth, depends on the period of helpless infancy, how does Mr. Clodd account for the vast differences in men, to say nothing of the great differences in animals?

Notwithstanding all these difficulties which must be surmounted before his conclusions can be accepted as either logical or scientific, he asserts: "Vast, therefore, as are the differences between the highest and the lowest mental actions, there is no break in the series, which, starting with the reflex movements of an amœba or of a carnivorous plant, advances along the line of animal instinct and intelligence, and ends with the complex movements of the brain of civilized man, with its infinite modes of response to infinite stimuli."

In the first place, the vast differences between man and animals involve a break in the series, whether viewed from the reflex movements of an amœba, or otherwise; secondly, the fact that the ant attained its full development long ago is absolutely at variance with such a theory; thirdly, the actions of animals are reflex and unvarying from birth to death. But man is able to consider and balance for or against this or that, because he possesses a conscious judgment which enables him to make abstract decisions as the result of reflection. Further, the constant exercise of the reasoning faculties may, and obviously does, produce reflex-actions. But there is no evidence to prove that the mere reflex-actions ever result in conscious judgment or reflection. If it were so, animals would imitate the doings of man in the higher intellectual processes. Instinct, then, signifies a tendency to do what is necessary for existence—

propagation and preservation, independently of instruction and experience. The nature of the instincts seems to be alike both in man and animals. But we have more instincts than they have; otherwise the difference is mainly one of degree of natural acuteness, rather than in the nature of the instincts themselves. Indeed, every fundamental faculty of the mind is an instinct, and every instinct is more or less a fundamental faculty, provided for the performance of a distinct function, as is the case with the ordinary five senses.

It is a very common thing to hear people say that man acts by reason, and animals by instinct. This is partly true and partly false. Reason is usually defined as "the faculty of intelligence." This definition, however, is by no means a complete one. As I have endeavoured to explain elsewhere, if reason resulted from *one* faculty only, it would be as easy to tell the difference between truth and error as it is to see the difference between black and white!

Now most of us are well aware by experience that it is much more difficult to discern the difference between truth and error than it is to distinguish between black and white. And why? Simply because, in the latter case, only one fundamental instinct (the *Colorative faculty*, common alike in man and animals) is involved, while in the former case, *three* fundamental instincts or faculties are brought into action, two of which are found only in man, and the third is common to the higher animals, only in a very limited degree. Further, one faculty which appears to be of an intermediate order between the *Superior*, the *Reflective*, and *Objective* faculties is entirely confined to the human species. This is the *Cogitative faculty* which enables man to meditate and originate, in countless variation, contrary to any other creature. No animal possesses a trace of it. It seems to be given to man to exalt and elevate all his other faculties. I consider this faculty to be so remarkable and

peculiarly human as to constitute a gulf between the human and animal species which the mere physical process of evolution can never bridge or explain.

To sum up the case : If I have proved the correctness of my conclusions from the foregoing reasons, the issue stands thus :

1.—Evolution simply deals with physical processes and not with the innate nature of things ;

2.—That man's normal state is not, like every other animal, one of conflict, but a state of mutual progressive co-operation ;

3.—History teaches that progress is made more rapidly through co-operation than by conflict ;

4.—The evolution of theology and general knowledge indicates that man is making positive progress, that his position to-day is vastly different to what it was in the Stone Age ;

5.—The evolution of mind conclusively proves that man is a progressive creature ;

6.—The evolution of morals must, in the nature of things, be the result of the exercise of man's innate religious and superior faculties, which are naturally responsive to an Unseen Reality ;

7.—Suppose these superior attributes respond to no absolute infinite Reality, they are merely an overplus of instincts or faculties, aimlessly growing to weeds, and serve no definite purpose !

It would be most illogical to believe in such an absurd theory. Indeed, it involves the idea of the most exalted traits of man's nature being due to a mere mental disease ! How preposterous, on the face of it.

Lastly, all the five senses, the social and intellectual faculties of the mind are natural psychological adaptations to definite physical needs ; thus we are thoroughly justified in concluding that the same law or principle applies, with equal force, in regard to man's superior or soul-actuating attributes and perceptions.

CHAPTER V.

THE DAWN OF HUMANITY.

Introduction.

THE dawn of humanity, considered in the light of man's moral attributes, is strongly suggestive of the existence of a First Great Cause, possessing infinite sustaining power. Indeed, the idea of the descent of all living things from one absolute Creative-Source is absolutely in harmony with all actual scientific evidence. Further, the handiwork of the same Artist seems to be manifest in the plan of the general skeleton of all vertebrate creatures. Apparently, all analogy in structure corresponds with analogy in function, and, likewise, all differences in structure correspond with like differences in purpose, whether it be man, ant, bee, spider, dog, ape, elephant, horse, or any other animal. Notwithstanding this obvious fact, Mr. Clodd asserts: "Although the bones of a man cannot be mistaken for those of an anthropoid ape, the skeletons of each, bone for bone, are identical." This quotation contains a most curious contradiction of words. Now, I take it that "to be identical" means to be the same. If, therefore, the difference is such that *the bones of man cannot be mistaken for those of an anthropoid ape, the skeleton of each, bone for bone,* cannot be accurately described as identical. He further asserts: "For the comparisons of structure make clear that all differences are of degree, not of kind. The lower apes vary more, especially in their brains, from the highest apes than these differ from man." This generalization

is partly false and partly true. It has, again and again, been conceded that there is a distinct physical analogy between man and ape. The analogy, of course, implies a general difference, with a likeness in one or more particulars. Indeed, analogy is the general law of life and matter. The *structural differences,* and even *certain differences in brain,* between man and ape *are of degree, not of kind.* This supposed rule, however, does not hold good, all round, as I shall endeavour to prove.

There is, apparently, no actual analogy between the nature of man's mind, soul, or spirit, as manifested through his superior attributes, and the mind of the ape. Therefore, Dr. Aveling's assumption that "the true comparison is between the lowest types of men and the man-like apes" is a comparison without analogy; and thus it is neither logical nor scientific; because, as a matter of fact, the lowest types of men die out or go to the wall, whereas apes are more persistent in their distinct organism, and unique in character.

1.—The Theory of a Common Ancestry.

The theory of the descent of all living beings from a common ancestry is by no means conclusive.

(*a*) Mr. Edward Clodd admits that "man* is neither the offspring nor the brother of apes," but asserts "he is a sort of cousin more than 'once removed.'" It would be interesting to know whether Mr. Clodd believes the ape to be a fifth, twenty-fifth, or a still further *removed cousin from man.*

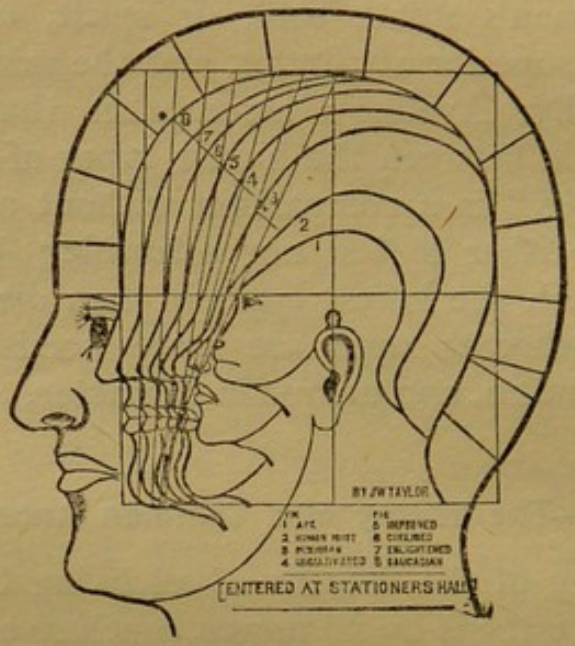
(*b*) In dealing with the fable of the "missing link," he candidly admits "there never has been one." He asserts, however, "as with the likenesses and differences between apes themselves, so with those between apes and man. The likenesses are explained by descent from a common ancestry; the differences have slowly arisen

* "The Story of Primitive Man," p. 13.

in various ways" (!) Indeed, but how and in what various ways?

The universal law of nature is that all plants and animals produce like offspring, with only very slight variations in ordinal types, but in this simple fact lies the difficulty of accounting for the vast differences between man and ape, other than by Creative Purpose in the beginning.

The Great Gulf between Man and Ape.



RELATIVE DEGREES OF INTELLIGENCE.

The gulf to bridge is not merely between the human idiot and the ape, but between civilized man and the ape.

(*c*) Is the brain the cause rather than the result of the difference? Mr. Clodd asserts, without giving any actual evidence in support thereof, that man has won his position "by virtue of certain advantages in his bodily structure, namely, his wholly erect posture, his hands, and his organs of speech."

That man's faculties for giving expression to his thoughts in words, combined with the wonderful communication between his brain and hands, and his erect posture, have been of immense advantage in his efforts to

understand and work in harmony with the forces of nature is self-evident. This, however, does not explain either the intellectual or the moral impassable differences which exist between man and ape. The true comparison must be between the highest types of man and the highest apes ; or the average man and the average ape ; or the lowest types of man and the lowest apes ; because the actual gulf is not merely between the lowest types of men and the so-called man-like apes, but between civilized man and the brute.

Notwithstanding this manifest impassable gulf which separates man and the ape, and which corresponds, in a psychological sense, in a most striking degree, to his greater mental capacity and more distinctly furrowed brain, we are informed in the following quotation : " This is more an effect than a cause of the advantages just named. That without them there would not have been developed such difference of brain a brief explanation will show." This relative deduction, unfortunately, contains a fatal error ; that is to say, the cart is put before the horse, and, therefore, it proves nothing.

A European man has a brain-holding capacity of 95 cubic inches, as compared with about 34 cubic inches in the gorilla. Now, as the greatest differences between man and ape correspond with the difference in the size, shape, quality, and culture of the brain, the only logical deduction to be drawn therefrom is that the difference in brain-development is the direct cause rather than the effect of man's advantage over the ape, apart from life itself, which operates behind even the brain, and puts it in motion. Further, the mental capacity of the gorilla is far below that of a European child of five years of age.

When it stands erect, its brain is mainly above the orbit of its eye. That of the ape, in common with all other animals, is mainly below its eye, because its spine is horizontal ; therefore the head lies flat, and not elevated as in man.

2.—The Limbs of Locomotion.

The limbs of all vertebrate creatures are in pairs, and in various animals are adapted for different modes of locomotion, according to the particular needs of the case, as indicated in the wings of birds for flight; in the fins of fish for action in the water; in the fore-limbs of apes for climbing and movement in trees; and so forth. The limbs of these, and numerous other creatures, enable them to move about at great speed in search of food. Further, it will be observed that the fore-limbs of apes and quadrupeds remain organs of locomotion.

The Gibbon, of course, can walk erect; this attitude, however, is by no means common; indeed, his gait is aptly described as "waddling and inconstant." And why? Simply because, by structure, he is specially adapted for skilful movements on trees. The larger apes, it will be noticed, are only semi-erect. Dr. Aveling, a defender of the Darwinian theory, says: "Not a *single* point in the anatomy or physiology of man separates him from his allies, the lower animals" ("Darwin made Easy," p. 21). He further asserts: "Every bone, every prominence on every bone, every marking for attachment of muscles is the same in man as in the anthropoid apes" ("The Origin of Man," p. 5).

The true and profound student of science and logic will always strive to ascertain the facts of the case, and reason in a line therewith.

Allow me to state a few facts:

I.—The orang-outang has *nine* bones in its wrist, whereas man, the chimpanzee, and the gorilla have only eight.

II.—The chimpanzee has *thirteen* pairs of ribs, with chest and arms of great strength.

III.—The Simang monkey (a kind of Gibbon) has *fourteen* pairs of ribs.

IV.—In the upper jaw of the gorilla there is a space between the incisor teeth and the great eye-teeth.

V.—The palate and roof of the gorilla's mouth are long and comparatively narrow; hence, it could never speak as distinctly as a child. It can, however, howl and bark to perfection.

These items alone constitute distinct anatomical differences between man and the various apes.

(*a*) To man alone belongs the unique distinction of being able perfectly to maintain, with natural ease, the wholly upright posture. This position is in perfect harmony with his bodily structure and mental capacity. That being the case, man's fore-limbs, in contrast with those of all other animals, are not required for locomotion, but are entirely free for grasping and handling a countless variety of things. The fingers and thumb being free are able to act separately or unitedly, as occasion requires. These, combined with his hollow palm, enable him to take hold or grasp all sorts of things of various sizes. Indeed, we are justified in asserting that without this most wonderful organ, which corresponds in its sense of touch with man's superior mind and complex brain, he could never have secured lordship over practically all other creatures on earth and in the sea.

(*b*) In the thumb, to a large degree, lies the power of the hand. This must be obvious to all who have had the misfortune to sustain a serious injury to that organ, or a loss thereof. Now, an important item of differentiation between man and monkey is that the latter, like the human idiot, makes little or no use of its thumb; that is to say, in taking hold of an object its thumb is used mainly as a finger.

Mr. Clodd seems to think that "the grasping organs* of the elephant, monkey, parrot, and opossum raise them in the scale of intelligence." As a matter of fact, the degree of intelligence does not correspond in any creature with the development of the grasping organs. There is a remarkable likeness between the hands of an intelligent

* "The Story of Primitive Man," p. 15.

man and those of an idiot, but there is a wide difference in their brain-developments. There is some analogy between the fore-limbs of man and those of an ape, but no actual analogy in brain capacity. Would it not be much nearer the truth to suggest that the *controlling brain in all creatures* rather than their grasping organs *raises them in the scale of intelligence*? Further, he says, "When we contrast trunk or claw with the human hand we see what a mighty agent this has been in the development of the brain." Here, again, he puts the cart before the horse. The facts of experimental research in physiological psychology and scientific Phrenology teach that mind governs matter, that the brain is the instrument or medium of mind-manifestation. Apparently, therefore, *the brain has been the mighty agent in the development of the hand.*

(*c*) "Obviously," says Mr. Clodd, "the attainment of the erect posture involved various changes in the structure of man's body—as the thickening of the leg-bones, the flattening of the feet, the curve of the spine, and the altered position of the skull as balanced on it." Now, if these differences between man and ape be merely the result of evolutionary changes in matter, without the controlling influence of a Supreme Intelligence, how is it that, for the last five or six thousand years, the process of evolution, relative to man and monkey, has been practically at a stand-still? In other words, the ape, in contrast with man, has made little or no progress. But for all that, he makes the astounding assertion: "In all this there was the making of man." If that be the case, the making of man was a very simple variation in the form of matter! It is, however, illogical to assume that the various fundamental faculties of mind have evolved from matter. Indeed, the only inference to be drawn from a careful study of the lofty and elevated manifestations of mind is that mind existed before organism, that it exists apart from organism, and that it will exist when organism is dissolved.

(*d*) It has been most ingeniously suggested that "man's two-footed and upright posture involved exchange of the tree-life of his (supposed) ancestors for life on the ground, which brought him into new relations with his surroundings." This plausible suggestion, however, contains no explanation of the creative Cause which has produced these progressive changes and very far-reaching results. There must be an intelligent Cause for every intelligent effect.

(*e*) "That the wholly erect posture was acquired late, relatively speaking, in man's development from an ape-like ancestry is shown, among other ways," says Mr. Clodd, "in the crawling of infants* for some time after birth—which shows the quadrupedal instinct—and in the preference we all have for sitting down." As I have stated elsewhere, I must confess my inability to perceive any truth in this deductive assumption. Apparently, it is an argument from analogy from a particular to a fresh particular; in other words, a relation of characteristics is transferred from the ape to the crawling infant. The particular from which he argues is not complete. He argues from what, in the nature of things, is a defective relation, and, therefore, it is a false analogy, simply because it is a defective generalization. Such relative deductions, no matter to what proposition they apply, are worse than useless because they tend to mislead, and infer what is anything but absolute. There can be no such thing as an actual inference from a particular to a fresh particular.

(*f*) The assumption that man's attitude when he is in danger of drowning, in endeavouring to scramble to a position of safety, "is a proof of his descent from a tree-dwelling ancestry," is on a par with the one relative to the ape and the crawling infant. It contains no actual inference, it is a most defective generalization, and, therefore, proves nothing.

* "The Story of Primitive Man," p. 15.

3.—Has Man Acquired the Faculties of Articulate Speech?

The assumption that man has acquired the faculties of articulate speech seems to be at variance with every known page of human history. Indeed, it must be obvious that, in a greater or less degree, the faculties of speech are co-extensive with the existence of the human race. This cannot be said of any other creature, apart from man. There are, however, good grounds for believing that various animals, in a limited degree, can, and do, communicate with one another, but, apparently, all the evidence obtainable from natural history teaches that the faculty for giving discriminative expression of abstract ideas, thoughts, and principles in articulate speech or written "language is the prerogative of man."

(*a*) Mr. Clodd's assertion that "language is wholly and strictly a social institution" is very wide of the actual fact. It contains a kind of half-truth, but by no means the whole truth. Relative to animals, seemingly, language is mainly a social institution, but *as applied to man* it is *vastly more than a mere social institution.* The powers of speech not only enable man to express in words his social needs, moral aspirations, and conceptions, but as a conscious discriminative, analytical, and synthetical thinker, he is capable of arriving at millions of abstract ideas and conclusions, on thousands of different subjects, and giving expression to the same in articulate speech. Man is, indeed, a link in the vast chain of organic life, but, thus far, science has dealt with him mainly as an animal, not as an originative, conscious personality. Further, the contention that "a solitary man would not have developed a language, since the need for it would not have arisen," proves nothing. One might suggest, with equal force, that, without companionship, there could not have been a continuation of the human race. There is, however, no need for questionable speculation on the subject, seeing that we are face to face with the actualities of articulate speech. All real searchers after

truth will accept every fact in the science of evolution. We cannot afford to dispute the actual findings of science.

(*b*) The various intellectual and aspiring faculties of man's mind, no less than his highly-cultured social instincts, must have greatly influenced his social habits and various modes of life. Thus, we are reasonably justified in concluding that the various instincts which led man, and all other creatures alike, to their respective social conditions of life were inherited from their several ancestors, possessing like tendencies.

(*c*) Obviously, the weight and power of the brain varies, in most, if not in all, creatures, in direct proportion to the number of its furrows and convolutions. There can be little or no doubt that the size of man's brain, in proportion to the size of his body, and its special culture, have secured for him almost complete control over the mere brute forces of nature. Apparently, there is no justification for Mr. Clodd's contention that " the quality of the brain in all animals is determined by the number of its furrows and creases." The quality of the brain is very changeable ; that is to say, in a greater or less degree it varies with the conditions and circumstances of life. Our habits of diet, the degree of culture and cleanliness, and the like, can, and undoubtedly do, produce distinct changes in quality.

" The brain of a monkey," Mr. Clodd rightly says, " is a sort of ' skeleton map ' of the brain of man."

I can fully appreciate and endorse this view. Further, I venture to suggest that the very limited mental capacity of the ape, as compared with that of man, corresponds in a most striking degree with its *sort of skeleton map of the brain of man* ! Moreover, the ape, as compared with man, is not only a very lazy creature, but lacking in the following fundamental faculties :

1.—*Commiserativeness*, or sympathy and fellow-feeling ; the tendency to befriend ;

2.—*Placitiveness*, or the desire to please, and good manners ;

3.—*Creditiveness*, or the tendency to put faith and trust in one's kind, and in a higher Power than one's self ;

4.—*Expectativeness*, or the tendency to anticipate, and hope for success ;

5.—*Venerativeness*, or reverence for a higher Power than one's self, and sense of responsibility. Moreover, how vast is the difference between man and ape in regard to the following faculties :

6.—*Couragiveness*, or bravery in times of difficulty and danger ;

7.—*Sublimativeness*, or enthusiasm, love for the exquisite, majestic, and sublime ;

8.—*Expressiveness*, or ability to give utterance to one's thoughts in words and in writing ;

9.—*Obligativeness*, or the tendency to be just and do justly ;

10.—*Emulativeness*, or ambition to excel ; the tendency to equal or rival the doings of others ;

11.—*Dignativeness*, or self-respect, dignity, and nobility of character ;

And other faculties mentioned or dealt with elsewhere.

(*d*) It would appear that Mr. Clodd is unable to differentiate between the normal and abnormal condition of either plants or animals. The difference is most important to every student of natural history. "The normal state of every living thing," he asserts, "from the lowest plant to the highest animal, is one of conflict, and the weakest go to the wall." I venture to assert that such is by no means the case. Such an incomplete theory of evolution *must go to the wall*, and the sooner the better for the real advancement of science.

Man may be truly described as the crowning work of nature, whether considered from the standpoint of

Creation or Evolution; and his superior attributes constitute the keystone of the arch. He is sometimes selfish (comparatively few individuals are altogether so), at times wicked, and frequently erratic, but not universally and continually so. Indeed, the reverse is the case. In a recent speech, Mr. John (now Lord) Morley, according to a newspaper report, aptly stated: "Selfish and interested individualism has been truly called non-historic. Sacrifice has been the law." Perhaps I could not do better than conclude this essay in the words of Sir Oliver Lodge: "It is no longer a blind struggle for existence as it was before we came to being. It is now a conscious organization."

CHAPTER VI.

A COMPARISON OF THE VARIOUS SYSTEMS OF CHARACTER READING.

In the first place, it is by no means an easy task to decide exactly where the line of demarcation between the different systems of character reading should be drawn, because it is most difficult to describe where the one ends and the other begins.

Phrenology v. Palmistry.

First, with regard to the question whether Palmistry is to be compared with Phrenology as guide to the choice of vocation, the answer thereto is most decidedly No. Still, it must be conceded that the human hand is not only the most wonderful executive instrument of the brain and mind, but that it indicates, in a greater or less degree, one's physical and mental pathological condition. Indeed, apart from the shape of the head, no feature is more indicative of one's natural disposition or inherited tendencies than the configuration of the hand. A scientific study of the hand, therefore, is complementary rather than antagonistic to Phrenology. Each indicates something the other fails to explain or account for. But the relative degrees of development of the various brain-centres, and their corresponding faculties of the mind, which can be greatly modified by self-culture as taught by Phrenology, can only be estimated with anything like scientific accuracy by Phrenology.

Secondly, astrological physiognomy, for example, indicates both character and capacity, to a certain degree,

but it does not by any means equal Phrenology, either in its analytical or its synthetical precision, in definition of ability, or in regard to the choice of vocation. Apparently, however, Astrology can, in a greater or less degree, tell us at what time, and in what place, we are likely to secure the best result for wisely directed effort. Phrenology and Astrology are not antagonistic, but complementary to each other. The one supplies something which the other is, seemingly, incapable of providing. But the fact remains, in the light of numerous comparative test-readings of character and ability, that for indicating what a person is best adapted for Phrenology is unrivalled.

Thirdly, let us take another example: Graphology is founded on definite laws and principles just like any other science, and is indeed a most fascinating study. The recent discovery that penmanship is connected with definite centres in the brain proves that the differences in handwriting are due to *internal* rather than external influences. Therefore it may be studied for character. And, judging by results, the writer feels bound to admit that Graphology is a most interesting and useful branch of Applied Psychology.

Graphology flourishes best on the products of a higher civilization. The higher the culture, the higher the results that accrue. It is not satisfactory when dealing with primitive or elementary mentalities. Unlike Phrenology, it does not forecast the disposition, talents, and probable career of "babes and sucklings." But it will give a very clear insight into an educated adult's true character, his temper, tendencies, disposition, virtues and vices, and often his occupation. It will guide us in the selection of friends and employés. Owing to the facility with which handwriting specimens can be obtained, and with which applications for situations can be sent through the post, it is very popular in the latter connection. Many of the well-known business firms of the day avail themselves of its services, as is ably shown by Mr. Thomas

Russell, President of the Incorporated Society of Advertisement Consultants, in the course of an interesting article in the "Advertising World" for January, 1911, dealing with this phase of Mr. Eugene Gorrie's work.

In order to prove its value as a clue to character, the writer recently requested Mr. Gorrie, the famous graphological expert, to write a description of his disposition from his handwriting. The sketch, which in no way differs from Mr. Gorrie's ordinary work, is given in full in the following pages. The writer is bound in all fairness to say that, so far as he is aware of his own inner nature, the delineation of his character, as a whole, is remarkably accurate. At any rate, the writer ventures to assert, without any fear of contradiction, that no one who is intimately acquainted with him will disagree with anything the graphologist has stated. Mr. Gorrie's address is "Sunnyside," Melton Mowbray.

A GRAPHOLOGICAL SKETCH OF THE AUTHOR.

By Eugene Gorrie.

Positive or Negative.

The writer (Mr. J. W. Taylor) has tone, colour, outline, individuality. He has his own opinions, convictions, and a mind of his own. Is honest, resolute, and capable. There is an element of purpose in his script, of determination. He has both the intellectual and the moral objection to shilly-shallying. There is a bed-rock of granite underlying his surface quietness, and he has an uncompromising way, once his will is aroused. He can be depended upon. He neither rides two horses at once, nor blows first hot and then cold. He can neither change nor hide his opinions to please others.

Pugnacity or Pusillanimity.

He stands for peace and goodwill, and is not naturally a very combative man. But there is not much compromise in his composition, and there are times when the suaviter

"The Pen is Mightier  Than the Sword."

THE PHRENOLOGICAL INSTITUTE,
SKIPTON STREET,
MORECAMBE.

10th April 1912

Mr. Eugene Gorrie
Sunnyside
Melton Mowbray.

Dear Sir,-

Will you kindly write a brief description of my character and disposition from my handwriting, with a view to its publication.

And oblige,

Faithfully Yours
J. W. Taylor

gives place to the fortiter. He is no half-hearted opponent. There is no indirectness in his method of attack. He refuses to fence. He "plays the game," and does not cry out when he is hit himself. But he is seldom cruel or vindictive, and he never stamps on others with Bismarck's brutal violence. He is an "evolutionist," not a revolutionist, and his weapons are education, moral discipline, persuasion.

The "First Person Singular."

He is quietly self-respecting; not arrogant; on the other hand, not diffident. Will maintain his rights and self-respect so that others can have no face to trifle with or trample upon him. He is not a man to claim the lime-light for himself, albeit he has a wholesome belief in himself. He is not averse to the good opinion of his fellows, and would rather be commended than otherwise. He hopes that zeal will be rewarded with recognition, but is not deterred from being zealous by non-receipt of praise that is not in the bond.

Propelling Powers.

He never charges himself with the vice of idleness. For him work is not incidental but fundamental, not passing but permanent. He is accurate, definite, industrious, can shut out distractions and concentrate his mind. He finishes his work beautifully, and loves to linger over each detail, if the work is congenial. There is considerable capacity to centralize his work and bring it to a focus.

Prudence and Policy.

He can suppress facts, keep his own counsel, but has none of the elusiveness of the diplomatist. His mind is clear, obvious, emphatic. There are no subtle half-tones, no landscape fading through purple mists to a romantic distance. There is nothing sinuous about his character or methods. He is more inclined to caution than to

rashness, and to carefulness about money than to extravagance. His is not a character to waste, neither is it mean or grasping. It has rather an intermediate tendency; it seems to strike the happy medium in giving and saving. He may not worry and look for the dark side, yet he is prudent, knowing "passing well when to stop and turn."

Materialism and Morality.

His belief in the moral and divine is beyond question, and he has the sustaining joy of a good conscience. His sense of justice, personal integrity, truth, and duty is strongly marked. He will compromise no principles, and he is scrupulous about his duty and obligation. He respects law and authority; he will "render unto Cæsar the things that are Cæsar's." He manifests a high regard for whatever is good and great. The moral, spiritual, and intellectual elevation of man, and the uplifting of the higher qualities of his nature is his constant aim.

Head Calibre and Culture.

He may not have drawn knowledge at the wells of either Oxford or Cambridge, yet he is a man of ample intelligence and much self-culture. He has artistic tastes and a refined and earnest mind, and inclines to all things that elevate and culture him. Eye for form, configuration, size, bulk, neatness, arrangement, order, system, contrasts, etc., excellent.

He is not so brilliant, witty, and imaginative as he is scientific, practical, intuitive, and sympathetic. Is specially inclined to compare, observe, draw inferences, and to see the affinity of things. He sees the difference between error and truth quickly. Is one to collect facts and evidences, to investigate things for himself. He likes to get at the origin of things. He enjoys weighing evidence on both sides of a case. He is level-headed, can think for himself, investigate problems at first hand,

seldom gets muddled, but is always able to declare his case with acumen and lucidity.

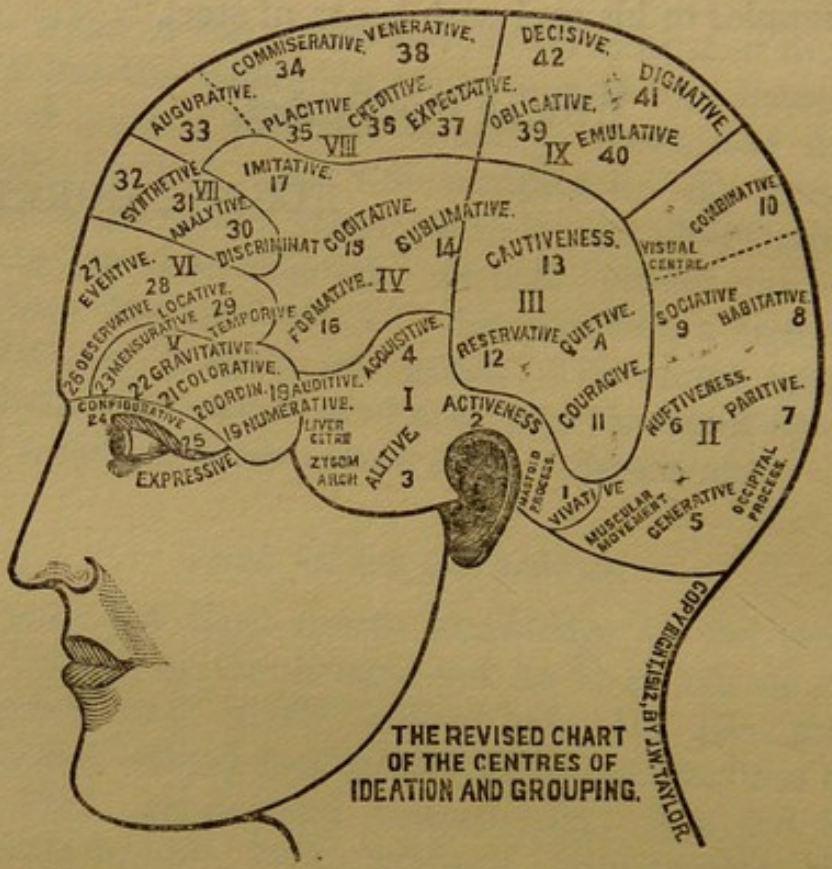
Heart Throbs.

Though he is a Greatheart, responsive in his sympathies and devoted in his affections, he is no sentimentalist. His tastes are domestic and simple. His friendships are not lavishly strewn, but those he forms he " grapples to his soul with hooks of steel."

With all good wishes,

EUGENE GORRIE.

CHAPTER VII.



THE REVISED CHART OF THE CENTRES OF IDEATION AND GROUPING.

THE SELF-PRESERVATIVE FACULTIES.

GROUP I.

I.—The Self-Preservative Group of Centres.
II.—The Social and Domestic Group of Centres.
III.—The Defensive and Self-Protecting Group of Centres.
IV.—The Creative and Industrial Group of Centres.
V.—The Objective and Qualitive Group of Centres.
VI.—The Cognitive and Retentive Group of Centres.
VII.—The Reflective and Reasoning Group of Centres.
VIII.—The Superior and Inspiring Group of Centres.
IX.—The Aspiring and Governing Group of Centres.

THE SELF-PRESERVATIVE FACULTIES.

Introduction.

THE first law of all physical existence is self-preservation. That being so, a reasonable development of these faculties is absolutely necessary to enable man and animals alike to cling to and enjoy life, and provide for its actual needs. These faculties create in mankind a belief in the right of private property. Hence, all abstract teaching to the contrary is doomed to failure. Therefore, in a greater or less degree, man must labour to provide for his needs, and the needs of his family, and, guided by the higher faculties, is likely to continue to acquire, not only for his own needs, but in order that he may be able to lend a helping hand to the needy and helpless.

The normal condition of these faculties render them most excellent servants. But when they become abnormal in an individual, or a section of people, they do indeed become bad masters, and tend to produce, amongst other things, selfish, mean, and even grinding trusts, organized by the few, to plunder the multitude. In short they represent, in a greater or less degree, the present system of rule by commerce, i.e., by material selfish interests.

Organized Society, therefore, through its representatives, in the form of "Government proper," wherein the King (or President) is chief magistrate, has a perfect right to protect itself against unscrupulous schemers, and to control them when, and wherever, their doings cause needless suffering to vast numbers of people.

It would be interesting to know how much certain political agitators know about phrenological psychology. Obviously, a careful study thereof would soon convince them of the utter uselessness of their nostrums for the reformation of the world.

How, in the nature of things, can any man ignorant of the fundamental faculties of mind, and human nature, prescribe psychological salvation for humanity? In

other words, assist in making wise laws likely to increase the sum total of human advancement and happiness.

Present-day conditions are the result of the functional activity of the various mental faculties in definite combinations. These powers, and the desires and impulses that proceed therefrom, in certain degrees of development, have produced the present system of society. Therefore, if we are to evolve reform, and build upon a sure foundation, and mould a constitution in accordance with the needs of the age, it must be based upon, and in harmony with, the fundamental elements of nature and justice. How can this be done without a knowledge of the first principles of human nature? The signs of the times—in the direction of constructive statesmanship—are most encouraging and inspiring. Mr. "Stick-in-the-rut" may think otherwise. Notwithstanding, many of our political agitators, or perhaps I should say political tinkers, possess little or no knowledge of the actual variations and just needs of human nature. In this age of so much superficial learning, a real knowledge thereof would most certainly assist in forming a true political science.

GROUP I.

Section 1.—Definition of the First Group of Faculties.

Vivativeness (Vitativeness).

[Held by Dr. Gall as probable, localized by Dr. Andrew Combe, and re-named by the Author.]

"They . . . survive some days the loss of their heads and hearts; so vigorous is their *vivacity*."—BOYLE.

"James Sands, of Horborn, in this country, is most remarkable for his *vivacity*, for he lived 140 years."—FULLER.

1.—VIVATIVENESS (vi-va′-tive-nes), from Latin *vivo, victum* = to live; tenacity of life; love of life; the tendency to be vivacious; vivacity. The name expresses the meaning required.

The term Vitativeness, from Latin *vito, vitatum* = to

avoid, is misleading and conveys a wrong idea as to the real function of the most vital faculty of the mind.

The primary function of this faculty gives a desire to exist; power of vital endurance; and, when large, it enables one to cling to life and struggle against disease and death with great spirit. Such an individual will hold out against death till the last moment. When, however, we find a serious deficiency of this faculty, whether it be in a child or an adult, there is invariably a corresponding deficiency in regard to existence for its own sake, and very little power to resist disease and death. The writer has been able to verify this by actual experience, not merely a thousand times, but thousands of times.

Let those who have never given this matter any serious attention make a most careful examination of any two persons who may have developed some kind of dangerous fever or disease (other things being equal—such as strength, temperament, and age), the one being large in the brain-centre in question, and the other small; and it will be interesting to note how the one will cling to life, and "pull through," whilst the other will be inclined to give up the struggle and die.

Activeness (Destructiveness).

[Localized by Dr. Gall, and re-named by the Author.]

"This *action* should have three qualifications; first, it should be one *action*; secondly, it should be an entire *action*; and thirdly, it should be a great *action*."—ADDISON.

"Suit the *action* to the word, the word to the *action*."—SHAKESPEARE.

"I myself must mix with *action* lest I wither by despair."—TENNYSON.

2.—ACTIVENESS (Ak'tiv-nes), from Latin *ago*, *actum* = to do; *activus* = active; a desire to put in motion; capacity to transact business or perform a service; a tendency to produce effects or exert power; force of character; propelling power and love of action.

The primary normal function of this faculty gives a desire to put into operation the resolutions of other

faculties, without being able to decide upon the merits or demerits of any given issue; a desire to "clinch business," and get things pending off hand by means of action. An impulse to be "on the move," and force of character.

(*a*) When, however, this faculty becomes abnormally developed or unduly excited its possessor is liable to be somewhat rash, and, with an ill-balanced head in other respects, to rush into the midst of danger; and when thoroughly provoked, can be exceedingly repulsive, cruel, revengeful, and even given to acts of violence.

Now, without wishing to infer that all persons who are seriously lacking in this faculty are lazy, I have frequently found amongst fairly healthy lazy persons a marked deficiency of this faculty and its corresponding brain-centre.

(*b*) When Dr. Ferrier applied a current of electricity to the centre of Activeness it caused the animal experimented upon to spring forward (as if suddenly startled) and lash its tail. Could anything be more natural than this, under artificial stimulation? Apparently it gives a tendency to be up and doing, but, seemingly, no indication of a tendency to destroy.

(*c*) This view of the case is confirmed by a most important historical fact, proof of which the writer holds, in the handwriting of the late Canon St. Vincent Beechey —at one time Dr. Spurzheim's demonstrator. In a criticism of Dr. Gall, Spurzheim said: "Gall called this an organ of murder. Why, I have got a larger organ of murder than any murderer in my collection, and I would not kill a fly!" Spurzheim was $\frac{3}{8}$ of an inch broader between the ears than Dr. Palmer!

Now, whilst admitting that Spurzheim's term of destructiveness does not sound quite so harsh as that used by Gall, the inference from both terms is that the organ gives a tendency to destroy. But the inference from Spurzheim's large development of the centre under review,

and his most commiserative consideration for a fly, is most inconsistent with the idea of a large organ of destructiveness. Spurzheim was, however, a man of untiring industry, which answers, in a most striking degree, to his large development of Activeness.

(*d*) Executiveness has been suggested as a name instead of Destructiveness, but it implies carrying into effect a particular law or laws, or purpose; that, however, is not the correct idea. "Aggressive-energy" has also been suggested. It does, indeed, become aggressive energy when unduly excited or abnormally developed.

Alitiveness (Alimentiveness).

[Localized by Geo. Combe, Drs. Hoope and Crook, and re-named by the Author.]

"Be not among wine bibbers; among gluttonous *eaters* of flesh."—PROV. xxiii. 20, R.V.

"If ye be willing and obedient, ye shall *eat* the good of the land."—ISA. i. 19.

3.—ALITIVENESS (al-it-iv-nes), from Latin *alo, alitum* = to nourish; a tendency to seek nourishment. Obviously, the primary function of this faculty is direct perception of smelling and tasting, combined with a normal relish for food; in short, sense of hunger and thirst. Its location has been confirmed by Professor Bain and Drs. Brown, Caldwell, Ferrier, Withinshaw, Hollander, and many others too numerous to mention. It is usually called the gustatory centre by anatomists and physiologists.

All our mental faculties are more or less liable to abuse, but few, if any, equally with this one. When large, or abnormally developed, the subject is frequently inclined to eat and drink too much, and apt to become a glutton, and suffer in body and mind accordingly.

Perhaps one of the most acute and distracting pains in man, and most animals, is a keen relish for food and liquid, accompanied by the inability reasonably to satisfy it.

There can be no doubt that numerous crimes have, from time to time, been committed as a direct result thereof. Hunger is, indeed, a very sharp thorn. Therefore, the duty of organized Society, in regard to this most vital matter, is clear and plain, namely, to see to it that no honest, willing worker is knowingly kept without food.

Some years ago, during a journey home from the south, there entered my compartment a bright little fellow of about twelve or thirteen years of age, who was being taken to an Industrial School. And, after careful observation, I came to the following conclusions in regard to the mental capacity of the subject: "(1) That there were no actual criminal tendencies in the boy; (2) that he must have suffered much privation through being neglected; (3) that with a good training, and the right direction of his abilities, he had in him the making of a most useful and good man; (4) that in a state of distracting hunger he would be likely to take some trifling thing from a shop or stall to relieve his hunger only; and (5) that he would not, in any other sense, steal, or commit any other crime!"

I ventured to express these opinions to the officer in charge of the boy; and he responded thereto as follows: "The parents of this boy are of very intemperate habits and spend most of their earnings on drink. The boy has not had half enough food to eat; and, on one or two occasions, he has merely taken an orange from a stall to relieve his acute hunger. The magistrates who had to deal with this case felt that they would be doing this boy a real kindness by sending him away from his parents."

Who can depict the terrible national suffering, blight, and waste of life of hundreds of thousands of children, and the making of criminals, caused by the intemperate habits of vast multitudes of parents?

That great humane Act of Parliament called the "Children's Charter" has come none too soon to help to save thousands of children from absolute ruin.

Acquisitiveness (Theft).

[Localized by Dr. Gall, and re-named by Sir G. S. Mackenzie.]

"He died not in his *acquisitive*, but in his native soil."—WOTTON.

"The Cromwellians were induced to relinquish one-third of their *acquisitions*."—MACAULAY.

4.—ACQUISITIVENESS (ak-kwiz-it-iv-nes), from Latin *acquiro, acquisitum* = to get, seek, and add to; desire to acquire and possess things in general apart from their use. Its primary normal function is to provide for the various needs of life, and to lead to the possession of both substance and some sort of knowledge, according to the relative development of the various mental divisions or lobes of the brain and their corresponding faculties of mind. It enables mankind to practise economy and strive in a truly legitimate sense to provide for the future and "a rainy day."

(*a*) True happiness, however, is not achieved by merely accumulating wealth, but by striving to be of some service to others. Hence, vast multitudes of mankind find real happiness in various callings—such as Religious Efforts, Social Reform, Teaching, Art, Science, Law, Economics, Politics, Medicine, Surgery, and various other occupations, and even in business. Indeed, the highest pleasure is realized by a judicious and liberal use of all that we possess, and in the right use of knowledge.

(*b*) When, however, this faculty becomes unduly active or abnormally developed, its possessor becomes too eager after wealth; close in making bargains; inclined to economize too much; covetous, penurious, avaricious, miserly, and even criminally depraved.

A Thief Who Became Honest.

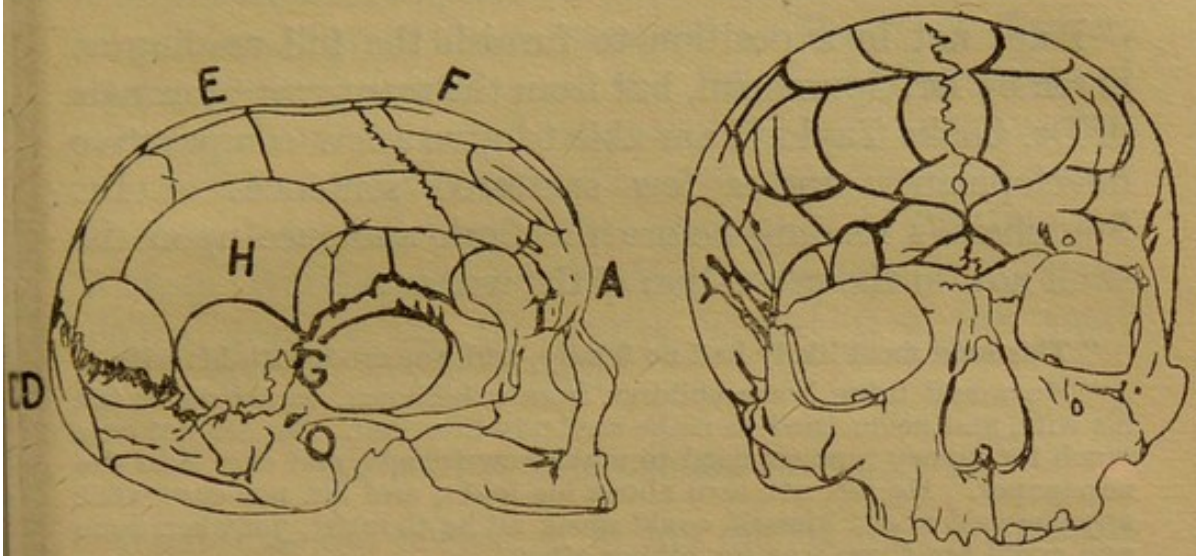
(*c*) May I be allowed here to cite one case out of a number of similar instances met with in my private

practice. In giving a reading of a boy's head, some years ago, amongst other things I found *acquisitiveness* abnormally developed, whilst *obligativeness* and *dignativeness* were rather feeble; combined with only a moderate degree of the reflective faculties. Amongst other things I said: "You have a tendency to be covetous, a point I am specially anxious to warn you against, or it may lead you into serious trouble; therefore, I want you to make up your mind from this day forth that you will take nothing, however simple, without asking for the thing desired. To the best of your knowledge be determined, at all costs, to do what is right. Whatever may have been your faults in the past, I have confidence that you can do well in the future. And, what is more interesting still, you can so improve your character in a few years as to be able to fill an important position in the public service." I then handed him a register of his physical and mental developments, and expressed the hope that he would be guided by it in the future. He was then requested to leave the room, after which the gentleman who accompanied him to my office stated in confidence "that he had already on two occasions paid sums of money in order to prevent legal proceedings being taken against the boy. But," said he, "I don't care about that, if you think he will be all right in the future." I repeated that I had confidence in his future career. Five years afterwards I saw the gentleman again, and was glad to learn that the young man in question was already in a place of trust, and doing well. Moreover, I was informed that he had been no further trouble from the day of examination. I venture to think that the destiny of the person in question would have been altogether different to-day but for the aid of Phrenology.

I did not, as the reader will observe from previous remarks, say that the *boy would steal*; but explained to him that *Phrenology recognizes a brain-centre, the perversion of which leads to stealing.*

PARTICULARS OF A SKULL MARKED BY DR. SPURZHEIM

(During his visit to Cork, Ireland).



TAPE MEASUREMENTS.

The circumference round, over A and D, 22 inches; the coronal measurement, A to D, 11½ inches; Tagus to Tagus, over A, 11½ inches; Tagus to Tagus, over D, 11 inches; Tagus to Tagus, over E, 13¾ inches; Tagus to Tagus, over F, 13 inches.

DIAMETER MEASUREMENTS.

The length from A to D, 7¾ inches; the width at the region of G, 5⅞ inches; at the Parietal Eminence, H, 5⅞ inches; at the angle of the eye, I, 4⅜ inches.

From a manuscript written by Mr. F. R. Taylor about eighty years ago, the writer has been able to gather the following particulars :

By special invitation Dr. Spurzheim gave a series of lectures on Phrenology in Cork, at the close of which he received a hearty vote of thanks. There were a few present who did not join in the general expression of appreciation, but who cordially united in requesting that a second course might be given. The next day two of the dissentients called on the Governor of the House of Industry, requesting the head of a man who had lately died. They obtained the head, and a few evenings afterwards silently laid the same upon the table of the lecture room, asking the doctor to read off the character of the person to whom the skull once belonged. There was a good deal of excitement in the hall, all seeming disturbed but the doctor, who calmly took the skull up and spoke thereon for about forty minutes. He considered the various organs were developed as follows :—

"1, Amativeness, small; 2, Philoprogenitiveness, large; 3, Concentrativeness, small; 7, Secretiveness, large; 8, Acquisitiveness,

small; 10, Self-Esteem, moderate; 11, Love of Approbativeness, moderate; 12, Cautiousness, very large; 13, Benevolence, small; 14, Veneration, small; 15, Firmness, large; 16, Conscientiousness, small; 17, Hope, small; 20, Wit, large; 27, Locality, small; 29, Order, small; 35, Causality, large."

I am not in a position to furnish the full reading as given by Dr. Spurzheim, but from the manuscript journals of Dr. Cooke Taylor I am able to give a few comparative developments, and a few scattered sentences of Dr. Spurzheim's reading before the Cork audience upon the skull now in the possession of the writer :

"This man most likely had no family, and was cross with his wife.

"He would bring home children from neighbours, would never tell his wife, and never tried to make anybody love him. He did not care much for money; never tried to make new friends, and only read the newspaper. He did not care about his looks, and did not care what any one said about himself, could speak all he thought, yet when done you could see there was something after.

"He never gave anything, and did not like the Sabbath. He did not care for titles and laughed at great men, he was obstinate and his conscience was always asleep. You might get him into a corner, but he could always get out by some quick thought or some happy words. His way home was often long because he forgot streets and turnings. His dress was not tidy. He knew all this, saw all the consequences of his ways, yet refused to change them."

At the close of Dr. Spurzheim's remarks, the two gentlemen who had placed the skull upon the table handed in the following statement :

"We have looked upon the lecturer as ignorant and presuming, whose teaching was at variance with all the principles of established science. We chose the skull not for any remarkable or any particular traits of character, but as the skull of a person known to us all, and honour and justice compel us to say that Dr. Spurzheim has been clear, full, exact, circumstantial, truthful, and convincing; and that we are no longer opponents of the science." A loud burst of approval followed this manly declaration. The two gentlemen (one a distinguished doctor in the city) joined the class and became advocates of those truths they once sought to destroy. The Governor took possession of the skull, requesting

Dr. Spurzheim to mark its outlines and name the organs. The doctor willingly complied, and it found a prominent place in the Governor's study, who, some years after, gave it as a literary composition to Dr. Cooke Taylor, LL.D., from whose hands it was received by Mr. F. R. Taylor, whilst he was secretary of the Bradford Phrenological Society, about 1834, and he presented it to that Institution. When the Bradford Phrenological Society became defunct, the skull passed into the hands of the late Mr. William Waddington (of Bradford), chemist and phrenologist, from whom the writer bought it a few years before Mr. Waddington died.

Section 2.—Brain-Measurements.

Almost at the beginning of my efforts in a systematic study of the science and philosophy of Phrenology, my attention was called to an interesting instrument called the Phreno-Physiometer, invented by the late Frederick Bridges, of Liverpool, a most earnest and enthusiastic phrenologist.

After having applied his method of measurement to about twenty thousand cases, and having carefully analysed his relative deductions based thereon, I have come to the conclusion that, although containing one excellent feature, it is scientifically at fault, and must be modified. Obviously, the moving of the central horizontal line and the second and third perpendicular lines to accommodate different types of heads is fatal to scientific accuracy, i.e., liable to convey a misleading idea or false impression in relation thereto.

Now, the phreno-metrical angle of 25 degrees, as indicating the relative balance between the intellectual faculties and the animal instincts, contains an important geometrical and scientific truth. Apparently, however, as applied to measuring the size of *Activeness*, better known as the organ of Destructiveness, it is absolutely unworkable.

Bridges accepted the illogical theory of a normal organ of Destructiveness, and, accordingly, he made an endeavour to measure and estimate its relative size, activity, and influence in human conduct. But, as stated elsewhere, the theory does not hold good in practice ; that is to say, the tendency to destroy, other things being equal, does not correspond to the development of he brain-centre in question.

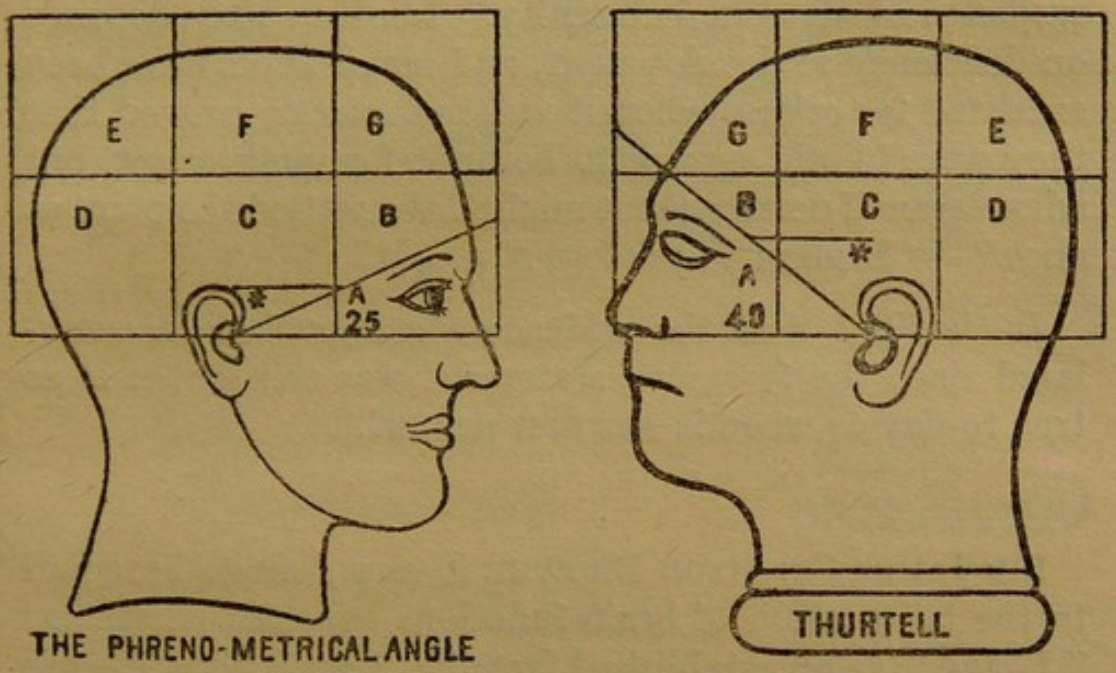
Notwithstanding, Bridges scored a point, in calling attention to the fact that it is a fundamental error to endeavour to estimate the relative strength of the moral qualities or capacities by measuring from the tagus or opening of the ear; unless, of course, the head or skull be harmonious in shape.

Thurtell, like Palmer, had a phreno-metrical angle of 40 degrees, and was of the murderous type. It was, however, not surprising to find that by measuring his head, not from the level of the position of the eye, but from the opening of the ear, his case was used as evidence against Phrenology.

Prof. Bridges, therefore, rightly contended: "The* rule by which many persons laying claim to a knowledge of Phrenology judged of moral qualities of a head was by the height of the head from the opening of the ear, having no means of determining the relative size between the basilar and the coronal regions: according to this method of judging, Thurtell would have seemed a better man than persons whose moral qualities were of the highest order, but whose heads were less in height than his."

The following drawings most aptly indicate and concisely illustrate the idea at issue. These have been made in order to give the reader an intelligent idea of Bridges' phreno-metrical angle of 25 degrees as applied to his model and various other casts of heads.

* "Phrenology made Practical," p. 52.



THE PHRENO-METRICAL ANGLE

A, the basilar phreno-metrical angle ; B, the anterior basilar section ; C, the middle basilar section ; D, the posterior basilar section ; E, the posterior coronal section ; F, the middle coronal section ; G, the anterior coronal section ; *, the balance angle indicating the relative development between animal instincts and the superior faculties.

The squares of the scale are reduced from four inches each, thus allowing for the measurement of a head 24 inches in circumference, and 16 inches from tagus (or ear to ear), over the crown of the head.

The ear of Thurtell, the murderer, is low set, showing relatively only a moderate development of the superior faculties, as compared with the powerful degree of the animal instincts.

The model head measures in height, above the balance angle, 6 inches, whilst Thurtell measures only 5 inches, which means two inches less in actual measurement above the eye, from side to side, over the crown of the head.

In the scale by Bridges the squares are three inches each.

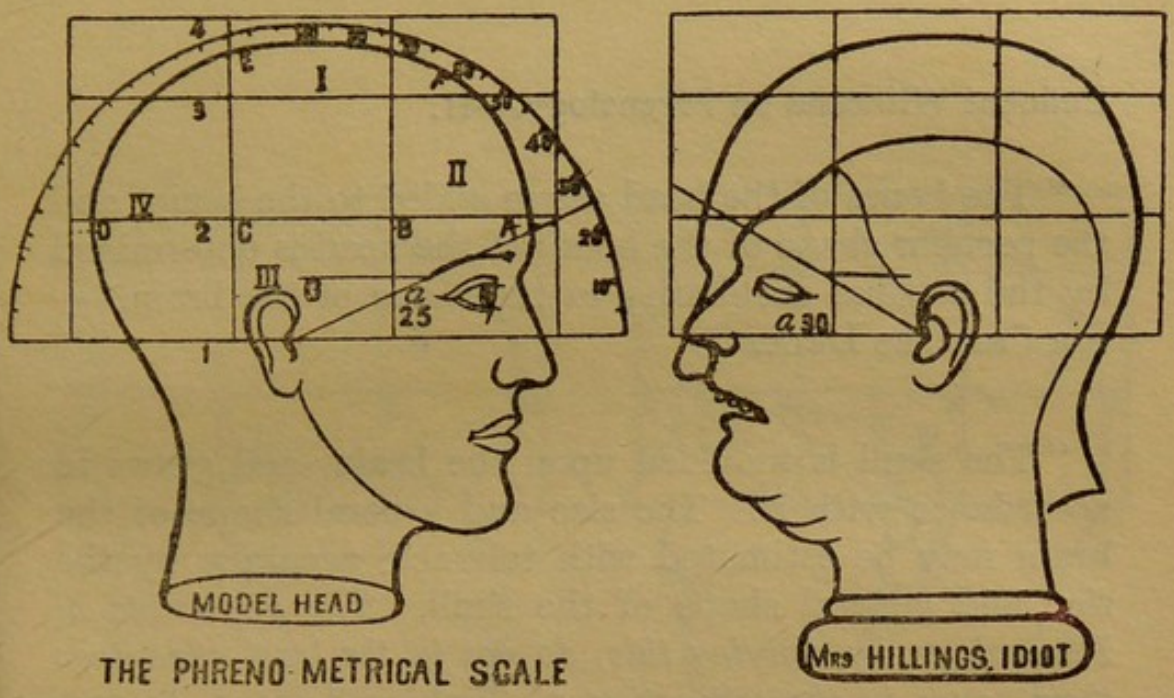
Eminent Witnesses on Phrenology.—I.

In 1840 DR. JOHN ELLIOTSON stated: "Phrenology may be of the highest use when in criminals there is suspicion of idiotism or insanity. Idiotism often depends on deficiency of development, and many idiots have been executed for crimes when it was not exactly proved that they were idiotic enough to be unfit for punishment, but whose cranial development might have settled the point at once."—"Human Physiology," p. 411.

In the light of all the evidence which has been accumulated since the foregoing statement was written, it is as true to-day as when it was first penned.

SIR JAMES CRICHTON BROWNE is very definite in regard to the localization of brain-functions, wherein he states: "I take it as an established fact that insanity is a disease of the brain which does not always involve the whole of that organ, but which, in a large majority of cases, is localized in certain regions of it. This hypothesis is necessary to the explanation of innumerable varieties of insanity which occur, and is borne out by pathological observations as far as they go, and by analogy drawn from the affections of other organs."

That being the case, the British Phrenological Society Incorporated, London, is absolutely justified in endeavouring to "bring the study of the science of Phrenology to the front, to demonstrate its scientific truthfulness; and to secure its adoption in our National Educational work *as a basis of mental training*, and in the necessary adaptation of instruction to the special requirement of each individual. It aims to bring before the proper authorities the great value of Phrenology *as a guide and remedial agent in our National Criminal and Lunacy difficulties.*"—From a Circular of the British Phrenological Society.



THE PHRENO-METRICAL SCALE

The above scale is reduced from the Author's life-size sketch or diagram, and *measures* 12 inches in width and 8 inches in depth ; hence, it allows for life-size illustrations, most of which, in this chapter, are drawn from casts of heads, taken after the death of the persons dealt with.

Section I.—The Superior and Inspiring Faculties.

Section II.—The Intellectual Faculties.

Section III.—The Animal Instincts or Faculties.

Section IV.—The Social and Domestic Faculties.

The measurements of the model head, which indicates almost a perfect development of the relative sections, are as follows :

A to D, length 11 inches, or circumference 22 inches ; A to the tagus, 6½ inches, or tagus to tagus, over A, 13 inches ; Tagus to D, 5¾ inches, or tagus to tagus, over D, 11½ inches ; Tagus to E, 7¼ inches, or tagus to tagus, over E, 14½ inches ; Tagus to F, 7½ inches, or tagus o tagus, over F, 15 inches. From G to E and G to F are exactly 6 inches each. Obviously, therefore, from G rather than from the tagus is the more suitable and accurate landmark as applied to heads in general.

Mrs. Hillings was the mother of five idiots and was hopelessly below the average in her mental and moral development, and, accordingly, incapable of making any real mental and moral progress in a life-time. Her head was 5¼ inches wide at the ears. The outline above her head indicates the degree of her deficiency.

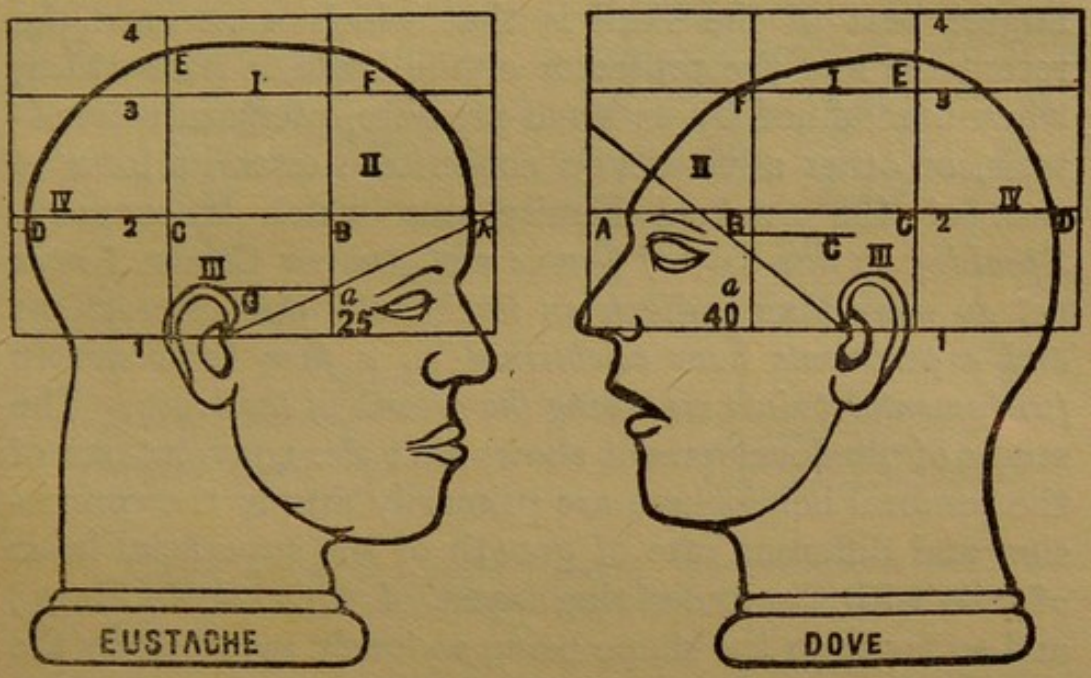
N.B.—A case of arrested development, not a degeneration towards animals.

Eminent Witnesses on Phrenology.—II.

"The bones of the head are moulded to the brain, and the peculiar shape of the bones of the head is determined by the original peculiarity in the shape of the brain."—SIR CHARLES BELL.

"The skull is moulded upon the brain, and grows in accordance with it. The size and general shape of the brain may be estimated with tolerable accuracy by the size and general shape of the skull. *The opponents of Phrenology, by denying this, do not in the least advantage their cause in the estimation of thinking persons, because the statement is of a kind at once to commend itself to common sense as being highly probable.* The frontal sinuses and the projecting ridges, the inequalities on the surface of the skull, which have no correspondences in the interior, do not amount to much, and show only that allowance must be made, and that we must not expect in this way to form an accurate estimate; but they do not affect the principle that the skull is moulded upon and fitted to the brain, and that its exterior does, as a general rule, convey pretty accurate information respecting the size and shape of that organ. *The argument against Phrenology must be of a deeper kind than this to convince any one who has carefully considered the subject.*"—SIR G. M. HUMPHRY, in his "Treatise on the Human Skeleton."

"The only way of estimating the volume of the brain in a living person is to measure the dimensions of the skull."—M. MAGENDIE, the celebrated French Physiologist.



When we compare the relative developments of Eustache, the benevolent negro, with those of Dove, the murderer, we find a most striking contrast. In the first place, the reader's attention is called to the small development above Dove's eye-angle, from G to E, and between the perpendicular lines A and B; also above the third horizontal line, and it will be easy to perceive that the seat of the intellectual faculties was too small for him to manifest anything like a rational degree of intelligence and moral capacity. Indeed he was decidedly below what constitutes the standard of an average human being.

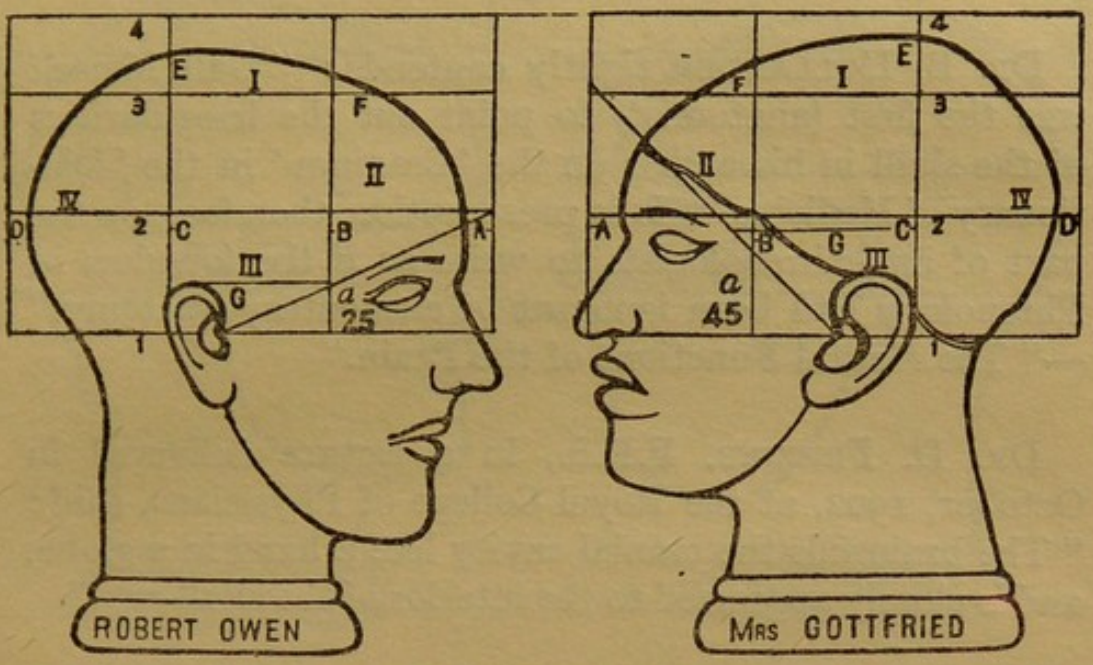
His irrational conduct, therefore, was, in the main, the result of the malformation of his brain; that is to say, he was, to a great extent, a mental and moral idiot. And yet he was treated as a rational being, and found guilty of poisoning his wife at Sheffield, and executed for the offence at York. How stupid, if not criminal, to hang an imbecile!

Apparently, to a greater or less degree, this state of things still obtains. Surely, the time has come when all cases of *idiotic insanity*, which is the result of *arrested growth of brain*, and not organic disease—should receive the same kind of humane treatment as is given to an ordinary lunatic, whose irrational conduct is caused by a diseased, or temporarily exhausted, condition of the brain.

Eminent Witnesses on Phrenology.—III.

PROFESSOR ALEXANDER MACALISTER stated: "The largest part of the skull is that which is at once the receptacle and the protector of the brain, a part which, when unmodified by external pressure, premature synostosis, or other adventitious conditions, owes its form to that of the cerebral hemispheres which it contains. *Speaking in this City of George and Andrew Combe, I need not do more than indicate in this matter that observations and experiments have established on a firm basis certain fundamental points regarding the growth of the brain.* The study of its development shows that the convolutions of the cerebral hemisphere are primarily due to the connection and different rate of growth of the superficial layer of cells with the underlying layers of white nerve fibres; and so far from the shape being seriously modified by the surrounding embryonic skull, *the form of the soft membranous brain-case is previously moulded upon the brain within it, whose shape it may however be, to some extent, a secondary agent in modifying in later growth.* We have also learned that the cerebrum is not a single organ acting as a functional unit, but consists of parts, each of which has its specific province; that the increase in the number of cells in any area is correlated with an increase in the size and the complexity of pattern of the convolutions of that area; and that this in turn influences the shape of the inclosing shell of membrane and subsequently of bone."—Meeting of the British Association, Edinburgh, 1892.

"When the brain is fully developed it offers innumerable diversities of form and size among various individuals; and there are as many diversities of character."—PROFESSOR CARPENTER.



In Robert Owen, the social reformer, we perceive a fairly near approach to the shape of the model head, as compared with that of Mrs. Gottfried, the murderess.

He possessed a large development of Sections I. and II., which include the *Commiserative*, *Venerative*, and *Decisive* faculties. *Acquisitiveness* and *Alitiveness*, however, were only moderately developed. The width of his head at the tip of his ears was $6\frac{3}{8}$ inches. Now, the record of his lifework, which consisted in spending his time and money—to the amount of three fortunes—on what he conceived to be for the public good, was in striking agreement with his mental, moral, and social developments. He died in 1858 at the age of 89.

Mrs. Gottfried's basilar angle of 45 degrees indicates a most serious mental and moral deficiency ; that is to say, she was more animal than human ; this is shown by the relative positions of the eye and ear. Carefully note the relatively small development of her head from angle G to E, and between the perpendicular lines A and B, as compared with those of Owen. For example, Owen measures from G to E and G to F exactly 6 inches in each case, whereas Mrs. Gottfried measures only $4\frac{3}{4}$ inches in each direction. Hence, the difference in those two lives.

This woman was in comfortable circumstances, but for all that in a series of years she poisoned her parents, two husbands, her four children, and other persons. She is credited with having murdered, in all, fourteen persons. Her record is in strict accordance with the shape of her head.

Eminent Witnesses on Phrenology.—IV.

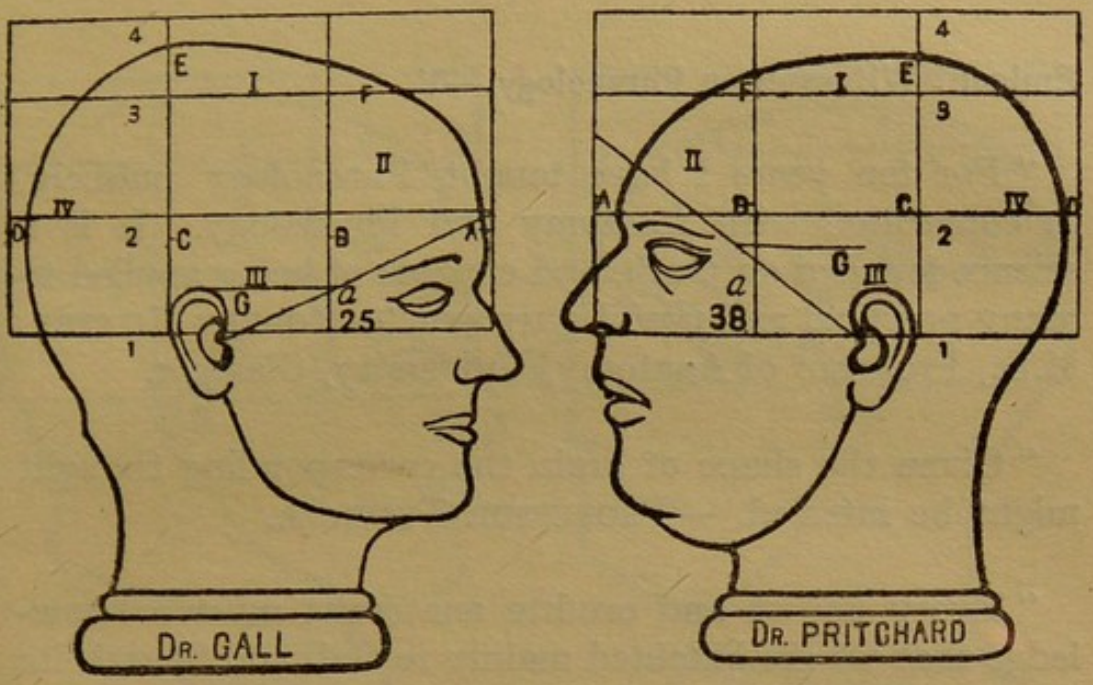
DR. B. HOLLANDER rightly contends: "Gall himself was the first (anatomist) to point out the irregularities of the skull in his article on the 'Cranium' in the 'Dictionary of Medicine.' It is presumption, therefore, on the part of anti-phrenologists to write as if the founders of Phrenology had been ignorant of elementary anatomy." —"The Mental Functions of the Brain."

DR. D. FERRIER, F.R.S., in a lecture delivered in October, 1902, at the Royal College of Physicians, said: "The brain fills the cranial cavity like a hand in a glove, and is closely appressed to the interior of the skull-cap."

DR. C. W. WITHINSHAW, L.R.C.P., L.R.C.S., L.M., Edin. (late Demonstrator of Anatomy at the Royal College of Surgeons, Edinburgh), in an address at Exeter Hall, London, on the 10th of November, 1902, said: "My anatomical knowledge enables me to assert, without fear of contradiction, that the brain does fill its bony box."

DR. HENRY MAUDSLEY, F.R.C.P., late Professor of Medical Jurisprudence in the University College, London, states: "Men differ in the fundamental characteristics of their minds, as they do in the features of their countenances or the habits of their bodies; and between those who are born with the potentiality of a full and complete mental development, and those who are born with an innate incapacity, for mental development in any circumstances there exists every gradation."—In "Body and Brain."

In the light of such statements it ill becomes any medical man, or educated person, to speak of the science and philosophy of Phrenology in a flippant manner.



Dr. Francis Joseph Gall was not only the discoverer of the localization of function in the brain, and the founder of Phrenology, but the founder of Physiological Psychology. He was a mental and moral giant, and one of the greatest, if not the greatest, anatomist of his day. Apparently, he was the first to classify the convolutions of the brain, and make a general critical analysis of their various functions. This corresponds to his most striking development of the analytive faculty.

The pronounced development of the centres of Dignativeness and Decisiveness, combined with the superior attributes generally, above the third horizontal line, is in strict accordance with his truly dignified independence of thought and indomitable perseverance. He measured between his ears $6\frac{7}{8}$ inches, according to a model of his head, and from G to F (above eye) 6 inches, or from the tagus $7\frac{1}{4}$ inches. This is in perfect harmony with his proved great mental capacity; whilst the fullness at the tip of his ears, termed Activeness, agrees in name and function, in a remarkable degree, with his "aggressive energy" and untiring industry.

Dr. Pritchard, of Glasgow, who poisoned his wife and mother-in-law, constitutes a sad and striking contrast with Gall, in mental and moral capacity. Note the position of, and the difference in, the basilar angle. From G to F Gall measures 6 inches, and from G to E $6\frac{1}{4}$ inches; whereas Pritchard measures between the ears, in width, $6\frac{3}{8}$ inches; from G to F, $4\frac{3}{4}$ inches; and from G to E, only 5 inches. In Pritchard the faculties of self-preservation were unduly powerful or abnormally developed, whilst the intellectual and superior faculties were somewhat feeble. Pritchard, like Palmer, knew he was doing wrong.

Eminent Witnesses on Phrenology.—V.

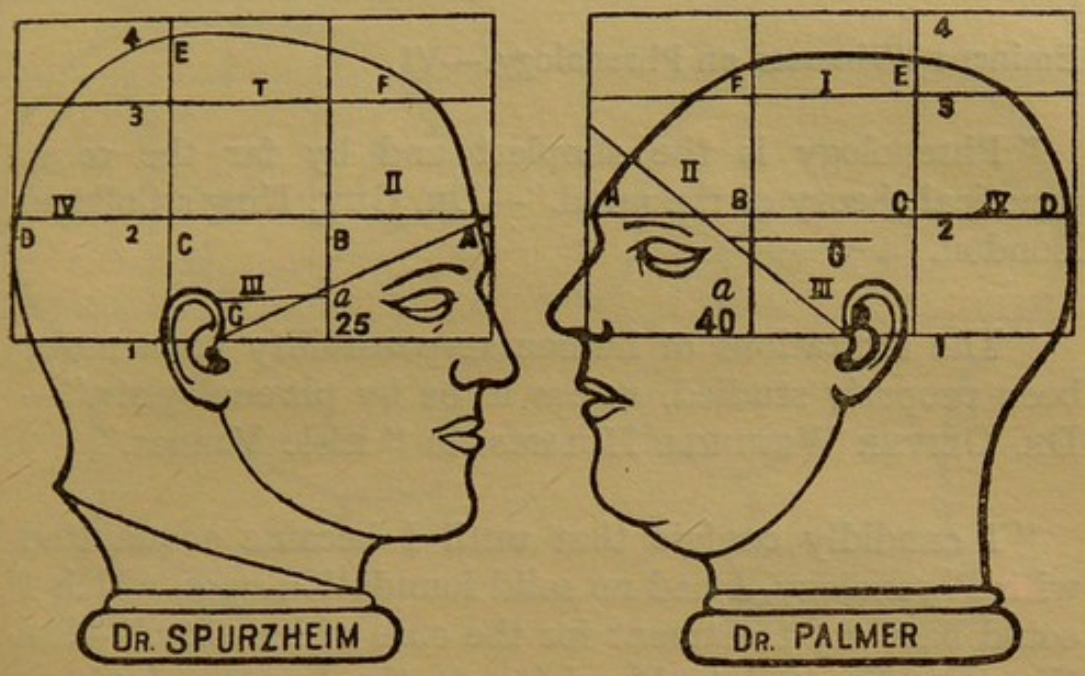
"For ten years I have taught Phrenology publicly, in connection with Anatomy and Physiology. It is a science founded on truth, and capable of being applied to many practical and useful purposes."—ROBERT HUNTER, M.D., Professor of Anatomy, University, Glasgow.

"Given the shape of brain the corresponding thought might be inferred."—PROFESSOR TYNDALL.

"Every honest and erudite anatomist must acknowledge that we are indebted mainly to Gall and Spurzheim for the improvements which have been made in our mode of studying the brain."—DR. SOLLY, "On the Brain."

"Scientific Phrenology is based on the most recent researches into the functions of the brain, and has no connection with the bump-theory, which is commonly supposed to constitute Phrenology. It furnishes a key to human character, enables us to understand ourselves, and apply our knowledge to the education of the young, and the treatment of the criminal and insane."—DR. BERNARD HOLLANDER.

"Phrenology is not a myth, a phantom, or a fad, but is based on knowledge, observation, logical deduction, and experience which has stood the test of a full century's scrutiny, criticism, and misrepresentation, and surely a doctrine, a system, that can stand such a test as this, and after it shine forth with the brilliancy and purity of truth, is worthy of being called a science."—DR. WITHINSHAW.



That Dr. Spurzheim, besides being co-founder of Phrenology with Dr. Gall, was a great anatomist and physician goes without saying. It is equally true, as shown by his writings, that he was one of the greatest, if not the greatest, mental philosopher and physiological psychologist of his age. He measures between the ears, in width, $7\frac{1}{4}$ inches.

Like Gall, he was a mental and moral giant. This corresponds with the majestic development of his forehead, and the centres of Venerativeness, Decisiveness, and Dignativeness. This gave him great reasoning capacity and a keen sense of responsibility, indomitable perseverance, and nobility of thought and action. Whilst obviously showing great capacity in distinguishing differences, and in making analysis, in the writer's judgment, he was even greater at synthesis. In other words, the synthetive faculty predominated.

Now, contrast the shape of the head of Dr. William Palmer, of Rugeley, the poisoner, with that of Spurzheim or the model head. His eye-angle is 40 degrees (not 25 degrees as in the other cases). From G to F he measures only $4\frac{3}{4}$ inches, being an inch and three-quarters less than in Spurzheim. Palmer's head is $6\frac{7}{8}$ inches wide, and in a line with his eye, from G to E, measured only $4\frac{3}{4}$ inches. Note: Spurzheim's head, in a line with his eye, from G to E, measures $6\frac{3}{4}$ inches. Palmer was morally an imbecile, and mentally below the average in capacity to distinguish between the relative degrees of right and wrong, but even what he conceived to be the right, he found it most difficult to carry out in practice.

Eminent Witnesses on Phrenology.—VI.

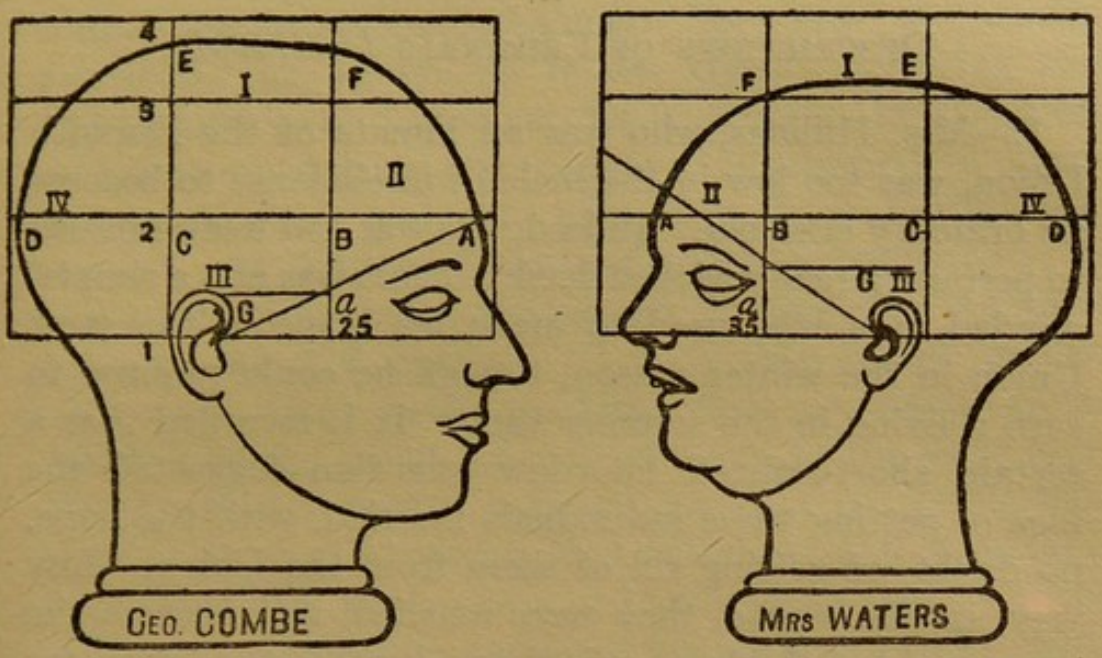
"Phrenology is the simplest and by far the most practical theory of the mind."—DR. GUY, King's College, London.

"The limitations of human responsibility have never been properly studied, unless it be by phrenologists."—DR. OLIVER WENDELL HOLMES, in "Elsie Venner."

"I candidly confess that until I became acquainted with Phrenology, I had no solid foundation upon which I could base my treatment for the cure of insanity."—SIR WILLIAM ELLIS, late Physician to the Lunatic Asylum, Middlesex.

"I not only consider Phrenology the true science of mind, but also as the only one that may be applied to the education of children, and to the treatment of the insane and criminals."—C. OTTO, M.D., Professor of Medicine in the University of Copenhagen.

"A vicious man must be restrained, as a wild beast, for the good of others, though, for aught we know, his faults may, like the acts of the beasts of prey, be chargeable rather on his nature; and, while we feel justified in confining, and the culprit is perhaps conscious how richly he deserves his fate, we may pity in our hearts and acknowledge that we ourselves have often been less excusable."—DR. JOHN ELLIOTSON, in "Human Physiology."



That George Combe, the first British phrenologist, and by profession an able lawyer, was a man of remarkable intellectual capacity, no one who is acquainted with his writings, and who possesses ordinary ability, will attempt to deny. His name and work can never be obliterated from the study of the philosophy of mind. In all probability his name will be handed down to posterity with great esteem, honour, and lasting fame.

He manifested, in absolute accordance with the shape of his head, the combined attributes of a great and wise mental and moral philosopher, whose chief aim in life was to serve mankind. His medium breadth of head in the region of Acquisitiveness and the height thereof above the third horizontal line indicates, or corresponds with the fact, that he was devoid of anything low, mean, or selfish; that he was one of nature's natural gentlemen, and a philanthropist. His width of head between the ears was $6\frac{3}{8}$ inches.

Could anything be more sad and pitiable, as a contrast with Combe, than the study of the head of Mrs. Mary Waters, who was executed for causing the death of numerous illegitimate children, which she had taken with money from unknown rich persons? In Sections I. and II. her head, which was 6 inches wide at the ears, is similar in shape to those of Dove and Waddington; the latter was executed at York for the murder of his own child at Sheffield. The shape of her head indicates that she was very dense, callous, and vicious.

Section 3.—Degrees of Responsibility.

DESCRIPTIONS OF CRIMINALS (*continued*).

I.—Mrs. Hillings, who was an inmate of the Norwich Union, was too low in the scale of intelligence to become an ordinary criminal. Indeed, she was too weak-minded to perform a really wicked deed. There was also a simple-minded man who used to make his home in the same Union in the winter season, though he could manage to earn a living in the summer time. It is recorded that a certain short-sighted Poor-law guardian suggested the idea of getting these individuals married, with the hope, no doubt, of getting rid of them from the Union. Any way, in due course, they were married, and became the parents of five children—all idiots. Finally, the Guardians were obliged to look after the needs of the entire family of seven. If looked at only from the merely business point of view, it was a mistaken economy. But what density of intelligence was shown by the Guardians in regard to cause and effect.

II.—Poor Dove, from his childhood upwards, was practically devoid of any innate moral principle to aid in influencing his conduct. In justice to his parents, it must be stated, they did what they could to awaken in him a sense of moral responsibility, and to stimulate and develop, if possible, a sense of right and wrong, but all to no purpose. The evidence produced at his trial clearly indicated that at no period in his life had he been rational. Apparently, amongst other things, he found real pleasure in putting into the eyes of animals vitriol and even red-hot wire. Indeed, his whole career, from his youth up to the time he poisoned his wife, was a continuous record of irrational conduct and vicious acts. And yet this poor, miserable imbecile or moral idiot was found guilty, condemned to death, and hanged.

III.—The story of the life of William Palmer is a strange mixture of plausibility, superficial kindness (where it

paid him or served his purpose for the moment), and crafty, unscrupulous scheming. He was at school described "as always up to his tricks." During his apprenticeship at Liverpool, as a chemist, he behaved in a most unsatisfactory manner; is reported to have seduced a girl; and was proved to have robbed his masters. At the age of eighteen he was apprenticed to a surgeon for five years, during which time "he became notorious for bad habits." It is further stated, in his life-story: "The readiness with which he would (when called up in the middle of the night) put to the horse and accompany his master was not thought so favourably of when it was discovered that swindling and seduction were two of his weaknesses." In the latter part of 1846 he went to London to complete his medical studies, and promised to pay Dr. Stegall, who was to act as his "grinder," the sum of fifty guineas, if he enabled him to pass his examination, and thus escape being "plucked." And, although he was very backward in his medical knowledge, his able teacher enabled him to "pass his examination," it is stated, "with credit." But true, as usual, to the shape of his head and well-known character, he never paid the promised fee. His medical practice was pursued with little or no real pleasure, most of his time being taken up with the study of horses and matters connected with racing; these being his chief topics of conversation. Further, his method of plundering the assurance companies, by means of policies made available to himself, through the art of poisoning the assured, and, lastly, the callous deed of robbing on his death-bed the man whom he had murdered, represent a most terrible record.

Perhaps I could not do better, at this juncture, than make a brief quotation from the first chapter of the "Life and Career of William Palmer," which reads as follows:—

"If the lives of the great and good are deserving of

being written for the admiration of succeeding generations, and to excite those who study them to the practice of brave and virtuous actions, the careers of great criminals are equally worthy of being recorded ; that their misdeeds may become the abhorrence of posterity, and that all who ponder over their wretched courses may take warning by the rapid progress with which, after the first false step, they too surely enter upon their downward path of crime."

Question : Was Palmer capable of being anything other than a murderer? *Answer :* Whilst admitting his natural deficiencies, he was, as shown by his conduct at certain periods, capable of a certain amount of mental and moral rectitude and improvement. Phrenology and divine grace have saved similar types from the hangman's rope.

Dr. Gall, in his own Defence,

wrote as follows :—" The circumstances that the two tables of the cranium are not parallel in their whole circumference, and at all periods of life, would certainly be of the greatest importance if I had ever pretended to judge of all the minute shades of difference that exist in the convolutions in the brain. On the contrary, I have endeavoured to acquaint my hearers and readers with all the circumstances in question. I have spoken of the frontal sinus, of the separation of the two tables in the cranium in men and in animals. I wrote upon it in my article ' Cranium ' in the ' Dictionary of Medical Science.' I was the first to mention that it was impossible for us to determine with exactness the development of certain convolutions by the inspection of the external surface of the cranium. I was the first to treat in detail the variations in the thickness of the cranium which happen in old age, insanity, etc. I was the first to teach that in certain cases the external table of the cranium is not parallel to the internal one. I called the attention

of anatomists to all these circumstances. Is it fair, then, of these anatomists to turn these facts into weapons against craniology? Why had they not the frankness to state by what means I have removed many of these difficulties, and to confess that I have pursued my researches with candour, and considered it, in all its aspects, with impartiality?

"It is true that after the cranium is removed the prominence of certain cerebral parts do not appear such as they are impressed on the cranium. But does it astonish any one that the brain should sink and flatten down in some measure when the osseous box, which covers and sustains and supports it on all sides, is removed?

"A critic who, in order to combat his adversary, is obliged to attribute to him opinions contrary to those which he professes betrays the weakness of his own arguments. . . . By what right do these anatomists suggest the idea that men, who for a long series of years have devoted themselves to the study of the functions of the brain with an indefatigable zeal and love of truth, overcoming all obstacles, have neglected to observe so necessary a condition?"

Dr. Gall's able, eloquent, and dignified rebuke to his critics indicates that he was not only honest and sincere, but absolutely devoid of cant or evasion. This should serve as a warning against the stupid habit, which obtains with numerous persons, of expressing opinions on various subjects without due or reasonable consideration in connection therewith.

"I affirm, without fear of contradiction, that no anatomist before Dr. Gall had even the slightest idea of the structure of the convolutions of the brain."—Dr. Bailey.

Section 4.—The Surgeon, or Mental Specialist, Which?

Who is to decide whether a man be sane or insane?

The writer is in the possession of certain information which he feels, in the interests of humanity, ought to be made known. But, for various reasons, he has decided not to give the names of the parties concerned.

Case I.—A surgeon was called in to prescribe for a boy whose mental condition became a source of great anxiety to his parents. The case was treated mainly as one of bad temper, and the little fellow instead of mending grew worse daily. The distracted parents, therefore, requested a phrenologist (a mental specialist) to visit the boy, hoping that he would be able to throw some light upon the case, if not to relieve the boy's sufferings. In due course he arrived, and quickly discovered the seat and cause of his condition of temporary insanity, and suggested a remedy, which, after undue delay, and much mental suffering, was adopted with success.

Case II.—A certain man who had been taking alcohol rather freely became somewhat excited, and, amongst other things, threatened to do injury to his wife. Partly through fear, and partly owing to a mistaken idea as to his real condition, she made an effort to get him removed to an asylum ; and, to say the least, managed to mislead the surgeon ; adding to this a strong share of physical force (on the part of a few men), she succeeded in the desired end. Fourteen days in gaol would have been a more suitable punishment.

Shortly afterwards, however, her conscience began to operate and cause her some mental discomfort. She therefore decided to request a phreno-psychologist to visit the asylum in question, for the purpose of ascertaining whether her husband could be set at liberty !

As requested, he went to the asylum, and asked for an interview with the doctor (which was granted to an assistant doctor) and stated quite frankly the nature of his business, and that he had received a written request to go and see the patient. After waiting a little while, the assistant doctor, assuming an attitude of great

importance, make-believe, and bunkum, endeavoured to assure the phrenologist that the patient was in such a serious condition that no one could be allowed to see him (?). It was, however, afterwards discovered that at the very time of the *assumed serious condition* he was actually having dinner with his wife ! A few days later the man in question was liberated from the asylum.

Case III.—A young man, who at one time had shown superior intelligence, through foolish habits, had become so affected that in all matters involving the power of reasoning he was not merely an imbecile, but indicated, at times, certain criminal tendencies. Hence, the time came when it was considered necessary not only for his own safety, but for the safety of certain relations, that he should be put under proper restraint. Accordingly, a surgeon was called in to give advice in regard to the young man's mental condition. And, after due consideration, he declared *the patient to be " as sane as himself* ! "

No wonder that some one present expressed pity for the doctor's sanity, or ignorance, in regard to the case in question.

The case had already been carefully considered from a phrenological and psychological point of view, and, therefore, in the light of the patient's actual doings, it was decided to ignore the surgeon's opinion, and remove the person to the workhouse for a week, for the purpose of watching his actions during that period. The party duly arrived at the workhouse, and during a brief conversation the doctor observed, and agreed with the phrenologist, that " there was, evidently, something wrong mentally with the young man." The phrenologist, in company with an official, retired to another room for about thirty minutes. Having duly made his examination the doctor came into the room where the phrenologist was waiting for his return, and expressed the opinion " that it was a most difficult matter to deal with, and he was afraid that it would be a difficult matter to get it through " ;

and finally he asked the phrenologist " to define the case, as he could not do so."

The phrenologist asked for a piece of paper; the request being granted, he described thereon, under five headings, certain things done by the patient that no sane person would do. " That will do first-rate," said the doctor, after reading the contents, " we can manage now all right."

The doctor and a magistrate now proceeded to examine the patient on the particulars thus obtained, and these were found to be correct. Proceeding, these particulars were copied and put into an official document, for which the doctor would receive his official fee, though the phrenologist, who put the right words into his mouth, received no reward but the satisfaction of having done his duty. The patient, although he has been in the asylum for several years, has made no real progress mentally. In the light of these, and many similar cases, and facts, it is high time that the special knowledge possessed by the expert phreno-psychologist be applied to the needs of those in or at our prisons and asylums.

In the words of Dr. O. W. Holmes: " Phrenology* has proved that there are fixed relations between organization, and mind, and character. It has brought out that great doctrine of moral insanity, which has done more to make men charitable, and soften legal and theological barbarism, than any one doctrine I can think of since the message of peace and goodwill towards men."

* " Elsie Venner," p. 174.

Eminent Witnesses on Phrenology.—VII.

"Until Phrenology was discovered, no natural index to mental qualities, that could be safely relied on, was possessed, and each individual, in directing his conduct, was left to the guidance of his own sagacity. But the natural law never bended one iota to accommodate itself to that state of ignorance. Men suffered from unsuitable alliances; and will continue to do so until they avail themselves of the means of judging afforded by Phrenology, and act in accordance with its dictates."—GEO. COMBE, p. 146 "Constitution of Man."

Combe's Influence on Cobden.

MR. JOHN (now LORD) MORLEY, in his "Life of Cobden," says: "Some readers will smile when I say that no teacher of that day was found so acceptable or so inspiring by Cobden as George Combe. He had read Combe's volume before he wrote his pamphlets, and he said that 'it seemed like a transcript of his own familiar thoughts.' Few emphatically second-rate men have done better work than the author of the 'Constitution of Man.' That memorable book, whose principles have now in some shape or other become the accepted commonplaces of all rational persons, was a startling revelation when it was first published (1828), showing men that their bodily systems are related to the rest of the universe, and are subject to general and inexorable conditions; that health of mind and character are connected with states of body; that the old ignorant or ascetical disregard of the body is hostile both to happiness and mental power; and that health is a true department of morality."—"The Life of Richard Cobden," p. 93.

CHAPTER VIII.

THE SOCIAL AND DOMESTIC FACULTIES.

GROUP II.

MARRIAGE: Its Laws and Purpose; or, How to Choose a Husband or Wife.

Introduction.

IT is only when we come to carefully consider the social, mental, and moral issues involved in marriage that we realize the magnitude thereof, and how much the national well-being is bound up therein.

Obviously, marriage was founded by the Creator with a definite moral purpose attached thereto.

Now the inference to be drawn from a prolonged study of the operation of the social and domestic faculties alike, or similar, in man and animals is, that the Creator has given us fixed laws, which, if we obey, will result in happiness, but which, if we disregard them, are likely to lead to misery. Hence, it becomes our duty to make ourselves acquainted with the principles of temperamental Physiology and Phrenology, because they are the only sciences which give practical and safe information upon these most interesting and vital relationships.

The main reason why marriage is a failure, in numerous instances, is ignorance concerning each other's actual, not merely surface, disposition. Though often regarded as synonymous terms, there is a vast difference between marrying and mating; indeed, it frequently happens that marriage takes place without the parties being properly

mated. As a general rule, yet with many noble exceptions, no question is asked as to their mental and physical adaptations. One may be a partial imbecile or criminal and another suffering from some terrible disease, while both may differ greatly in disposition, intelligence, moral capacity, and social position.

I.—What do we mean by the term Married?

Is it the mere act of joining together by a minister or registrar two persons for life? I have no objection to the true Marriage Service; indeed, I consider it to be a most desirable function. But for all that, it must be self-evident that unless the parties be *first* truly joined together *in spirit and purpose,* the marriage ceremony is a mere sham and mockery. These persons pledge themselves under all circumstances "to love, honour, and cherish each other, as long as they both shall live." But if the combination of temperamental and mental developments are, say, only three points in favour of, to seven of points against such a union, it is likely to become a bitter struggle to keep together.

II.—What are we to understand by the term Mated?

To be rightly mated is to have a partner physically, mentally, and morally adapted to oneself. In the very nature of things this is required, by natural laws, in order to produce the best results. In music the notes C and E have a different tone and name, but when played together in the natural key there is harmony. It is the want of harmony between so-called husband and wife that is the keynote or probable cause of seven-tenths of the matrimonial discord around us to-day.

III.—What is Physical and Mental Adaptation?

It consists of a general diversity, but not extreme contrasts between men and women; a dissimilarity in their temperamental and magnetic conditions. These

produce a natural affinity, as in the two currents of electricity, the "positive" and "negative." Two positives or similarities *repel*, whereas the unlike *attract*! The main reason, therefore, why so many marriages are an utter failure is because of ignorance concerning the exalted laws which govern the relationship of the sexes. Hence, when trials and temptations come they are liable to go under.

Apparently, Phrenology and Physiology, for the time being, are the true pilots to guide us on the sea of matrimonial life, for the obvious reason that their combined study directs us how to avoid discord between the clashing of our social and moral natures. And, further, they point out the combination of powers required to produce real harmony between the sexes, and the three important objects of life, namely, the continuation of the human race in a state of usefulness, and health, and happiness, until such a time as human life on this planet is appointed to terminate.

We live in an age that is wise enough to give the most careful attention to the cultivation of flowers, fruit, and grains; the breeding of cats, dogs, sheep, oxen, and horses. This is as it should be. But why not give equal, if not more, attention to the production of the human race?

Section 1.—Definition of the Second Group of Faculties.

Generativeness (Amativeness).

[Localized by Dr. Gall, and re-named by the Author.]

"If there hath been such a gradual diminution of the *generative* faculty upon the earth, why was there not the like decay in the production of vegetables?"—BENTLEY.

"In grains and kernels the greatest part is the nutriment of the *generative* particle."—SIR T. BROWNE.

5.—GENERATIVENESS (jen-er-a-tiv-ness), from Latin *genero, generatum* = to beget; the desire to propagate or produce a similar being to the parent; chivalry between the sexes.

The primary normal function of this faculty is love between the sexes ; a desire not only to propagate one's own species, but the continuation and preservation of the entire human race. In its highest and truest sense it gives platonic love and an exalted chivalry between the sexes, and when fully developed and rightly directed gives a magnetic charm to the character. It inspires men and women to treat each other with the greatest consideration ; it is the most powerful of all the instincts which animate human and animal life ; and it produces a desire to love and to be loved. The impulse of love is described by Burns as follows :

> " O, happy love ! Where love like this is found ;
> O, heartfelt raptures ! Bliss beyond compare."

I have no hesitation in affirming that the strength of the generative propensity bears a constant relationship to the development of the cerebellum. This the writer has been able to verify not a thousand times, but many thousands of times.

In infants the cerebellum is the least developed of the cerebral parts. As the instinct of propagation increases, the cerebellum develops at a corresponding rate. It does not, however, attain its full development until maturity.

The *abnormal* condition of this faculty tends to varying degrees of licentiousness. The abuse of this most important power of the mind has overspread the world with its human wrecks. The perverted exercise of this impulse is sometimes mistaken for its excessive development.

Persons who are very deficient in the development of this faculty are very cold and indifferent towards the opposite sex, and almost devoid of natural affection. In my judgment, about seven-tenths of the difficulties which occur between husband and wife arise from an unequal development of this faculty.

Nuptiveness (Conjugality).

[Localized by Dr. Vimont, O. S. and L. N. Fowler, and re-named by the Author.]

"Her should this Angelo have married; was
Affianced to her by oath and the *nuptial* appointed."
SHAKESPEARE.

"Happy they, the happiest of their kind,
Whom gentle stars unite, and with one fate
Their hearts, their fortunes, and their beings blend."
JAMES THOMSON.

6.—NUPTIVENESS (nup-tiv-ness), from Latin *nubo, nuptum* = desire to choose a mate and marry; a tendency to unite with one object for life. Conjugality, from L. *conjugo, conjugatus* = to join or couple, only partly indicates the idea of choosing a life-long partner. Nuptiveness for Conjugality means to mate, not merely to join or couple, which is a distinct improvement, hence the rejection of the latter term as applied to marriage.

It enables a person to concentrate the whole influence of this power upon one object for life, and remain true and faithful to the marriage bond.

In the normal condition this faculty constitutes the foundation of marriage, and when husband and wife are rightly mated it ties the knot of matrimonial bliss, and binds two congenial souls into one in aim and purpose, and gives consideration for and devotion to each other, which increases with advancing years.

Dr. Vimont, a French physician, while making observations on Comparative Phrenology, observed that the portion of the brain associated with what he called "Union for Life," was fully developed in man and all those animals disposed to pair, but deficient in those of an opposite character.

Over a quarter of a century of daily observations, in a similar direction, have led the writer to the same inevitable conclusion.

The *abnormal* condition of this power makes one inclined to be jealous of the object of his or her affection, as the

case may be; a tendency to love too intensely and become very jealous towards love rivals. When a person is very deficient in this faculty there is no disposition to marry, at any rate, not for love. Such an one is inclined to be fickle in affection and inconstant. When a woman in whom this faculty is large, forms an alliance with a man in whom it is under the average in development, she is likely to feel as follows:

"What *idea* possessed me when I tamely gave
My forced assent to be an *imbecile's* slave?
My beauty vanished, what for me remains?
Th' eternal clicking of the galling chains."

Paritiveness (Philoprogenitiveness).

[Localized by Dr. Gall, and re-named by the Author.]

"Out of the above 211 seedlings, 173 belonged to the same two forms as their *parents*, and only 38 belonged to the third form distinct from either *parent*."—DARWIN.

"Those, for their *parents* were exceeding poor,
I bought and brought up to attend my boys."
—SHAKESPEARE.

7.—PARITIVENESS (pa-ri-tiv-ness), from Latin *pario, paritum* = to bring forth or bear; the tendency to become a parent. The term Progenitiveness, from Latin *progigno, progenitum* = to beget; bear, etc., is preferable to the hybrid Greek and Latin term philoprogenitiveness. But paritiveness is still more concise and accurate.

The primary normal function of this wonderful instinct is love for the young and helpless. This attribute of love for the child differs from the other social faculties in this striking particular, that the donor neither anticipates nor requires any reward from the object of his or her devotion. His Majesty the Baby is quite incapable of even appreciating the affectionate care and tenderness bestowed upon him, and yet the love and devotion, according to his needs, continues, though he may never show any appreciation of the same.

Obviously, this faculty was instituted not only for the purpose of making the sacrifice required for the baby's

needs a delightful and pleasurable service, but also for the preservation of the human race. The human infant is one of the most helpless creatures born into the world, and therefore, its very existence depends on its receiving constant care and attention. A parent deficient in *Paritiveness*, even though possessed of a large degree of *Obligativeness*, will attend to the needs of his or her offspring more from a sense of duty than love for the object.

Parents in whom this faculty is large and active are inclined to, and do, sacrifice much for the happiness of their children. The affection of a mother for her child is most charmingly illustrated in the story of Moses, and in numerous other similar stories since his time.

Paritiveness not only gives a tender regard between parent and child, but also, in its highest sense, appreciation of the Fatherhood of God.

The abnormal condition of this faculty in parents gives a tendency to pamper and spoil their children by over-indulgence ; they allow their children to lead them, instead of insisting on obedience, and are liable to almost become the slave of parental duties ; and, besides, are very considerate towards animals.

Persons in whom this faculty is deficient are apt to hate children, and even openly express their disgust of them in very unmeasured te ms ; and are liable to cause them serious injury by actual neglect and indifference to their most pressing needs. More will be said elsewhere on this subject.

Habitativeness (Inhabitiveness).

[Localized by Dr. Spurzheim and George Combe, and re-named by the Author.]

"For want of *habitation* and repair,
Dissolve to heaps of ruins."—DENHAM.

"Oh, love ! no *habitant* of earth thou art."—BYRON.

"An imagination bodies forth
The forms of things unknown, the poet's pen
Turns them to shapes, and gives to airy nothing
A local *habitation* and a name."—SHAKESPEARE.

8.—HABITATIVENESS (ha-bi-ta-tive-nes), from Latin *habito, habitatum* = to dwell, a verb intransitive; the tendency to occupy. Inhabitiveness, from Latin *inhabito*, a transitive verb. Therefore, the first is the more correct term and truly indicative of the natural function.

The primary normal function of this faculty is love of home and country. It enables us to become strongly attached to our place of residence for the time being, and makes us leave home with much reluctance and return with great delight; a desire to possess a home of one's own; it makes one pre-eminently patriotic, and liable to home-sickness when away therefrom. Such persons fully appreciate and respond readily to the immortal melody of "Home, Sweet Home."

The abnormal condition of this power makes one excessively attached to one place, and gives a strong aversion to change the place of abode, and a willingness to forgo even good prospects abroad in life rather than leave home. Such persons are very liable to home-sickness when they leave home—especially for the first time.

The Lonely Englishman and New York Organ Grinder.

Mr. Wm. Bell, the well-known temperance lecturer, was a most interesting example of one possessed of a large development of Habitativeness. He told me just before his death that on one occasion, while staying in New York, he felt very tired and lonely, and just at that moment of depression a street organ commenced to grind out the well-known tune of "Home, Sweet Home." He said: "I made a rush for the spot, emptied my pocket of all the coppers I possessed, grasped hold of the handle of the organ, gave it a most vigorous turn, and believe me, at any rate, for the time being, I felt a great sense of relief." In the light of his social developments I had no difficulty in accepting his statement.

Persons in whom this faculty is very deficient can pack

up their belongings, at very short notice, and be gone, with few or no regrets. Indeed, such persons enjoy a frequent change of abode; they possess little love of home, and are inclined to manifest even less.

Sociativeness (Adhesiveness).

[Localized by Dr. Gall, and re-named by the Author.]

"Society is no comfort
To one not *sociable*."—SHAKESPEARE.

"Withers adieu? Yet not with the remove
Thy martial spirit or thy *social* love."—POPE.

"Another law toucheth them, as they are *sociable*
Parts united into one body."—HOOKER.

9.—SOCIATIVENESS (so-shi-a-tiv-ness), from Latin *socio, sociatum* = to associate; desire to associate with others; the power of being sociable; social tastes and aptitudes.

ADHESIVENESS, from Latin *adhoereo, adhoesum* = the state of adhering or sticking together; adhesion of parts united by growth or otherwise; suggestive of sticky stamps, labels, wax plasters, and the like.

Sociativeness includes friendliness and even capacity for forming sincere friendships, but it has a much wider application. Many persons are staunch in their friendships who are by no means sociable; on the other hand, many persons who are very sociable are fickle in their friendships and attachments.

There are two sides to the history of man's upward mental, moral, and social climb. Huxley saw one side mainly, i.e., self-assertion and competition, but missed the equally important one of altruism and co-operation.

The primary normal function of this faculty is a desire to associate and co-operate with our fellow men and women in various enterprises; the power that makes man a gregarious and cosmopolitan creature; indeed, the love of association with our fellows is essential to the mental,

moral, and social advancement of the human race. Obviously there could be no actual cohesion of Society without the aid and influence of this powerful platonic faculty. It seems to be fitted to meet the various needs of human association, without which there could be no such thing as true comradeship, sociality, and brotherhood in human society. Persons in whom this faculty is large are highly sociable and affectionate, and must have company; they enjoy the society of their friends and delight in entertaining them.

The abnormal condition of this faculty gives one an undue love for company and friends, and a tendency to be led astray thereby. There can be no doubt but that thousands of honest individuals are rendered dishonest by yielding to the persuasion of evil companions. Such persons should learn to say "yes" or "no."

Allow me here to cite a striking case of a man who possessed an abnormal development of the sociative faculty, combined with a keen sense of hunger and thirst, and a moderate degree of self-respect, and less than a full degree of decision of character.

I felt it to be my duty to warn him against indulging in the social glass of intoxicating drink, and further, that on no account should he undertake the management of a public-house, because of the danger of too frequently sipping with associates, and that would develop into intemperate habits, and finally he would be liable to go under. He wept bitterly and said: "I have lost £10,000 in the business." And he inquired: "What should I have made?" In reply thereto, I said: "You would have succeeded well as a cloth manufacturer." And in a state of great mental agitation, he said: "I made my £10,000 as a cloth manufacturer, and it is all gone. What a fool I have been! I wish I had seen you ten years ago, as you might have saved me."

Persons in whom this power is deficient are almost

devoid of social feelings, can easily live apart from the few friends they make, are very unsociable, and have little or no desire for company.

Section 2.—The Age to Marry.

The question has been frequently asked, "At what age should a person marry?" The answer thereto must be a qualified one. In the first place, no man or woman should become a parent until the body has attained its full growth.

Careful investigation shows that, as a general rule, men attain their full development from about twenty-four to twenty-five, and women from twenty-three to twenty-four years of age. Climate, of course, has an important effect on the body, so much so that in hot countries young people mature much earlier than in cold ones. The few, comparatively, may marry at eighteen or nineteen, but some of the bones, in the average Briton, do not attain their full growth until the ages already mentioned, even though the full stature may be reached at sixteen or seventeen years of age.

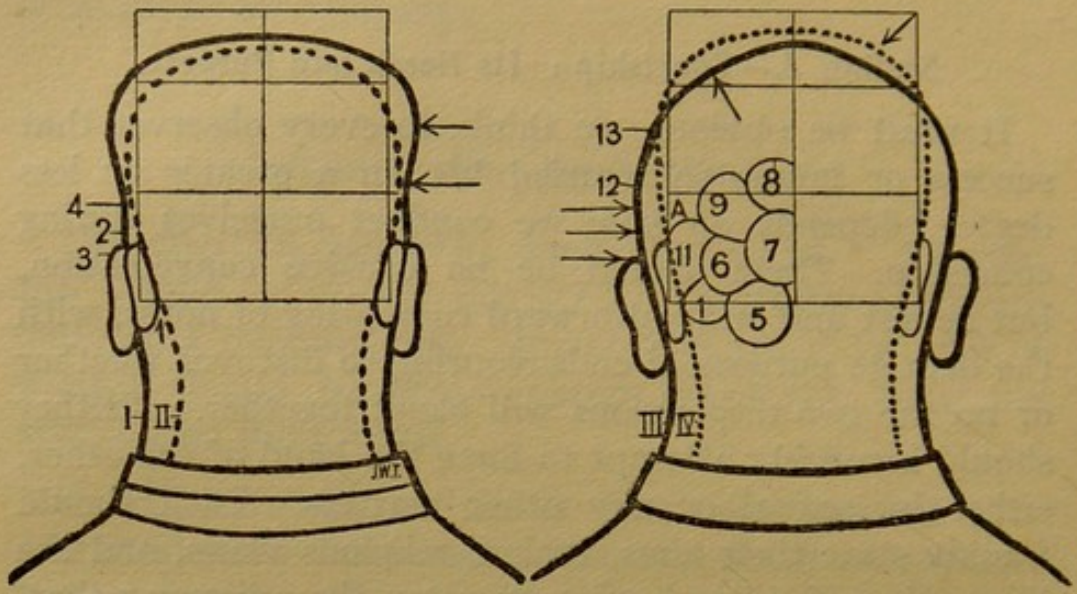
Marriage in men, therefore, before twenty-five, and in women twenty-three, is, as a rule, most undesirable. No hard and fast rule can be laid down to meet all cases. For example, the writer has felt it to be his duty, in thousands of cases, to urge one or both parties to a proposed union to defer marriage from, say, twenty-five to twenty-seven, and even to thirty years of age, according to the needs of the case—health, development, and other circumstances. Marriage between undeveloped boys and girls is most undesirable and very unsatisfactory in its results, not only to themselves, but also to their offspring—which includes the national well-being. Indeed, it is well-nigh impossible for young half-grown persons to give birth to strong and well-developed children,

because, as a rule, when reproduction starts development ceases, or is greatly retarded.

Section 3.—Courtship : Its Needs and Purpose.

It must be obvious, we think, to every observer that success or failure in married life, in a greater or less degree, depends on how we conduct ourselves during courtship. There should be no evasive conversation, but honest and straightforward comparing of notes, with the definite purpose of endeavouring to discover whether or no the two dispositions will blend together. Neither should knavishly attempt to force the hand of the other, either by sexual or any other matters. Each should frankly state their aims, wishes, religious views, and the like. Now if, after having done so, they discover that, say, six or more points out of ten are found against a union, they should, in a friendly and businesslike manner, bid each other adieu !

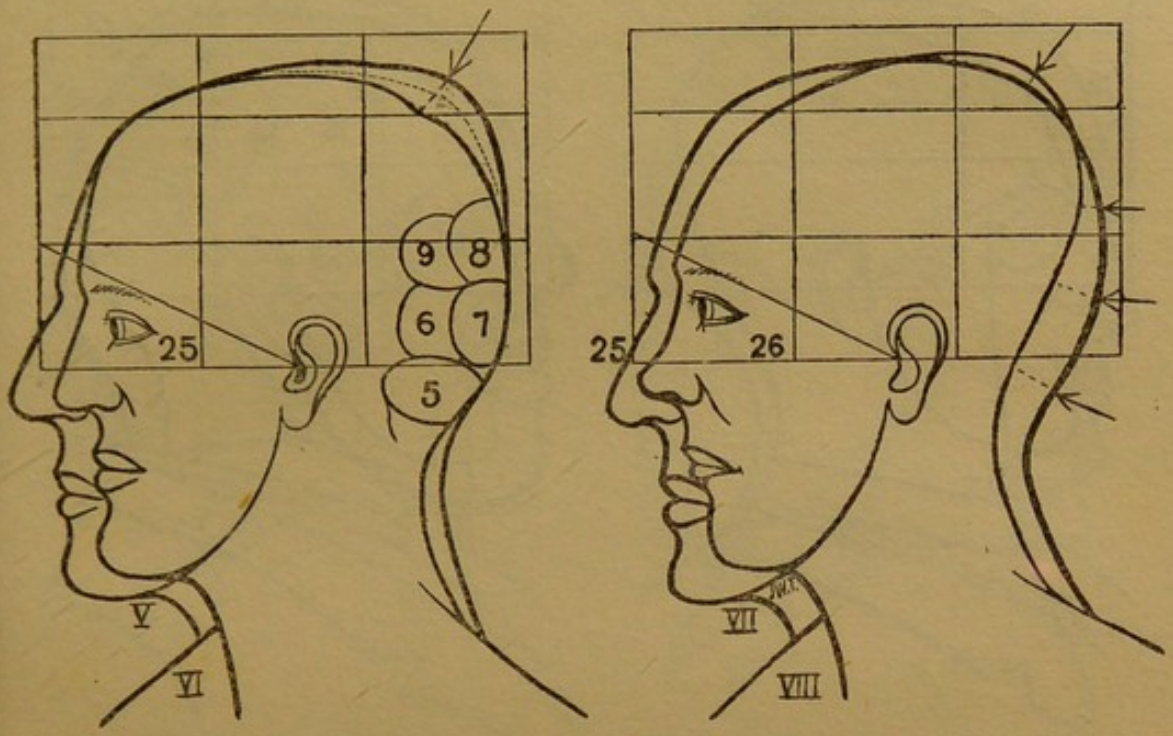
If, however, on both sides the findings appear to be favourable for a union, then, and only then, should a pledge be made to unite together for life. But suppose, on further acquaintance, one of the party to the proposed union should discover that there is no real affinity and love between them, but a more or less serious antagonism becomes obvious, what then ? In such cases, the writer never hesitates to suggest that they should, in a friendly and dignified manner, separate once for all. Most unhappy consequences and crimes frequently occur where this rule is ignored. Amongst other things, disappointed love tends to irritate the generative faculty, and renders its subject irritable, peevish, and even wicked. Further, blighted affection or matrimonial discord produces an abnormal condition of *Couragiveness* and *Activeness*, accompanied by a frequent state of anger. In most cases, a reasonable period of honourable courtship is necessary, in order to prevent unsuitable and unhappy marriages.



Section 4.—Character Sketches from Life.

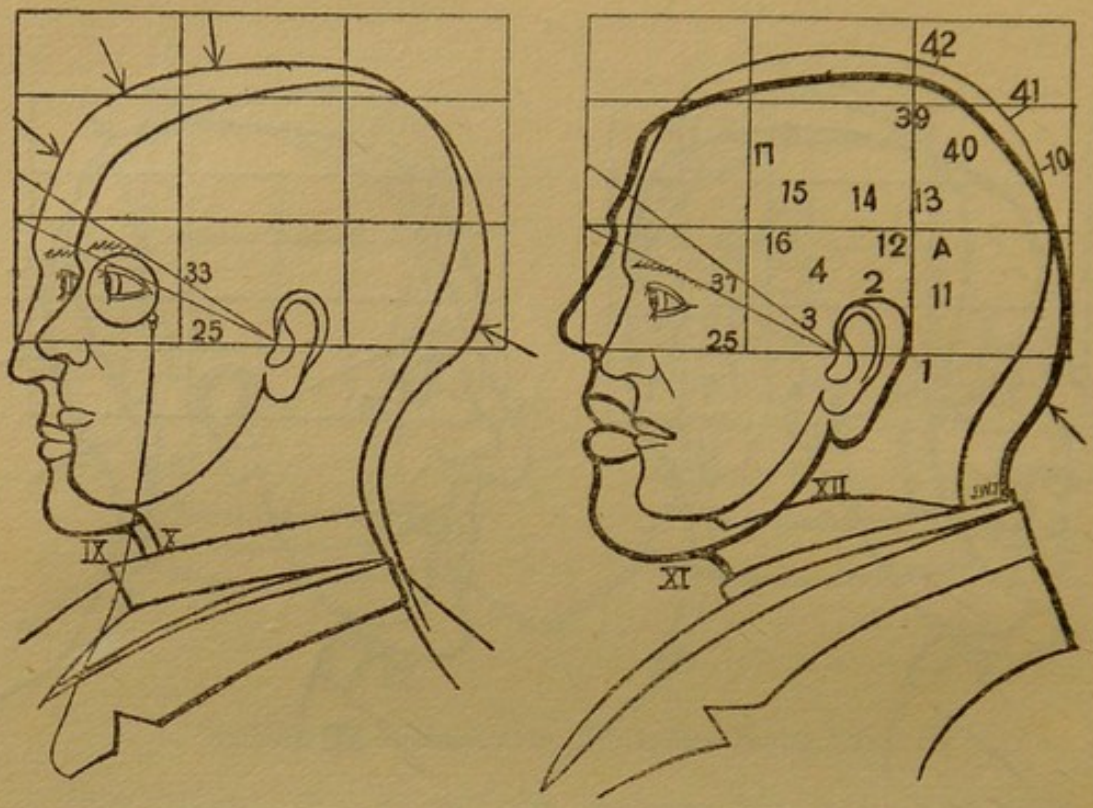
MISS CAUTION (No. I.) and MR. CUNNING (No. III.) would mate fairly well. Notwithstanding that they are similar in a physical sense they differ in several particulars mentally. For example, both have a good hold on physical life, as indicated by the pronounced development of the cerebellum, and are, accordingly, well fitted to some position where great physical exertion is required. An indoor occupation requiring quiet and steady effort would prove to be most irksome and distasteful. She is possessed of an abnormal degree of Cautiveness and a normal or full development of Reservativeness. He has a normal development of Cautiveness and an abnormal degree of Reservativeness, indicating that he is too cunning and crafty, whilst she is too cautious and liable to see dangers where there are none. Hence, the developments of the one will tend to correct those of the other. Supposing II. and III. were united in marriage, it would prove to be most unsatisfactory, socially, mentally, and morally, for both parties. The difference in the size of the cerebellum would make it impossible for the one to truly reciprocate the desires and feelings of the other.

Supposing I. and IV. were united, the results would be equally unsatisfactory. The two dotted lines, however, would mate, first rate, and do well together. Hence they may be described as MR. and MRS. MATCHWELL (Nos. II. and IV.).



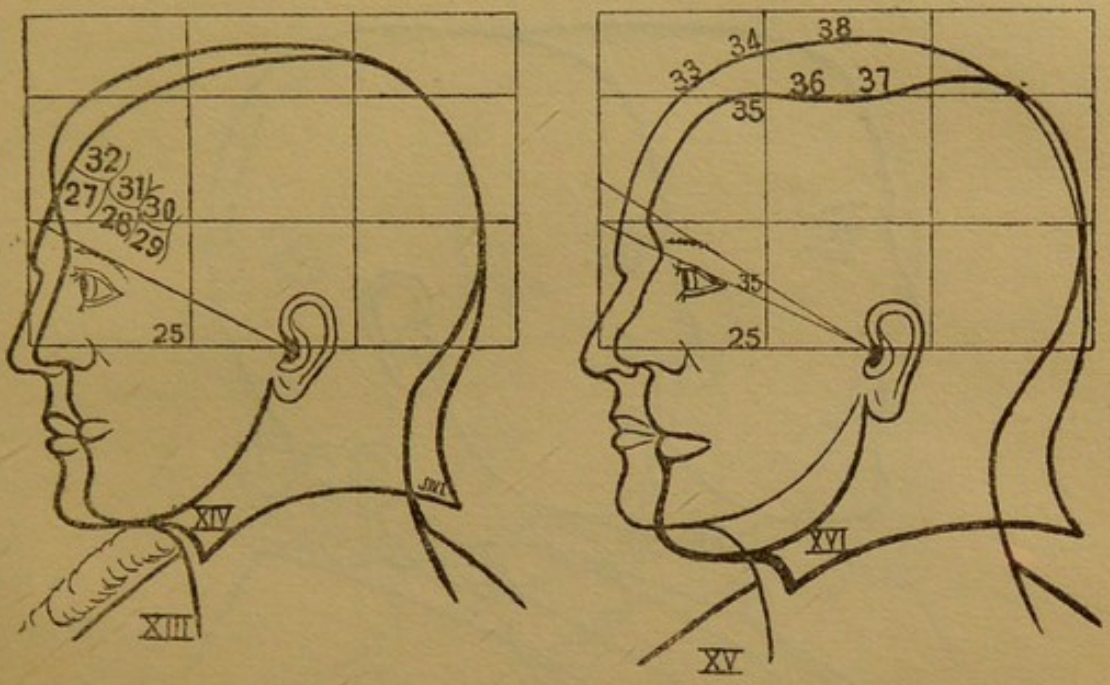
Mr. and Mrs. Talent (Nos. V. and VI.) are possessed of an excellent degree of sociality, mental and moral capacity, and are well mated, except in one particular. *He* is too positive and haughty to blend properly with *her* humble and retiring disposition. Had there been only half the difference between the developments at the crown of their heads, at the point of the arrow, it would have made not only a great difference to their peace of mind, but in the degree of success attending almost any undertaking.

If there had been only half the space between the two main outlines, the one would have been an inspiration to the other. As it is, she considers that he is too conceited, presumptuous, and egotistical. He may be quite conscious of her superior abilities, but he rightly contends that she is too humble. This is likely to create, at times, a keen difference of opinion, and lead to more or less serious misunderstandings. Note carefully the striking difference between the developments of VII. and VIII. behind the ears, in the region of the arrows; the latter is mean, cold, selfish and very unfit to undertake the management of children; the former indicates a large development of those centres which constitute him the true husband, father, companion, and friend.



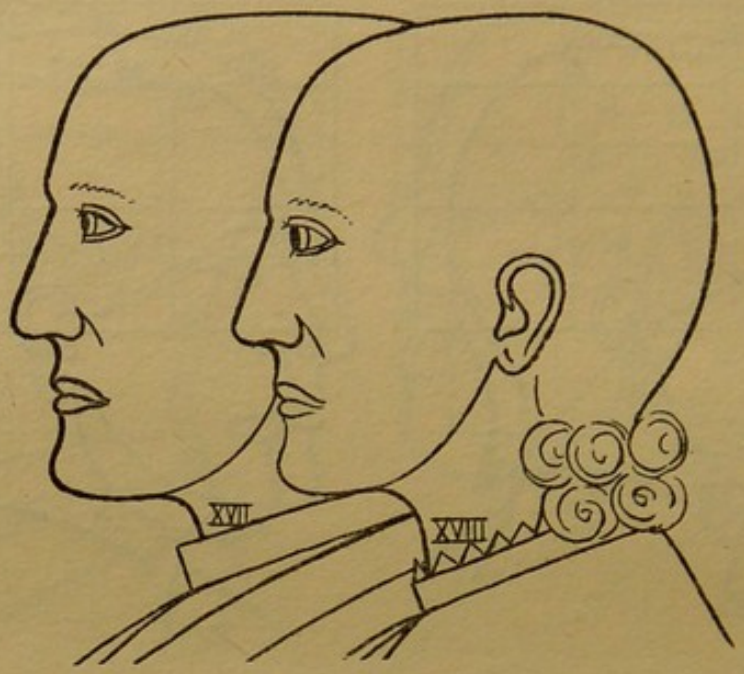
Miss Brainy (No. IX.) and Mr. Littlesense (No. X.). The striking difference in these two outlines indicates that there could be no real affinity between them. The wide difference in the respective developments of their foreheads above the eye and between the first and second perpendicular lines denotes that she is possessed of a large degree of intelligence, moral worth, and devotion to children, whilst he has below the average thereof. Indeed, the front rooms of his cranium are either "to let" or very little occupied. He is very superficial in most things and not inclined to dip deeply into anything except it is scandal. Serious or thorough mental work is out of the question with such a make-up. He may be fairly skilful in twaddle and bunkum!

Mr. Hoggish (No. XI.) and Miss Moralworth (No. XII.). These two outlines indicate what may be termed extreme contrasts. Miss Moralworth, as her name denotes, is possessed of a high degree of moral refinement, mental capacity and superior quality of organization. She is, therefore, inclined to live a most exalted and praiseworthy life. Between such extremes there could be no mental and moral affinity. Mr. Hoggish is more animal than human; he is coarse, vulgar, and licentious in the extreme. And in no sense is he fitted to marry a woman so gentle, genial, and noble in disposition as she. Some years ago, a couple so contrasted were married and divorced in three months.



Miss Observer (No. XIII.) and Mr. Dreamer (No. XIV.). These two outlines would mate fairly well, in regard to most matters, but in business they would be likely to look at things from very different angles and points of view. He may have numerous ideas, but is not very practical, though he may think he is. Hence, however much he may know in theory he will find it most difficult to reduce or apply the same to practice. He is likely to imagine that she is very foolish and cannot reason. She thinks that he is ditto and too much of a day-dreamer, and wishes that he would come down from the clouds and be more practical.

Miss Nobledeed (No. XV.) and Mr. Smallfaith (No. XVI.). These two outlines, in a moral sense, are indicative of extreme contrasts, and in a mental and social sense, they differ greatly. She is chaste and spiritually minded, keenly interested in all matters pertaining to religious and mental culture, and ever ready and willing to assist in various kinds of work which aim at uplifting and ennobling human life. He is coarse and materialistic in a high degree, and believes in looking well after himself. If he performs an apparently generous act, it is usually done with a mean or sinister motive, and, of course, he frequently judges the conduct of others by his own dishonest or low standard. He is inclined to reason to prove what he wants to be correct, rather than strive to discover what actually is true. This attitude is likely to lead him from the truth.

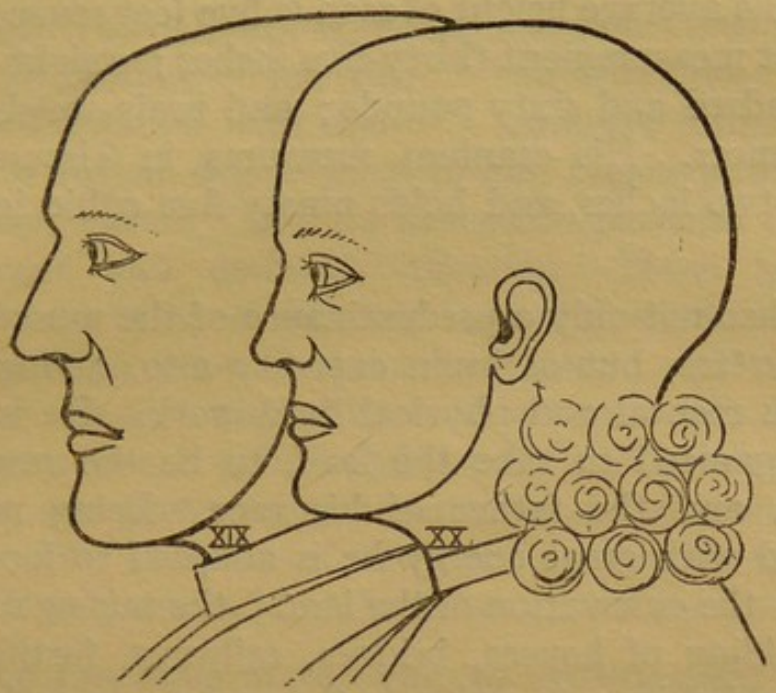


MR. and MRS. MUCHALIKE (Nos. XVII. and XVIII.). As the reader will easily preceive, there is a remarkable similarity between these two outlines. The development of the brain and nerval system is too pronounced in both persons. That is to say, not only are they too much alike to be able to agree satisfactorily together, but the effect is likely to be, more or less, serious upon their children, unless care and self-discipline are exercised, especially in regard to the avoidance of alcoholic drinks. In such-like cases it is a matter of most vital importance, and is worthy of very careful consideration.

The above have a tendency to blow first hot and then cold. These alternate influences on the brain and nerval system will tend to make their children extremely fine-toned and unduly sensitive, the effect of which is also likely to produce a serious liability to nervous disorders.

Both husband and wife possess a high degree of mental capacity, and great strength of moral character, combined with a strong development of sociality, sincerity, and devotion to the young, and as parents, they would be most affectionate towards their children.

The lady possesses, as a whole, a most praiseworthy character, but for all that she is too positive to mate, first rate, with an equally or even more positive nature.



Mr. and Mrs. Matewell (Nos. XIX. and XX.). That these two outlines indicate a wonderful mental, moral and social affinity, and, what may be termed, the happy counterpart of each other, must be obvious even to the most casual observer. In every feature of Mr. Matewell's face and forehead there is depicted great strength of moral character and decision of purpose; a true dignity, manly courage, and integrity; a laudable sense of responsibility united to a strong degree of affection for wife, home, and family; and a keen desire to be loved. These, combined with a healthy and powerful constitution, give him great capacity for leadership.

Mrs. Matewell is possessed of less muscular strength than he, and, accordingly, is less fitted to endure physical and mental hardship. This deficiency, however, is made up in other ways. She has a finer quality of organization, and a more delicate nerval system than he, and has the capacity for looking at things from an opposite point of view. She is possessed of a high degree of intuition, sagacity, economy, sympathy, parental attachment, domestic affection, and great love for children. She is at her best in the home circle as wife, mother, teacher, nurse, companion, and friend.

Her husband may be the head of the home, but she is the neck, and, by her tact, she can, as a rule, turn his head which way she wishes, because she rules by love.

Section 5.—A Comparison of the Differences between Man and Woman.

(*a*) The average height of man is five feet seven inches ; his chest measurement thirty-five inches ; weight of body one hundred and sixty pounds ; and brain-weight forty-nine ounces. His cranium measures in circumference twenty-two inches, and holds ninety-five cubic inches of brain.

Man has not only a predominance of the muscular and bony system, but of brain capacity also, giving ability for both mental and physical hard work. He is, therefore, organized to take the lead, to be the responsible partner, and the father of his race. Being naturally endowed with great energy he is adapted to locomotive labour—the cultivation of the land ; the raising of stock ; the building of houses, bridges, railways, fortifications, docks, and ships ; to navigate the ocean ; to make tools ; to invent, make, and repair machinery ; to manufacture ; and to do wholesale trading.

He is also fitted to make experiments ; to form and execute laws ; to organize business ; and to study, teach, and explain science, philosophy, chemistry, mathematics, and astronomy.

(*b*) The average height of woman is five feet ; her chest measurement thirty-one inches ; weight of body one hundred and twenty pounds ; and brain-weight forty-five ounces. Her cranium measures in circumference twenty-one and a half inches, and holds ninety cubic inches of brain.

Woman, both in her physical and mental constitution or make-up, is the counterpart of man. She is finer in her organization and more delicate in her nerval system, but in muscular strength and capacity for hard work she is not equal to man. Her position in creation, however, is quite equal to his. In other words, she is organized to take a feminine view of things ; to see the opposite side

of subjects ; and to take the gentler part in man's work ; to be his true and devoted helpmate ; to pacify and exercise over man a persuasive influence ; and to help in calling forth or developing the highest in his nature ; and to be the mother of her race. "In what does woman excel as compared with man?" Amongst other things she has a higher degree of intuition, sagacity, economy, sympathy, sociality, and paritiveness—parental love and attachment and domestic affection. These traits of character are some of the most beautiful attributes of her nature. Woman excels man as a nurse, and in retail business. In administrative work in connection with our Poor-law unions, hospitals and prisons, and in educational, religious, and philanthropic work, she is practically equal to man. She is, however, most in her element when she has her family around her, as queen of the home.

(*c*) The functions of the various faculties are alike in men and women, but differ in degree of development and activity. For example, the instinct of propagation is stronger in man than in woman, whilst the instinct of love for children is stronger in woman than in man.

Man is decisive, woman tenacious ; man is strong, woman is elastic ; man thinks he knows, woman believes and feels sure ; man is bold, woman has fortitude ; man has a strong temper, woman has a quick temper ; man has push, woman has patience ; man speculates, woman cautiously calculates ; man loves power, woman loves admiration ; man likes to be looked up to, woman wishes to look up to some one who is worthy ; man feels his superiority, woman feels her equality ; man is dignified, woman affable ; man respects, woman adores ; man is positive, woman is negative ; man is liberal, woman is kind ; man is serious, woman is emotional ; man has talent, woman has tact ; man rules by force, woman rules by love ; and, in so far as she strives to keep within these bounds, she wins her way, and verifies the saying, "The hand that rocks the cradle rules the world." No less

a personality than Bismarck, on one great occasion, said of his wife, "She it is who made me what I am."

(*d*) I have already explained elsewhere that *Nuptiveness* and *Paritiveness* are fundamental faculties of mind. It follows, therefore, that it is the duty of every young man, who is mentally and physically fit, and qualified by favourable circumstances, to seek a nuptive helpmate and become a parent. It must be obvious that we cannot neglect this important obligation without a corresponding physical, social, and moral loss. Indeed, that man must be very dense and dull of comprehension who cannot perceive that domestic life furnishes a proper stimulus for the healthy development of all our mental and other powers.

Obviously, marriage, when rightly entered upon, exerts a salutary influence on both health and morals, and tends to stability of character, virtue, and faithful citizenship. This is shown by the fact that married persons are more respected than the unmarried, and usually occupy a higher place in society.

The late Professor L. N. Fowler aptly said: "If we examine the frightful columns of our criminal calendars we can there find a hundred youths executed, to one father of a family."

(*e*) Various excuses for not marrying: (1) "No one will have me!"; (2) "I have no time to attend to social matters"; (3) "I cannot afford it"; (4) "It is too confining"; (5) "I want, first of all, to make a certain sum of money"; and numerous other excuses, some wise, and many otherwise.

Those representing the first are greatly to be pitied and deserve our commiseration. But who can be surprised when the shape of the head, at the back, resembles that of Miss Weaklove (see Figure VIII.)?

Excuse number two emanates from a man who has not

learned the art of getting the best and the highest out of life.

The third excuse may, in many cases, be true, but Mr. Stronglove (Figure VII.) would not be likely to make such an excuse; he would strive to verify the saying, "Where there's a will there's a way."

The fourth excuse is what one might reasonably expect from a creature whose head indicates that he is a mere makeshift for a man, being similar to that of Mr. Littlesense (see Figure X.).

The fifth excuse emanates from the head of a man who is over-cautious, and unable to understand that two heads are better than one, even in money-making.

Allow me here to cite one out of numerous similar cases, which will illustrate and simplify this point. I was recently interviewed by a gentleman who inquired: "What can you do for me?" In reply thereto I inquired, "Are you not married?" And with a sad expression written in every feature of his face, he said: "No." After hearing that his age was forty-six, I suggested that he had made a great mistake in remaining unmarried so long, and that it would have been much better for his health and peace of mind if he had seen his way to marry at about thirty years of age. He responded thereto, "I believe you are quite right." I then suggested that his motive for putting off marriage so long would be to make a certain sum of money, and then endeavour to find a wife to enable him to enjoy it. "Yes," said he, "that is quite true." I proceeded to explain that he must have seriously suffered from nervous disorders, that might have been prevented, if he had been wise, and got married at the time already mentioned, the details of which I cannot give here. He paced up and down the room several times, repeating: "What a pity I did not understand these things when I was a healthy young man."

Section 6.—The Dignity of Motherhood.

We are beginning to realize, as a nation, that the woman who is a true mother is not only a great social and moral asset to the State, but a wonderful factor in civilization.

Notwithstanding the obvious fact that position and money have too great an influence in present-day matrimonial unions, there are indications that we are making progress ; that is to say, the intelligent women of this age are beginning to examine more critically and analytically would-be suitors, not merely as lovers, but as prospective fathers of their children. It is therefore in keeping with the age, or fitting, that she should have the right of selection, and ask herself the vital question, " Is he a suitable partner for me, and one who is fitted to be the father of my children ? "

What an exalted honour is conferred upon true parents in the dignified privilege of being allowed to co-operate with the Infinite in the production of a human being with all its potentialities for this life and hereafter !

Apparently, from a physiological point of view, there is no connection between a progressive civilization and a declining birth-rate, but in a social sense, at any rate, this is not the case. The fact of the matter is that the pressure of advancing civilization is raising the standard of life and its higher needs, as distinguished from mere dense physical existence, and, accordingly, this is adding, more or less, to the burden of parents, who find it a very hard struggle to educate all their children and, in a financial sense, make both ends meet.

With a very large section of our population the finding of suitable occupations for their children is a most bewildering difficulty, and promises to become even more complex in the future, unless parents are willing to be guided in these matters by an expert in Phrenological Psychology.

Surely, under these circumstances, parents are morally and socially justified in limiting or regulating the number of their family according to their opportunities, physical capacity, and condition of health. Most persons, however, in attempting to deal with the population problem, seem to speak or write as if mere numbers counted for more than quality and health in the race.

Obviously, one thousand well-born, healthy, and strong children can be trained to accomplish more than three thousand weaklings. Therefore, the State that wishes to increase its population more rapidly should strive to make life easier for motherhood; and, as required, the children will be forthcoming. Here is, at any rate, a true safeguard against racial decay.

It is charming to observe that even amongst the poor, where there are to be found strong social and moral developments, we find, correspondingly, the children are well brought up physically and morally; and, in this connection, from every city, town, and village, parental struggles and brave deeds could be cited, proving what noble types of manhood and womanhood have emanated therefrom.

There can be no doubt that, in numberless instances, the limitation of family is prompted by the fear of sinking below a certain social status, or of not being able to live up to a certain standard of comfort. In numerous instances it is purely a question of health and strength, and, therefore, quite justifiable. In a vast multitude of cases, however, the limitation of family is prompted by keen selfishness and a desire to spend whatever can be earned or secured on personal luxuries. For example, it is estimated that in the United States of America there are two million childless marriages; the average family is two, but if one child dies there is soon another babe to take its place. These, and similar facts, that could be greatly multiplied, indicate that sterility is not a physiological problem. A comparison between France

or the United Kingdom and Germany makes it clear and plain that if fewer children are born it is a matter of choice; and a disregard of the command and duty "to increase and multiply."

Obviously, the childless home is a moral question of the first magnitude. Hence, it is the mental and moral imbeciles, after the type of Mr. Littlesense (Figure X.) and Miss Weaklove (Figure VIII.), whether found amongst the wealthy or the middle classes, that are inclined to treat the moral and social laws of fatherhood and motherhood with contempt; and further, they have been known to express their disgust, and even abhorrence, to children in such terms as the following: "I simply hate the little brats."

Section 7.—The Obligations of Motherhood.

It frequently happens that children born of the same parents differ very much in health and mental capacity, and that comparatively strong and healthy women not infrequently give birth to weakly children; whilst comparatively frail women often produce healthy and vigorous children. This brings us to the subject of cause and effect. There can be no such thing in this world as "mere chance."

I.—In the first place, there can be no definite effect without an equally definite cause. I must frankly confess that the sequence of events, observation, and experience have led me to the conviction that "whatsoever a man soweth, that shall he also reap." I do not wish to infer that God, either directly or indirectly, inflicts vindictive punishment on us for our blunders, mistakes, or deliberate acts of wrong-doing, but that a breach of natural or moral law contains within itself an element of corrective pain, which is intended as a warning, and is essential to our moral and physical safety. As applied to motherhood, the moral thereof is very clear and plain; her influence for good, or evil, is immense.

Therefore, she cannot ignore certain moral and social obligations without, more or less, serious consequences.

II.—Large Heads and Little Bodies.

A most gifted, cultured, intelligent, and healthy mother recently requested me to read the head of a very nervous, large-headed, and delicate-looking little child.

After a careful examination thereof, I inquired of the mother if she were by profession a teacher? She answered, "Yes, I am." I then suggested that she must have worked, at her duties, right up to the time of the birth of the child, and she responded, "Yes, that is so." I inquired, "Have you any other children?" In answer thereto, she said, "Yes, I have had three other children besides this one." I questioned as to whether any of them were living. And she answered, "No, they are all dead." I then proceeded to state that if they were anything like the present one, I was not at all surprised to learn that they were all dead.

I endeavoured to explain that the child's excessive brain and nerval developments, and undersized growth of body, were due to the mother's excessive mental and physical efforts, and getting too little sleep and rest; that she was inclined to use up most of her food supply in mental effort, leaving little or nothing for the building up of the bones and muscles of the child (or her children). She expressed great astonishment and regretted the mistake she had made quite unconsciously, and, of course, anxiously inquired, "What could be done for the child under the circumstances?" Naturally, I did the best I could for her, and pointed out, amongst other things, that the child's skull was almost as thin as brown paper and, therefore, the greatest danger, for the time being, was that even a slight fall, supposing her head come in contact with anything hard, would be liable to cause her death. Numerous other similar cases could be quoted, but this must suffice.

III.—Marriage and Stirpiculture.

1.—An individual possessing a small brain should endeavour to mate with a person who is possessed of a full degree thereof.

2.—A person of the Nerval temperament should unite with one who is of the Nutritive-muscular temperament.

3.—A man of the Muscular temperament should marry a partner of the Nerval-nutritive temperament.

4.—An individual of the Vascular-respirative temperament should be united to one of the Nerval-nutritive temperament.

5.—A woman of the Nutritive-nerval temperament should mate with a partner of the Muscular-respirative temperament.

(*a*) When both parties to a union possess an excessive development of the brain and nerval system, their children are liable to suffer, more or less, from nervous disorders.

(*b*) When both parties to a marriage are possessed of an excessive Osseous-muscular temperament, their children are likely to be somewhat dense or dull mentally.

(*c*) When both parties to a union have a pronounced development of the Bilious-muscular temperament, their children are likely to be not only mentally dull, but short-lived.

(*d*) When both the parties to a marriage are of the Plethoric-vascular temperament, their children are very liable to suffer, more or less, from inflammation of the brain or its membranes.

(*e*) When both parties to a union are of the Lymphatic-nutritive temperament, their children are likely to be still-born or very short-lived. Therefore, strictly speaking, no man has a right to marry unless he is prepared to conform to the dictates of Nature.

Section 8.—The Effects of Alcohol.

The accumulative evidence of observation and experimental research, during the last fifty years, proves most conclusively that, in a greater or less degree, alcohol, in its effects upon the brain and nerval system, is distinctly a narcotic poison. It follows, therefore, that the finer the tone and quality of the brain, the greater the danger thereto from the use of alcohol, even when taken in small quantities. Hence, the man whose success in life depend on keeping his brain vivid, clear, and vigorous, with a steady nerve, will accomplish his purpose better without rather than with the aid of alcohol. Further, the quality and culture of the brain decide the clearness and speed with which a message or nerval impulse travels to any part of the body, which velocity, by the way, is estimated at about one hundred and fifty feet per second.

Dr. Howe says : " We can calculate with precision the exact time, to a minute fraction of a second, which is required to transmit a message from the brain to the hand, or any portion of the body ; and it has been distinctly shown that it takes much longer to send such a message after a person has taken a dose of alcohol."

It would be an immense advantage to the human race, mentally, morally, socially, and physically, if every expectant mother would avoid the use of alcohol until, at least, twelve months after the birth of her child.

Alcohol and Infancy.

In one inquiry, Dr. Sullivan ascertained " that of six hundred children born of one hundred and twenty drunken mothers, three hundred and thirty-five (58 per cent.) died in infancy or were still-born. Many of these women had female relatives of sober habits."

" On comparing the death-rate amongst the children of sober mothers with that amongst the children of the

drunken women of the same stock, the former was found to be 23.9 per cent., the latter 55.2 per cent., or nearly two and a half times as much. It was further observed that in the drunken families there was a progressive rise in the death-rate from the earlier to the later-born children."—" Alcoholism."

I will conclude this portion of my efforts with the words used by our Sovereign Lord, King George V., in his speech from the Throne, July, 1910, when he said:

" The foundations of national glory are set in the homes of the people, and they will only remain unshaken while the family life of our race and nation is strong, simple, and pure."

Combinativeness (Concentrativeness).

[Localized and separated from Habitativeness by Geo. Combe, and re-named by the Author.]

" Pleasures are very *combinable* both with business and study."—CHESTERFIELD.

" He that loves God's abode, and to *combine* with saints on earth, shall one day with them shine."—G. HERBERT.

10.—COMBINATIVENESS (kom-bi-na-tiv-nes), from Latin *combino, combinatum* =to combine; a tendency to combine; capacity for uniting, joining, or linking together for a given purpose. The term Concentrativeness, from Latin *concentro, concentratum* =to join in one centre, does not convey a correct idea of the full meaning required to express the actual function of the faculty in question. Continuity has been suggested as a name, but it implies an after effect or continuation of an action.

The primary normal function of this faculty is to unite or combine together all our powers of mind, for the time being, on a definite purpose, without which we could not pursue any difficult or complex line of thought and action to a useful end; the tendency to be patient and apply all the faculties of the mind, for an indefinite period, to

one thing at a time ; the desire to be efficient and thorough in a few things, rather than to be " a jack-of-all-trades and master of none." This faculty enables man to follow up a distinct course of abstract thought without turning aside therefrom or being led into side paths. Hence, other things being equal, the man who is possessed of a large degree of this faculty is more likely to succeed in his efforts, and to accomplish his purposes, than one in whom this faculty is small.

It is almost impossible to exaggerate the wonderful influence of this power in fixing and holding the united attention upon a given object, or line of abstract thought, as required, of any group of faculties, for a definite purpose. It should, however, be borne in mind that it is a blind impulse and not an intellectual faculty of the mind.

The abnormal condition of this faculty gives a tendency to redundant repetition. A speaker in whom this condition is very pronounced is liable to bore his hearers with excessive amplifications. Indeed, such persons are usually lacking in pithiness, pointedness, and conciseness.

A person in whom this faculty is deficient, if interrupted at a critical moment, is easily diverted from a particular train of thought, and liable to complete mental confusion.

During the writer's visit to Winsford, Cheshire, at the close of the first lecture, an absolute stranger volunteered to have a public reading of his head. His offer, of course, was gladly accepted. Amongst other things, it was pointed out to him that the centre of Combinativeness was deficient in relative size, but very active as indicated by its relative warmth, showing that he must have striven hard for, at least, four or five years to increase its power and influence in his character. At the close of the reading, he expressed his astonishment at " the truth of the delineation," and declared " that he had come for a bit

of fun at the lecturer's expense." He further stated: "I consulted L. N. Fowler five years ago, and, amongst other things, he observed that I was deficient in Concentration (Combinativeness), and that I was inclined to be a kind of 'jack-of-all-trades.'" He further suggested how it might be improved and developed. "That advice has been acted upon with very satisfactory results. But I did not think the lecturer would be able to discover the recent improvement."

Eminent Witnesses on Phrenology.—VIII.

Sir Wm. Flower, whilst lecturing at the College of Surgeons, in 1879, said: "*The skull is a fair index of the development of the brain in its different regions*, and ought therefore to be studied"; further, "that the longer he lived he saw fresh beauty and meaning in every line and configuration of the cranium, and that the fact that he could recognize particular skulls when presented to him as belonging to certain nations is a proof of there being certain fixed and uniform laws in regard to them."

J. Ranke, in an address on "the Relations of the Brain and Skull," asserted "that the differences in the form of the skull are entirely due to the differences in the development of the brain."—German Anthropological Congress, Dantzig, 1891.

The Rev. Henry Ward Beecher said: "All my life I have been in the habit of using Phrenology as that which solves the practical phenomena of life. *Not that I regard the system as a completed one*, but that I regard it as far more useful, and far more practical and sensible than any other system of mental philosophy which has yet been evolved."

Dr. (now Sir) F. Bateman, in his work on "Aphasia," 1890, states: "I look upon his (Gall's) work as a vast storehouse of knowledge, and as an unperishable monument of one of the greatest philosophers of the present age."

CHAPTER IX.

THE DEFENSIVE AND SELF-PROTECTING FACULTIES.

GROUP III.

Introduction.

(*a*) As stated elsewhere, the first law of all existence is self-preservation; (*b*) the second law of all animal existence is love of its own kind; and (*c*) the third law of all animal existence is self-defence, but not defiance. These faculties give power to be truly calm, cool, and brave in times of difficulty and danger; capacity to suppress and conceal one's thoughts and feelings as occasion requires; perception of danger and anxiety about consequences; prudence of conduct, and forethought. And further, they give ability to defend and protect those we love, in various ways, according to the combination of the various groups of faculties. The brain-centres concerned are as follows: Quietiveness, Couragiveness; Reservativeness, and Cautiveness. This group of centres is located in the parietal lobes of the brain, between, and just above, the ears; when large, they give more than ordinary fullness in that region, and when small, *vice versa*.

Section 1.—Definition of the Third Group of Faculties.

Quietiveness (Repose).

[Localized by L. N. Fowler, and re-named by the Author.]

"Thy greatest help is *quiet*, gentle Nell."—SHAKESPEARE.

"Over all things brooding slept
The *quiet* sense of something lost."—TENNYSON.

"Be plain in dress, and sober in your diet; in short, my deary, kiss me, and be *quiet*."—LADY M. W. MONTAGU.

"While astonishment
With deep-drawn sighs was *quieting*."—KEATS.

A.—QUIETIVENESS (kwi'et-iv-nes), from Latin *quiesco, quietum* = to be quiet; capacity for a state of rest; a tranquil condition; repose.

Apparently, the primary normal function of this faculty is to induce a state of quietude, according to the needs of the occasion; it enables us to seek rest and repose when made aware that either our nerve-forces or physical energies are about to become exhausted.

Now, whilst my opinion on the function of this brain-centre and its corresponding mental faculty is not expected to be final, in all fairness and justice to the late L. N. Fowler, I am bound to state that the majority of my observations thereon seem to confirm the idea of its existence and location. Indeed, it is no exaggeration to affirm that I made at least ten thousand test examinations in connection therewith.

Further, since I have fully satisfied myself as to the actual existence and location of a faculty whose function it is to put things in motion—termed *Activeness*, I am the more convinced of the need of a counterpart faculty, whose function it is, so to speak, to call a halt or switch off action whenever fatigue supervenes.

The abnormal condition of this faculty gives a tendency to indulge in too much sleep and rest, which tends to stupefy the mind, and to produce a state of mental dullness.

Persons in whom this faculty is deficient are inclined to insomnia; they have a tendency to sit up far into the night; and are liable to form the dangerous habit of using artificial means to induce sleep.

Couragiveness (Combativeness).

[Localized by Dr. Gall, and re-named by the Author.]

"Man is by nature a cowardly animal, and moral *courage* shines out as the most rare and the most noble of virtues."—PROF. BLACKIE.

"My lord, cheer up your spirits, our foes are nigh, and this soft *courage* makes your followers faint."—SHAKESPEARE.

11.—COURAGIVENESS (ku'ra-jiv-nes), from French *etre courageux* = to be cool, calm, and brave; to encounter difficulties with boldness; to show valour and fortitude in time of danger. The word Virativeness, from Latin *viratus,-us* = courage, is similar in meaning to Couragiveness; the latter, however, is likely to be the more popular term with other than Latin scholars.

The primary normal function of this faculty is true courage and presence of mind in times of emergency and danger. Persons possessed of a large development of this power, other things being equal, will calmly and bravely face great opposition in defence of what they conceive to be right, and are inclined to oppose, and even to attack, with equal vigour what they consider to be wrong. Difficulties that would daunt the man possessing only average Couragiveness will tend to inspire the man with a very pronounced development thereof to heroic efforts and noble deeds. Indeed, such an one is prepared to strive or drive through what seem, to the average person, to be almost insurmountable obstacles, to accomplish his purpose. The late Hon. Charles Rolls, who was killed in a flying machine, was a striking example of intrepid and undaunted courage. Numerous other cases could be named.

The abnormal condition of this faculty gives an undue desire to encounter opposition; a tendency to be foolhardy and quarrelsome; and to be fond of daring exploits; it is difficult to live at peace with such persons, because of their fault-finding and contentious disposition.

Persons in whom this faculty is weak or undeveloped

are liable to be imposed upon, and, accordingly, are unfit for daring enterprise; they prefer a peaceable and steady-going, rather than an enterprising, life; are inclined to feel timid at times, and to act, under excitement, somewhat rashly, because of their inability to be calm, cool, and brave in emergency.

Reservativeness (Secretiveness).

[Localized by Dr. Gall, and re-named by the Author.]

"Take each man's censure, but *reserve* thy judgment."—SHAKESPEARE.

"It is the part of the lyric poet to abandon himself without *reserve*, to his own emotions."—MACAULAY.

"*Reserve* your kind looks and language for private hours."—SWIFT.

"True friends, when parting, should *reserve* each other's secrets, and do away with the clues."—J. W. TAYLOR.

12.—RESERVATIVENESS (rez-er-va-tiv-nes), from Latin *reservo, reservatum* = to keep back; mental reservation; concealment; power of restraint; repression of one's thoughts; reservedness.

The primary normal function of this fundamental faculty is to produce reserve, which, under various conditions, is not only absolutely necessary, but even praiseworthy. No one who is entitled to rank as either a psychologian or a phrenologian will attempt to deny that man has a faculty whose function it is to reserve his inner thoughts, conceal his desires, and restrain his emotions from the public gaze, in a tactful manner, until his judgment approves of their being made known.

The term Secretiveness is too suggestive of cunning, which, however, is not always the manifestation of this brain-centre. All cunning persons are more or less secretive, but it is equally true that numerous secretive persons are not cunning. All apples are fruit, but all fruit are not apples. Therefore, Reservativeness is a better word than Secretiveness, and less likely to cause misunderstanding and mental confusion.

The powerful influence of this faculty, in conjunction with Couragiveness, enables man, during great storms of passion, rude shocks of annoyance, and intense excitement, for the moment to repress his thoughts, intentions, and feelings. The controlling power emanating from these faculties is of immense importance, and very far-reaching in its effects; without this, under the stress and bustling of modern competitive life, both at school and in business, we should be overwhelmed.

Burns has aptly put it:

"Ay free, aff han', your story tell,
When wi a bosom crony;
But still keep something to yoursel,
Ye scarcely tell to ony."

The abnormal condition of this faculty leads to double-dealing; it gives a tendency to evade the direct question; a disposition to be untrustworthy, deceptive, crafty, foxy, and cunning. Such persons will pretend to be aiming at one thing whilst trying to accomplish another, and are unfathomable.

Persons who are possessed of a small degree of this faculty are inclined to be too open and transparent; are above-board in everything; they find it a most difficult thing to conceal their ideas, intentions, or feelings. Solomon rightly said: "A fool uttereth all his mind: but a wise man keepeth it till afterwards."

Cautiveness (Cautiousness).

[Localized by Drs. Gall and Spurzheim, and re-named by the Author.]

"Has the enemy no *cautionary* towns and seaports, to give us for securing trade."—SWIFT.

"By night he fled, and at midnight returned
From compassing the earth, *cautious* of day."—MILTON.

13.—CAUTIVENESS (ka-shiv-nes), from Latin *cautio*, from *caveo, cautum* = to beware; perception of danger;

judiciousness in conduct; desire to be discreet, circumspect, prudent, and careful in avoiding errors, dangers, and risks.

The primary normal function of this faculty is an acute perception of danger; it gives the alarm signal to beware, which, when the unexpected occurs, immediately sets the entire nerval system in a state of commotion; it may be called the pilot who is on the look-out for breakers ahead. This impulse prompts man to ponder over the consequences of his conduct. Further, when a man contemplates doing an evil deed, Cautiveness intervenes by warning him of the risks or consequences, and thus causes him to modify his line of action. Therefore, in numerous instances, it acts as a most powerful deterrent against crime. At any rate, it is a matter of common observation that numerous criminals are deficient in this faculty.

Cautiveness is an impulse rather than an intellectual faculty. Apparently, however, this power is stimulated into activity by the intellectual faculties, since they alone are able to arrive at definite conclusions. These conclusions are promptly seized upon by terrified Cautiveness and put into effect whenever the forecast indicates or suggests any approaching danger or seeming disaster.

The abnormal condition of this faculty gives an excessive sense of danger, and a liability to suffer acutely from fear and timidity. Such persons are afraid of mere shadows, over-anxious in the highest degree, and apt to see dangers where there are none. (See Figure I. in Sketches from Life.)

Persons who are deficient in this power are liable to act from impulse rather than from judgment; are inclined to do things on the spur of the moment without either forethought or prudence; and, accordingly, are frequently in danger of meeting with some misfortune or calamity.

Section 2.—Cautiveness in Combination with other Faculties.

Notwithstanding the fact that the sense of danger is one of the most powerful attributes of the mind, it does not indicate the objects of danger. That function is performed by other faculties of the mind. Still, the relative degree of fear, whether powerful or weak, will be in proportion to its size and activity in combination with other faculties. The following examples will serve to illustrate what is meant: *Cautiveness* 6 or 7 in degree, and *Couragiveness* 3 or 4, produce great timidity and anxiety; whilst *Couragiveness* 6 or 7, and *Cautiveness* 3 or 4, render a person almost insensible to danger; and with *Activeness* 6 or 7, make one rash and even foolhardy in general conduct. You may threaten such a man with severe punishment, but if he is also defective in the superior attributes of the mind, it will not deter him from his purpose or crime. *Cautiveness* 6 or 7, *Emulativeness* 6, and *Couragiveness* 5 or 6, will urge a man to defend and retain an unsullied reputation. *Cautiveness* 6, *Couragiveness* 4, and *Paritiveness* 6 or 7, will cause a mother to suffer from extreme fear and anxiety when her child is sick.

Sublimativeness (Sublimity).

[Localized by L. N. Fowler, and re-named by the Author.]

"Shakespeare, on whose forehead climb
The crowns o' the world: O eyes *sublime*
With tears and laughters for all time."—E. B. BROWNING.

"And as his actions rose, so raise they still their view,
In words whose weight best suits a *sublimated* strain."—DRYDEN.

"There is a *sublime* in nature, as in the ocean or the thunder—in moral action, as in deeds of daring and self-denial—and in art, as statuary and painting, by which what is sublime in nature and in moral character is represented and idealized."—FLEMING.

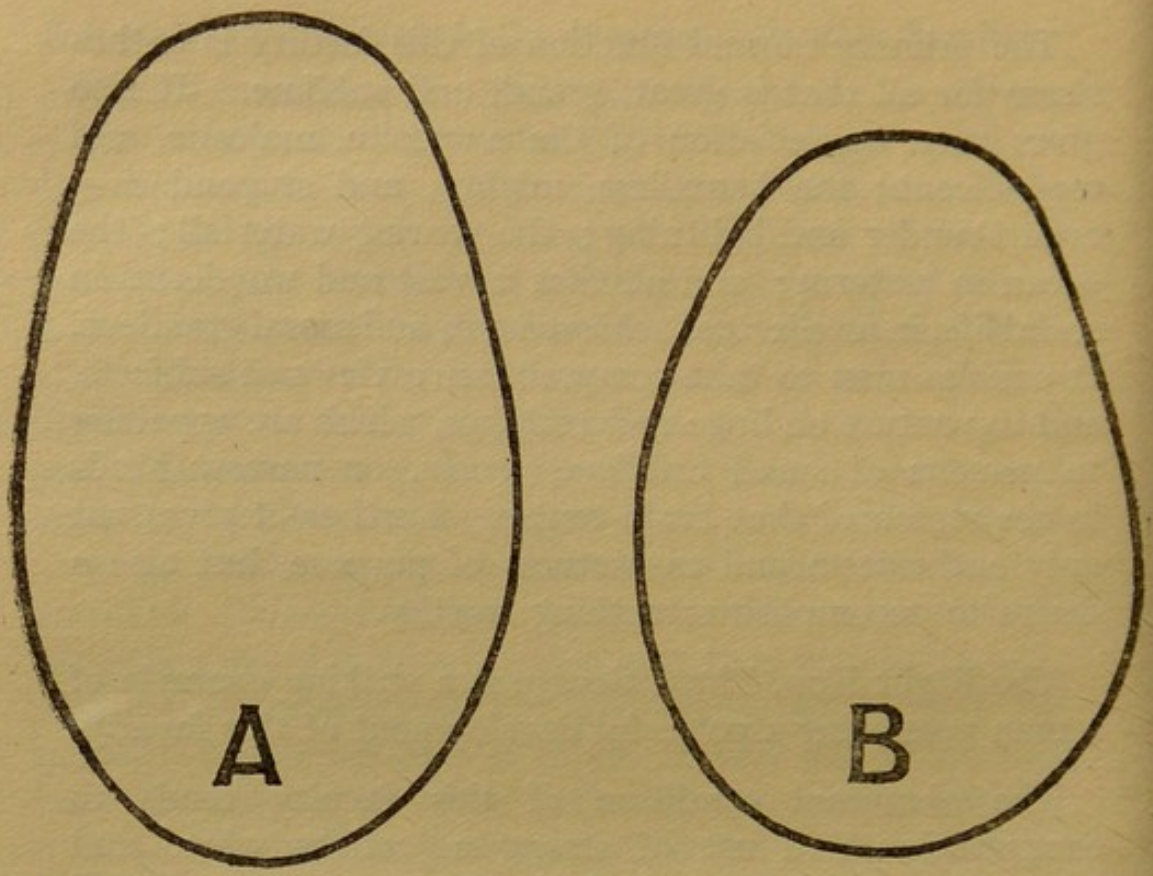
14.—SUBLIMATIVENESS (sub-li-ma-tiv-nes), from Latin *sublimo, sublimatum* = to elevate; exalted enthusiasm; love for the majestic, lofty, and supreme; appreciation of the exquisite, magnificent, and sublime in nature and art.

The primary normal function of this faculty is enthusiasm for all that is great, grand, and sublime. It also gives keen appreciation of the exquisite, majestic, and magnificent; the boundless, mighty, and stupendous—even thunder and lightning; the roaring waterfall; the ocean in a storm; and all that is vast and wonderful in social life, in intellectual achievement, and moral grandeur. It enables man to take comprehensive views of subjects, and to venture on huge undertakings, which are appalling to persons of small Sublimativeness, or narrow heads in the region of that brain-centre. Further, it gives not only enthusiasm and earnestness of purpose, but also a desire to accomplish something worthy.

The Right Hon. Lloyd George is a striking example of a man possessing a powerful development of this faculty.

The abnormal condition of this faculty tends to exaggeration and use of strong adjectives when and where they are not required; a liability to stretch and over-state most things; a tendency to be bombastic in the extreme; an inclination to use such terms as awful, wild, and terrific in the wrong place, and thereby to turn truth into exaggerated falsehood.

Persons possessing only a small degree of this faculty have little or no sense of the sublime. Hence, they fail to appreciate the beauties of nature and the grandeur of the universe; are inclined to be narrow-minded and contracted in their ideas; and are lacking in enthusiasm.



HATTERS' OUTLINES OF HEADS.

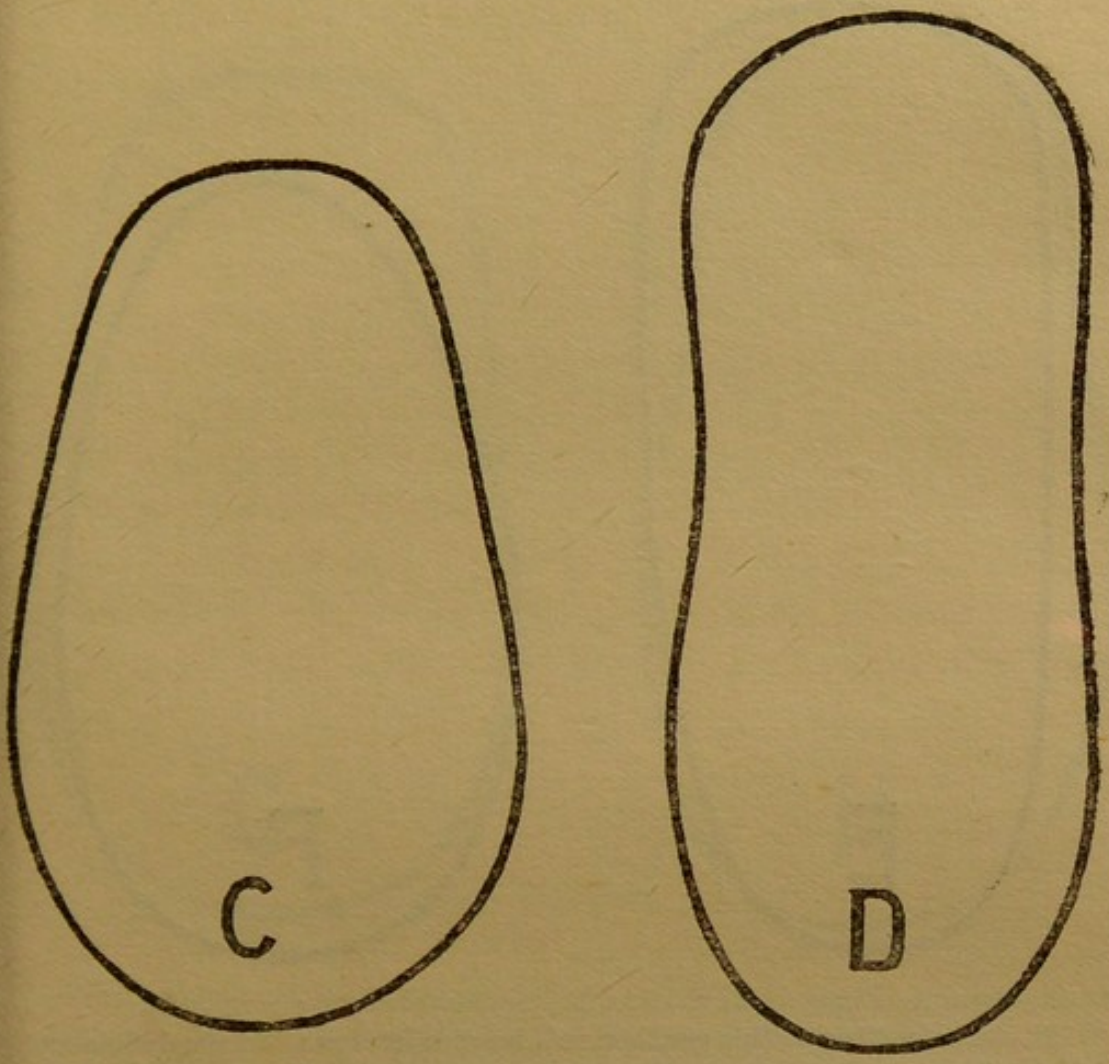
These outlines were taken by Cooper, the expert hatter, Donegal Place, Belfast, and denotes the relative shape of the heads of ten different persons at the region of the hat line only. It forms the border line between the following brain-centres :

Between
- Eventiveness and Synthetiveness ;
- Locativeness and Analytiveness ;
- Temporiveness and Discriminativeness ;
- Acquisitiveness and Sublimativeness ;
- Reservativeness and Cautiveness ;

and over the centres of Quietiveness and Sociativeness ; and the lower part of Habitativeness. The position of the letter in each outline denotes the back of the head.

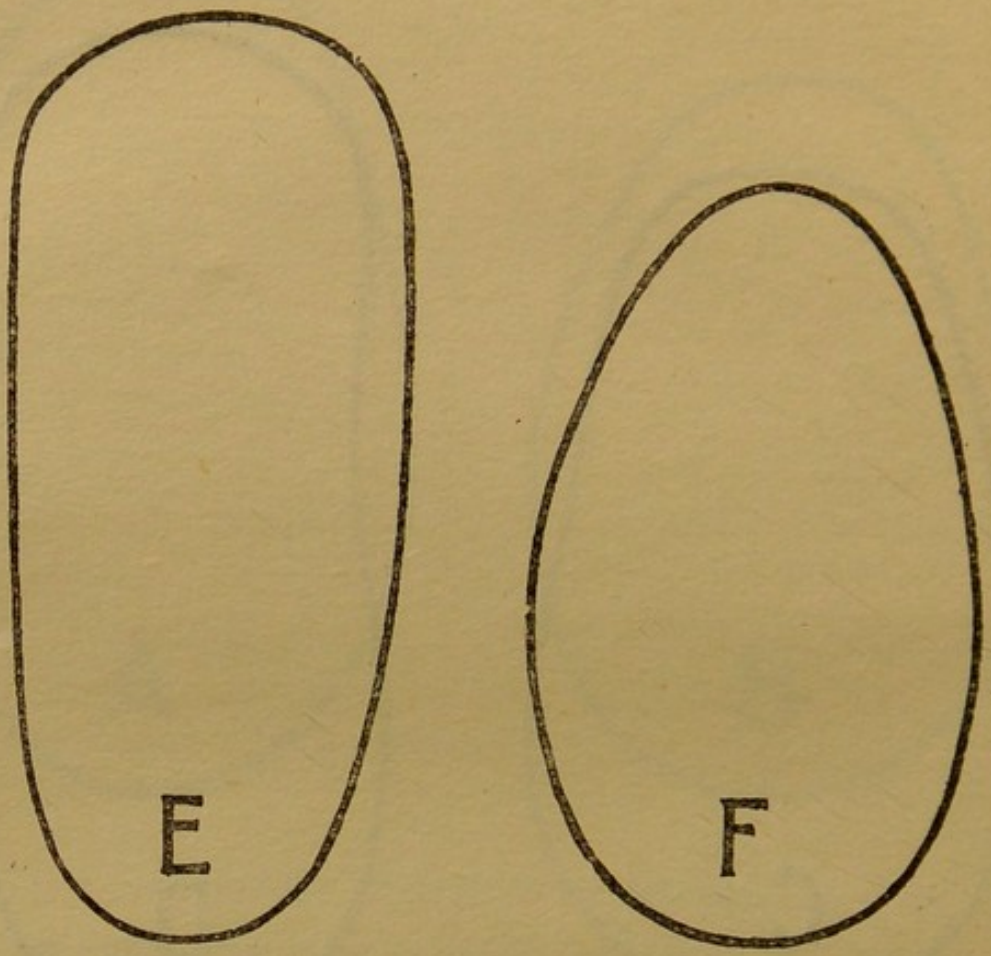
A.—The length of this head, measuring by a straight line passing through the centre from the back to the front, is 7¾ inches ; the width in the region of Cautiveness or the parietal eminence, 6⅛ inches ; width at the tip of the ears, 6¼ inches ; and at the angle of the eye, 4⅝ inches. As these particulars relate to the writer's head, his natural modesty prevents him making any further observations thereon. The reader, therefore, must form his own conclusions.

B.—The length of this head, as compared with the width, is relatively too short ; hence, he is very industrious, but too cautious ; he is very fond of home and the company of his associates and friends.



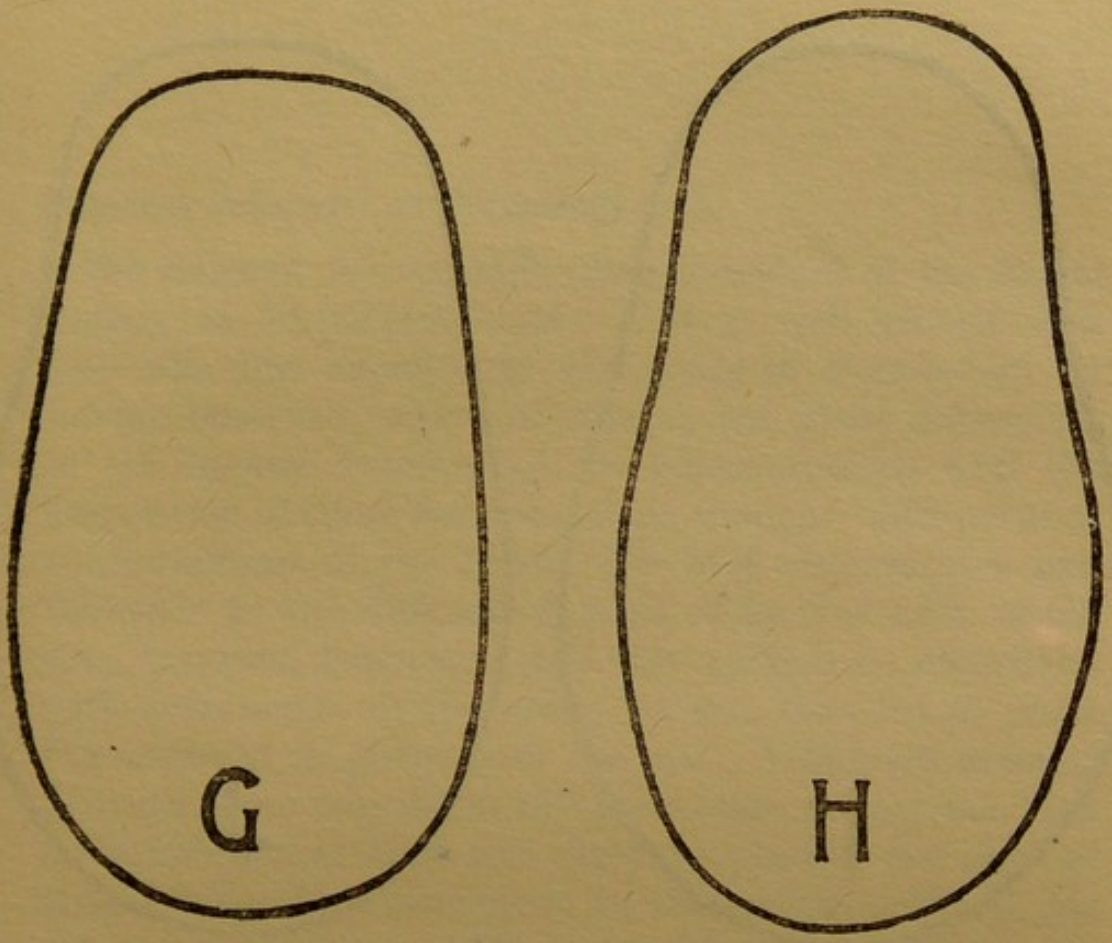
C.—This gentleman's head, in the region of the hat line, is very well proportioned, and he may be said to possess a uniformly and harmoniously shaped brain, free from any excesses or deficiencies. He is capable of enjoying the social relationships of life in the truest sense of the word, and is inclined to be very staunch in his attachments. He is very enterprising, industrious, and possessed of good business ability, but will be careful in making his plans, and leave little or nothing to mere blind chance.

D.—This outline indicates that the owner thereof is possessed of a wonderful degree of intellectual capacity, as shown by the width of the upper part of the outline. Such a man, as a Christian Minister, would strive to do his duty in an intellectual and moral sense; his head, however, is too narrow to succeed where push, driving power, and courage are required. Indeed, he is not only deficient in both prudence and force of character, but also is lacking in the social centres, and, accordingly, is likely to be slighted on that account.



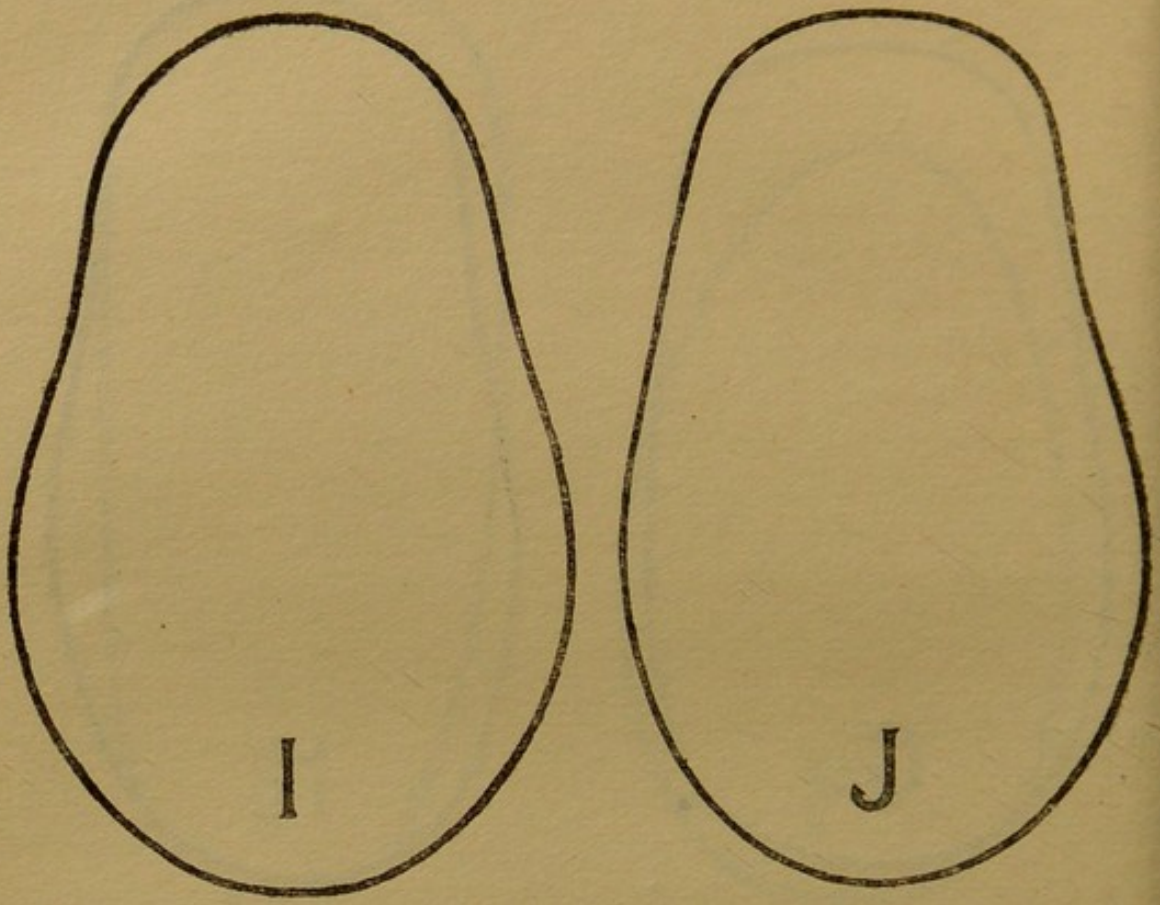
E.—The outline of this gentleman's head indicates a serious deficiency of *Cautiveness* and *Reservativeness*, and that he is liable to get himself into more or less serious trouble, owing to his lack of foresight and prudence. He may not be what is termed lazy, but is not at all likely to attempt too much work; his head is too narrow between the ears for him to go wrong on that score. His attachments are neither serious nor deep; indeed, he must be a cold and unsociable individual, but for all that he is mentally acute, witty, critical, and sagacious to a high degree.

F.—The outline of the upper part of this gentleman's forehead is too narrow in shape, in the region of the reasoning centres, to be able to manifest even an average degree of *Discriminative* and *Analytive* capacity. He is fairly industrious, and a very matter-of-fact kind of man; is capable of looking well after his own needs and rights; he can keep his own counsel well, and conceal from the public view anything which he thinks to be essential in his own interests; and is inclined to be very cautious, except in matters of reason and judgment. The Discriminative faculty, however, is below the average.



G.—This gentleman is possessed of a full or large degree of intellectual capacity, and with a good education, and rightly directed effort, is capable of becoming a distinguished scholar and rising to a responsible position in society. He has an excellent degree of organizing power, and with a good business training would be capable of managing a fairly large undertaking successfully. He is sociable and friendly, but somewhat lacking in driving power, as shown by the moderate width at the region below the parietal eminence ; therefore, he will need a little opposition now and then to stimulate him into activity, and to call forth the best that is in his nature. The avoidance of alcohol would be to his advantage.

H.—This head is too long for its width, and indicates an excellent degree of mental capacity, combined with a moderate development of the social faculties ; he is fairly staunch in his attachments, but is somewhat slow in selecting associates or making new friends. He will be most at home in an occupation that is fairly secure and steady-going, and is not fitted for a daring and enterprising life, where the results are likely to be very uncertain at the end of the month, quarter, or year.



I.—This gentleman holds a very high and exalted position in the Church of Ireland. The writer had the pleasure of being one of his supporters on the platform at a great public meeting in the city of Belfast, a few years ago, and the nature of his address, and the eloquence and vigour of its delivery, will not easily be forgotten. He is capable of "making the most of both worlds." He is highly sociable, and knows how to secure the co-operation of his associates; how to make and retain the friendship of those that are worth having as friends. He is fairly broad in his views, and inclined to treat those who differ from him in opinion with toleration and courtesy, but will defend his own views not only with ardour, warmth of feeling, and aggressive energy, but also with great skill and logical precision. He would have made an able statesman.

J.—This gentleman is possessed of a large degree of intelligence, and is eminently fitted to the Christian ministry, in which he would be likely to shine as a most efficient worker. He is industrious, reserved, and cautious to an excellent degree, and finds real joy and delight in being of service to his fellows. Here we see the teacher and expositor, rather than the statesman.

Eminent Witnesses on Phrenology.—IX.

Sir Samuel Wilks, M.D., late President of the Royal College of Physicians, said: "It is well known that Gall was first impelled to the study of Phrenology by having observed, whilst at college, the great differences in the mental faculties of his fellow-students and the association of those faculties, as he thought, with peculiar conformations of the head. His first observations had reference to the different degrees of facility with which they acquired languages, and this aptness he connected with prominence of the eyes; he was thus led to place the organ of language over the eye. Whatever amount of truth there may be in the phrenological doctrine, it is remarkable that Gall was right in placing the seat of language (or Expressiveness) in that neighbourhood, for numerous instances of disease and injury speedily came before him and his followers, by which the whole system of Phrenology seemed to be established. The doctrine was thus expressed: 'The power by which we employ signs to represent our ideas and feelings is connected, not merely with the anterior lobes which rest on the centre of the orbital plate,' or in the words of Gall himself, which are not exactly similar, 'the manifestation of verbal language depends on a cerebral organ, and this cerebral organ lies on the posterior part of the superior orbital plate.' "—Guy's Hospital Reports, 1879, Vol. xxiv.

CHAPTER X.

THE CREATIVE AND INDUSTRIAL FACULTIES.

GROUP IV.

Introduction.

THE creative and industrial faculties—especially *Cogitativeness*—distinguish man from all other animals. Man needs a coat and various sorts of clothing, and a house, as well as food and drink. These powers give him capacity to make a coat, and to build a house, according to his requirements and tastes; in short, these powers enable man to develop, suggest, invent, create, and manufacture; and to improve his surroundings. The nature and quality of man's work depend upon the quality of his organization, temperament, education, and degree of culture, rather than upon these faculties.

The brain-centres concerned are as follow: Cogitativeness, Formativeness, and Imitativeness. This group of centres is located above the temporal lobes, and, when large, they give more than ordinary width at the temples, and when small, *vice versa*.

Cogitativeness (Ideality).

[Localized by Dr. Gall, and re-named by the Author.]

"The king, perceiving that his desires were intemperate, and his *cogitations* vast and irregular, began not to brook him well."—BACON.

"The Earl . . . being by nature somewhat more *cogitative*."—WOTTON.

15.—COGITATIVENESS (koj'i-ta-tiv-nes), from Latin *cogito, cogitatum* = to think; the act of cogitation;

meditation; imagination; origination; ability to make suggestions; desire to experiment, and develop new ideas—witty, wise, and otherwise. The new term is the result of extensive research. I think it must be admitted that Cogitativeness is an improvement on Ideality.

The primary normal function of this faculty gives a desire to bring into existence that which, for the time being, does not exist; it produces originality of thought; is the source of all real wit; the origin of imagination; gives ability to suggest new ways of doing things; capacity to invent and make improvements; the tendency to develop new ideas and advance with the times. The cogitative and creative faculty makes man a progressive being, and distinguishes him, in a most wonderful degree, from the ape and all other animals, e.g., Shakespeare, Milton, Dryden, and Spencer.

The abnormal condition of this faculty gives a tendency to waste much valuable time in trying to discover and develop new ideas. Such persons are liable to become impractical theorists, and to give more attention to fanciful ideas than to the solid facts of practical experience. Persons in whom this faculty is deficient are decidedly lacking in creative power and very slow in generating or developing new ideas; they prefer to cling to well-known methods, rules, and ways.

Dr. Gall called this wonderful power the "organ of poetry." Spurzheim objected to that idea, and rightly asserted that "the combination of this with other faculties must determine the species of poetry which each poet may produce." Spurzheim's reason for calling it Ideality is by no means conclusive. O. S. Fowler was dissatisfied with the word Ideality, and suggested the term "Beauty." The latter term is even less suitable. Love of, and appreciation for, the beautiful in nature and art depend more on Sublimativeness and Colorativeness than upon the faculty under consideration.

Formativeness (Constructiveness).

[Localized by Dr. Gall, and re-named by the Author.]

"And the Lord God *formed* man out of the dust of the ground."—GEN. ii. 7.

"Though well we may not pass upon his life
Without the *form* of justice."—SHAKESPEARE.

"The diplomatic politicians . . . who *formed* by far the majority."—BURKE.

"'Tis education *forms* the common mind."—POPE.

16.—FORMATIVENESS (form-a-tiv-nes), from Latin *formo*, *formatum* = to form; formation; contrivance; dexterity; ingenuity; power of organization; literary arrangements; a tendency to fix, form, and construct; the production of stereotype plates; the form of words or expressions; to manufacture any sort of article; in short, the formative faculty.

The primary normal function of this faculty is formative power; a desire to contrive, construct, and make; ability to plan and build; versatility of talent; ingenuity and dexterity in the use of tools; mechanical skill; ability to devise ways and means; literary capacity and aptness in forming sentences; skill in needlework; and ability to organize and manage business.

This faculty is distinctly the great formative and planning power of the mind. I may form a plan for conducting my profession, just as a liar gives form to his deception, or the novelist to his work of fiction; or I may form a box, or a piece of mechanism.

It will be easy to perceive, therefore, that Constructiveness is too suggestive of mere mechancial capacity, indicating a concrete tendency, whereas it is better to keep to the abstract idea.

The abnormal condition of this faculty gives a tendency to waste both time and money in attempting to form impractical contrivances, and in planning and scheming to no purpose.

During one of my visits to the County Asylum, Lancaster, a lunatic, who possessed an abnormal degree of

Formativeness, observed: "You look like a gentleman, and if you really are a gentleman, and true to your looks, you will get me out of this place." He further said: "I am the inventor of the circular-saw, etc.," indicating that he was insane mainly in regard to this particular power or brain-centre.

Persons who are deficient in this faculty are very clumsy and awkward in the use of tools; they find it difficult to succeed in mechanism or any work requiring formative and planning capacity.

Imitativeness (Imitation).

[Localized by Dr. Gall, and re-named by the Author.]

"This temple, less in form, with equal grace,
Was *imitative* of the first Thrace."—DRYDEN.

"I have thought some of nature's journeymen had made men, and not made them well, they *imitated* humanity so abominably."—SHAKESPEARE.

"I would advise him who wishes to *imitate* well, to look closely into life and manners, and thereby learn to express them with truth."—HORACE.

17.—IMITATIVENESS (im-i-ta-tiv-nes), from Latin *imitor, imitatus* = to imitate; a tendency to copy what is done by others; to reproduce according to copy, model, pattern, or the original.

The primary normal function of this faculty is capacity to imitate, mimic, or impersonate what is said and done by others; ability to reproduce gestures, moods, and pronunciation; power to impart a great amount of expression to the countenance and relate anecdotes to the very life. The abnormal condition of this faculty tends to servile imitation and buffoonery and a strong tendency to practise plagiarism.

Persons in whom there is a deficiency of this faculty are not disposed to conform to the rules of society and act as others do; they prefer to exhibit an individuality of their own; and are not inclined to imitate, copy, or take pattern from any one.

A SYNTHETICAL CHARACTER SKETCH
of
MR. GEORGE INNES,
According to the Principles of Phrenology.

The subject of this brief sketch has a remarkable development of the Brain (7) and Nerval System (6), united with a good degree of Muscular Power (– 6), the Nutritive Temperament (– 5), the Vascular System (– 5), Organic Quality (6), and Health (– 5). This combination denotes considerably more mental power than physical vigour. The engine (the brain) is too large for the boiler (the stomach). In other words, our subject is inclined to draw too much on his vitality, and finds it difficult to generate or produce nerve-cells, nerve energy, or grey matter as fast as his busy brain consumes the same. The danger is that he will attempt too much rather than too little ; hence, he is more likely to wear out than rust out. He is industrious in a very marked degree, but cool and self-possessed ; very cautious, patient, and painstaking in his work, and leaves nothing to chance. He cannot tolerate indolence or slip-shod methods in those about him ; and as far as time will permit of it, he will be noted for thoroughness in his work.

He holds very decided religious, scientific, and political opinions ; is most tenacious of purpose, and is not easily turned therefrom ; is governed by a high order of moral principle and sense of duty ; is faithful in his dealings, in relation to both his friends and his foes.

The striking development of the lower, central, and upper portions of the frontal lobes of his brain indicate an exceptional degree of capacity for gaining information through objective perception of concrete things, ability to look below the surface, to distinguish between the apparent and the real nature of things. He has a keen perception and memory of colours, tints, configurations,

GEO. INNES, ESQ., F.R.A.S.,
Chemist and Optician, Edinburgh.

forms, shapes, and faces ; he likes to see, examine, and mentally assimilate various kinds of knowledge, especially of an artistic and scientific nature. Indeed, he would have made, not only a first-rate artist, but also an excellent art and science teacher.

He is original, and has a most suggestive mind ; in business matters and methods he is likely to move with the times, as far as it lies within his power. He could have succeeded well in Optics and Refraction. He would have been quite at home either in Biology or in Astronomy, but in Physics and Analytical Chemistry is likely to be at his best.

He readily perceives the difference between true and false analogies ; is not easily imposed upon by an excuse ; is quick to see the bearing of an argument ; and is logical and synthetical in a high degree. The most powerful centre in the reasoning group is Analytiveness (6+). This enables him, amongst other things, to perceive what is involved in a given proposition, and where one proposition involves the destruction of another. He likes to get at first principles ; wants to know the why and wherefore of various things ; and is apt at perceiving the sequence of cause and effect.

Lastly, he is altogether too modest, even though he has fair degree of self-respect, and a full share of Emulativeness. He is inclined to under-value his own ability and worth, although, in reality, he has the natural capacity to become a mental giant.

Eminent Witnesses on Phrenology.—X.

GALL.—On the Brain-Centre for the Appreciation of the Relations of Tones (Sens des rapports des tons).—" Why seek in the brain an organ of music? To be apt for music, nothing is requisite but an ear; so say the physiologists; so says the public. . . ."

ASTLEY COOPER speaks of a man who was very deaf from his childhood, and who, notwithstanding, appreciated harmony; this person played well on the flute, and performed with great success in concerts.

GEORGE COMBE states: " Arithmetic has always been a profound mystery to me, and to master the multiplication table an insurmountable task. I could not now tell how much eight times nine are, without going to work circuitously and reaching it by means of tens, yet for seven years I studied arithmetic. The faculty in me is, in fact, idiotic. Were any other faculties in like condition, I should be totally unfit for the ordinary business of life."

In a lecture delivered at a meeting of Alienists and Neurologists, at Leipsic on the 22nd of October, 1899, PROF. MOBIUS stated: " *In this localization* (of number) *Gall was completely right.* I have found all his statements correct, and only one thing Gall left unmentioned, viz., that the development of the ' mathematical organ ' is more often to be observed on the left side."

CHAPTER XI.

THE OBJECTIVE AND QUALITIVE FACULTIES.

GROUP V.

Introduction.

In dealing with this group of brain-centres we should bear in mind one important fact, namely, that they are something more than mere abstract tendencies: they relate to the qualities of concrete objective realities, which we express by adjectives. Their special function is to perceive through direct action upon the nerves, thus teaching us not mere inferences but absolute truth—what is generally termed demonstration. These powers enable as to distinguish different sounds, and perceive numbers; they produce a desire for work by method and order; ability to distinguish colours and qualities of concrete objects; power to perceive, and to work in harmony with, the laws of gravitation; capacity to judge more or less accurately of relative size and distance, and to perceive configuration, and variation in shapes, of faces and the like. They are limited to physics; are all cognate in their essence, and give practicalness to the operations of the mind.

The names of the brain-centres involved are as follows: Auditiveness, Numerativeness, Ordinativeness, Coloративeness, Gravitativeness, Mensurativeness, and Configurativeness.

This group of centres is located across the eyebrows,

and, when large, they produce more than ordinary prominence in that region, and length from the ears to the root of nose, indicating large frontal lobes of the brain; when small, *vice versa*.

Section 1.—Definition of the Fifth Group of Faculties.

Auditiveness (Tune).

[Localized by Dr. Gall, and re-named by the Author.]

"His look
Drew *audience*, and attention still at night."—MILTON.

"Were it reason to give men *audience*, pleading for the overthrow of that which their own deed hath ratified."—HOOKER.

"Visibles are swiftlier carried to the sense than *audibles*."—BACON.

18.—AUDITIVENESS (au-di-tiv-nes), from Latin *audio, auditum* = to perceive distinct sounds; perception and memory of musical and various vocal tones or sounds; sense of emphasis; appreciation of melody and modulation.

The primary normal function of this faculty enables us to perceive what persons are saying to us, and to detect articulate sounds and tones. By it we can distinguish the voice, or the knock, or the footsteps of a friend; further, by it we perceive whether a mouse is squealing or a lion roaring, and act accordingly; moreover, when this brain-centre is large and active, it gives an acute perception of emphasis and pronunciation. When combined with Temporiveness in the degree of 6, Discriminativeness 6, Synthetiveness 6 or 7, Quality 6, and the Nerval temperament 6, other things being equal, it gives musical capacity of the highest degree.

Birds, in common with ourselves, in a greater or less degree, possess the instinct of perception of distinct sounds; and, therefore, they sing their one particular song. But *Cogitativeness* (of which they do not possess the slightest trace), in combination with our reasoning

faculties, enables us to produce ballads, hymns, melodies, operas and oratorios without number. A thrush always sings a thrush's song; a blackbird a blackbird's song; a nightingale a nightingale's lay; and so forth. Where the instinct of *Imitativeness* exists, even birds may be taught other than their own particular songs—canaries, for instance. But take and hatch their eggs, and the young will sing the old instinctive song.

The abnormal condition of this faculty gives a tendency to waste valuable time on music, singing, emphasis and pronunciation; and a liability to neglect other important duties in so doing.

Persons who possess a small degree of this faculty have neither a taste for music nor ability to produce it; and have a poor sense of emphasis, modulation, and pronunciation.

Numerativeness (Number or Calculation).

[Localized by Dr. Gall, and re-named by the Author.]

"*Numerativeness* is but still the adding one unit more, and giving to the whole a new name or sign."—LOCKE.

"The *numerosity* of the sentence pleased the ear."—DR. PARR.

"Such and so *numerous* was their chivalry."—MILTON.

19.—NUMERATIVENESS (nu-mer-a-tiv-nes), from Latin *numero, numeratum* = perception and memory of numbers; mental calculation; estimation of numbers; the ability to write or read numbers.

The primary normal function of this faculty enables man to perceive and estimate numbers; gives him capacity for reckoning, computing, and counting; and ability to excel in multiplying and in mental arithmetic. When this faculty is very pronounced in its development, and combined in a person with *Discriminativeness* to the degree of 6, and *Synthetiveness* 6 or 7, other things being equal, it not only gives its possessor great skill in dividing

and subtracting numbers, but special aptness for dealing with statistics, and mathematical capacity of a very high degree.

Numerativeness is often used in the double sense of estimating results as well as solving mathematical problems.

The abnormal condition of this faculty gives a tendency to waste much useful time on figures and statistics, which might be used to better advantage in other directions. Persons in whom this faculty is very deficient can hardly count, much less estimate, correctly; they have a dislike for arithmetic; and, with small *Discriminativeness* and *Synthetiveness*, are easily confused in dividing and subtracting numbers.

The writer has recently been called upon to deal with two such cases, in which the persons concerned are imbeciles in regard to numbers, but bright and intelligent in many other particulars. In his "Brain Book," Mr. H. C. Donovan aptly states: "Those who dispute the discoveries of Dr. Gall often assert that phrenologists place mental faculties in certain parts of the skull. Such assertions are made without due consideration, and therefore need no contradiction. The development of the brain affects the formation and size of different parts of the skull, and gives external indication of mental condition."

Ordinativeness (Order).

[Localized by Dr. Spurzheim, and re-named by the Author.]

"One *ordinance* ought not to exclude the other, much less to disparage the other, and least of all that which is most eminent."—JER. TAYLOR.

"You are too blunt; go to it *orderly*."—SHAKESPEARE.

"The moderator, when either of the disputants breaks the rules, may interpose to keep them in *order*."—WATTS.

20.—ORDINATIVENESS (or-din-a-tiv-nes), from Latin *ordino, ordinatum* = perception of order and details; a

desire to set in order, and arrange work according to rule; a tendency to be regular; methodical; a permanent rule or law of action; customarily; usually; generally.

The primary normal function of this faculty is perception of details. The fact is, a man cannot be methodical and orderly without attention to, and perception of, details. The term Order is suggestive of a particular action of the mind rather than the influence of a fundamental tendency or faculty, whereas ability knowingly to discern and look into concrete things is purely an objective faculty, and necessary — nay more, indispensable —to the completion of the series of objective and qualitive faculties. Further, its position in the brain, as next-door neighbour to Numerativeness, proves the special kinship between recognition of the parts of things, for the purpose of analysis, and ability to count them. It was very large in Dr. Dallinger, Darwin, Kelvin, and in numerous other men, all famous for their keen perception of detail.

We are informed that "order is heaven's first law," and the writer would suggest that the honeycomb of the bee is one of the most wonderful edifices on earth, if not the most mathematically, ordinatively, and perfectly formed structure known. The cells are perfect hexagons, and contain the largest possible quantity of honey in the smallest practicable quantity of wax. Amongst other animals and insects, notably the ant, we perceive the operation of the ordinative faculty.

The abnormal condition of this faculty gives a tendency to be too precise about minute details. Such persons are too faddy and finicking about order, method, and mere trifles; and liable to be annoyed and tormented by disorder.

Persons in whom this faculty is deficient are likely to live in well-nigh continual disorder; they have a negligent way of doing most things, and are inclined to be

slovenly. They find it very inconvenient to live up to the following standard—" Let all things be done decently and in order " (1st Cor., xiv. 40).

Coloративeness (Colour).

[Localized by Dr. Gall, and re-named by the Author.]

" Why hunt I then for *colour* or excuses."—SHAKESPEARE.

" Then the Captain's *colour* heighten'd,
Joyful came his speech."—TENNYSON.

" Parting day
Dies like a dolphin, whom each pang imbues,
With a new *colour* as it gasps away,
The last still loveliest, till—'tis gone—and all is gray."—BYRON.

21.—COLORATIVENESS (kul-er-a-tiv-nes), from Latin *coloro, coloratum* = perception and memory of colours; distinction of tints and hues; sense of light and shade; perception of the texture or quality of objects and concrete things.

The primary normal function of this faculty gives man capacity to distinguish and remember colours, tints, and qualities of general objects and concrete things. For example: it enables the painter to mingle, arrange, and blend his colours; the engineer and cutlerist to perceive when to run off the molten metal to produce soft, tough, or hard iron or steel; the merchant to discern the texture, quality, and to aid *Numerativeness* in estimating the relative values of cotton, wool, and fabrics; the provision merchant to differentiate between the qualities of various foods, and so forth.

The abnormal condition of this faculty gives an extraordinary perception of colours. Such persons are apt to be pained by observing colours in juxtaposition which do not harmonize.

Persons in whom this faculty is very small are naturally deficient in the power to distinguish colours, shades, and

qualities of objects, and are frequently liable to make mistakes in regard to these things. Mr. Arthur Newman, the well-known "juggler at home," is a striking case in point; that is to say, he is almost colour-blind.

Gravitativeness (Weight).

[Localized by Dr. Gall, and re-named by the Author.]

Sir Isaac Newton established the theory that every particle of matter within the universe attracts every other particle with force proportionate to the product of the numbers representing their mass.

22.—GRAVITATIVENESS (gra-vi-ta-tiv-nes), from Latin *gravitas* = perception of gravitation; power to balance the body in harmony with the laws of gravitation; perception of movement under the influence of gravitation; perception of centripetal force, absolute gravity, relative gravity, and specific gravity; and sense of touch.

The primary normal function of this faculty gives perception and memory of, and ability to balance the muscular system in harmony with, the laws of gravitation. This power enables man to enjoy the sense of motion; and, according to his abilities and practice, to acquire differing degrees of skill in walking, cycling, riding, skating, swimming, and shooting. Further, this faculty enables man to estimate and remember the amount of pressure or force that is required to accomplish a given purpose, as applied in using a hammer; in handling a mallet; in striking a ball; in throwing a ball; in using a knife; or in the use of a billiard cue. Weight, as a name, is misleading and objectionable because the size, dimension, and magnitude of objects indicate their weight quite as often as their heaviness. In short, the faculty under consideration not only gives correct ideas of the laws of gravitation, when large and active, but also enables persons to perform with great skill wonderful feats of balancing. Blondin, the famous tight-rope walker, was possessed of a wonderful degree of this faculty. The

writer was greatly impressed by observing his skill in walking on the tight-rope, but his bold and daring performance of riding a bicycle thereon was an even more wonderful feat, and made one feel rather anxious for his safety. Mr. Arthur Newman, in his clever act termed "a juggler at home," performs a most skilful feat of balancing a ball on a stick, etc. These cases serve to illustrate what may be accomplished by persons who are possessed of a large degree of this faculty, when it is combined with industry, fixedness of purpose, and perseverance.

The abnormal condition of this faculty produces an extraordinary perception of the laws of gravitation and sense of motion; and a liability to attempt dangerous and almost impossible feats of balancing.

Persons in whom this faculty is deficient possess very little balancing power, and should not attempt to walk in dangerous places or work at high elevations. Such persons are liable to sickness when at sea.

Mensurativeness (Size).

[Localized by Dr. Spurzheim, and re-named by the Author.]

"The *measure* thereof is longer than the earth, and broader than the sea."—JOB, xi. 9.

"God's eternal duration is permanent and invisible, not *measurable* by time and motion."—BENTLEY.

"Be sure of your facts, your *measures*, and your weight."—LOWELL.

23.—MENSURATIVENESS (men-su-ra-tiv-nes), from Latin *mensuro*, *mensuratum* = perception of relative size, distance, dimension, and magnitude; perception of measurements in general; application of arithmetic to geometry; the mensurative faculty.

The term Size, as a name for the mensurative faculty, is altogether too limited and misleading in its meaning to convey the idea required. The term "measurement,"

suggested by O. S. Fowler, whilst it is a distinct improvement on Size, yet does not appear to meet the needs of the case.

The primary normal function of this faculty is perception of relative proportion of objects, such as length, width, and magnitude; ability to estimate size, angles, and perpendiculars; power to judge of bulk, dimension, and distance. A full degree of this faculty is essential to enable a person to excel in drawing and modelling; otherwise the work attempted is likely to be defective in the relative proportions, however beautiful in general outline, configuration, and other particulars.

The citation of one case from thousands of similar ones will serve to illustrate the point at issue.

The writer was recently consulted by a lady who appeared to be anxious to know whether she had any capacity to succeed in modelling and freehand drawing. After a careful estimation of the faculties concerned I suggested that her mensurative faculty was rather under the average in development, and might be stated in figures, with other faculties, as follows :—Mensurativeness – 4, Configurativeness 6, and Colorativeness – 6, thus indicating, with fair practice, that she would be able to blend colours, and arrange light and shade well; produce most interesting configurations, and draw neat curves; but that her efforts would indicate one distinct defect, namely, inaccurate proportions that only the expert would be able to detect. In reply thereto, with clenched hands, and in evident mental pain, she said : " That is just where I have failed; after striving hard for five years to obtain a first prize, I have only managed to win a second."

The abnormal condition of this faculty gives an extraordinary perception of relative proportion and magnitude. Such persons are pained at the mere sight of disproportion, and are inclined to bestow extra time and care to obtain accuracy of proportion.

Persons in whom this faculty is deficient are easily mistaken in regard to the length and breadth of objects. Such persons to ensure accuracy must stick to lines, rule, or compass, because they are not good in judging, by the eye, of relative dimensions.

Configurativeness (Form).

[Localized by Dr. Gall, and re-named by the Author.]

"They (astrologers) undertook . . . to determine the course of a man's character and life from the *configuration* of the stars at the moment of his birth."—WHEWELL.

"It is the variety of *configuration* (of the month) in these openings only which gives birth and origin to the several vowels."—HARRIS.

24.—CONFIGURATIVENESS (kon-fig-u-ra-tiv-nes), from Latin *configuro, configuratum* = perception of configuration; the external form, figure, and shape of all objects; external appearance, configuration, and aspects of the stars. It not only gives capacity to distinguish different faces, outlines, and shapes, but also aids in reading and spelling.

The primary normal function of this faculty enables man to perceive, remember, recall, and reproduce, as occasion requires, the general configuration of heads and faces; the conformation of every distinctive feature in the various types of mankind; the particular species of animals, birds, and insects; different musical notes, and all sorts of printing type; in short, everything upon the earth and in the sea that has a shape and name. The late James Barlow, Esq., of Accrington, represented a most wonderful degree of this faculty, and accordingly he was possessed of an extraordinary memory of faces. When the writer called his attention thereto, he affirmed it by recalling what he had seen, and could remember, from his visits to the various art galleries of the world.

The abnormal condition of this faculty produces an extraordinary perception of configuration and a most

wonderful memory of faces, shapes, and pictures. Such persons are inclined to be too particular and exacting about harmony of outlines and shapes.

Persons in whom this faculty is weak or undeveloped have a very poor perception and memory of faces, features, and countenances, and are apt to forget even their own relations unless seen very frequently.

Expressiveness (Language).

[Localized by Dr. Gall, and re-named by the Author.]

"They *expressed* in their lives those excellent doctrines of morality."—ADDISON.

"It charges me in manners the rather to *express* myself."—SHAKESPEARE.

"The imitators of Shakespeare, fixing their attention on his wonderful power of *expression*, have directed their imitation to this."—MATT. ARNOLD.

25.—EXPRESSIVENESS (eks-pres-iv-nes), from Latin *exprimo, expressum* = perception and memory of words; power to express our desires, hopes, and fears in articulate tones; ability to communicate one's ideas to others in appropriate speech; to express, intimate, or testify; in short, to indicate, even by the eye, joy, sorrow, or pain.

Apparently, man alone is possessed of that wonderful gift of being able to communicate his ideas to his own kind in written letters, signs, and symbols.

The primary normal function of this faculty gives man capacity to express his desires, emotions, aspirations, ideas, convictions, and conclusions, both in articulate tones, and in more or less appropriate words.

The influence of this faculty, and its relative degrees of power in different individuals, can easily be observed in public speakers. For instance, when a man is possessed of a large degree of this faculty, the words will flow from his lips with great fluency and freedom of expression, and

without any hesitation. The brilliancy of expression possessed by the late John Bright formed a most apt illustration of the wonderful influence of this faculty, when rightly applied to a worthy purpose.

The abnormal condition of this faculty produces most extraordinary verbosity of speech, and ability to express one's thoughts and feelings by words. Such persons are too voluble and loquacious, and given to redundancy of words and expressions. Persons in whom there is a deficiency of this faculty cannot speak with any degree of freedom, and often hesitate for words; they may, and often do, have excellent ideas, but cannot express them in appropriate words.

Now, whilst ants, bees, spiders, insects, birds, cats, dogs, monkeys, and various other creatures *cannot communicate* their feelings of attachment, joy, fear, hunger, and anger to one another *in written letters, signs, and symbols*, there is abundant evidence to indicate that, in a greater or less degree, they can, and do, express in certain tones, sounds, and movements their desires, joys, and fears.

Section 2.—The Faculty of Language or Expressiveness—Which?

Apparently, however, there is no fundamental faculty of "language" or a communicative faculty; that is to say, ability to learn a language and communicate it to other minds in letters, signs, and symbols depends on certain other faculties, such, for instance, as *Auditiveness, Mensurativeness, Configurativeness,* and *Eventiveness,* aided in man by his *Reasoning powers, and prompted or urged on by Cogitativeness,* and assisted by *Formativeness.* Hence, the term "Language," as applied to the faculty under consideration, is both misleading and unscientific; and, therefore, does not, in any sense, meet the needs of the case.

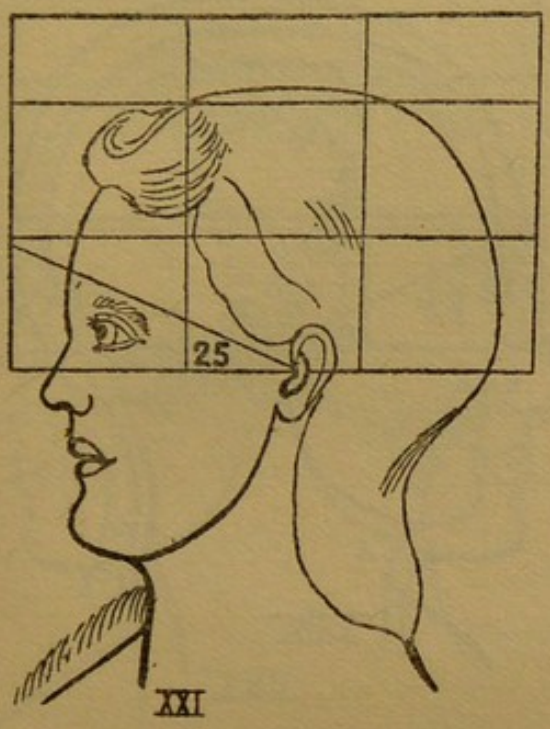
The eye, in a phreno-psychological sense, according to its relative position, as a rule indicates a corresponding degree of the speech centre, the faculty which enables man to express his thoughts on every conceivable subject under the sun, in various tones, sounds, and words, rather than it denotes capacity to learn either modern languages or what are sometimes described as the " dead languages." The mere size of the eye, however, counts for little or nothing, but its relative position, whether somewhat leaning over the lower eye-lashes or set backward behind it, means a great deal to the trained student thereof.

Eminent Witnesses on Phrenology.—XI.

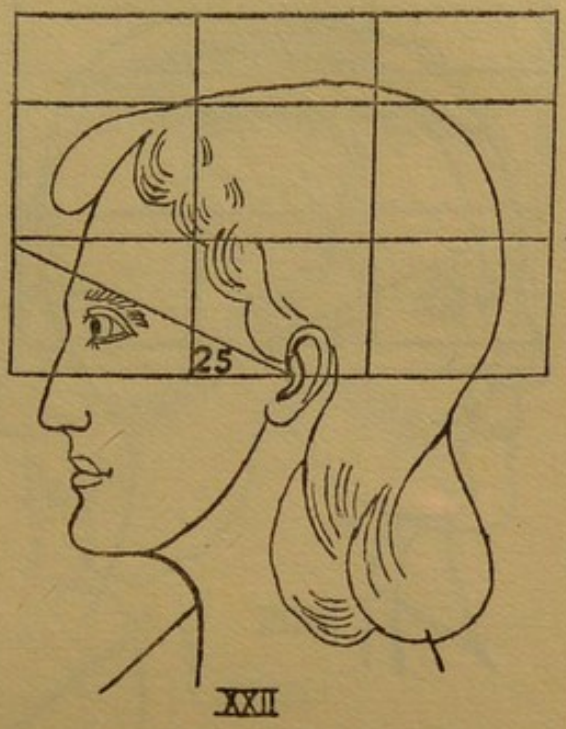
SIR SAMUEL WILKS further said: "In whatever way we may regard the first inquiries of Gall, it is interesting to see with what enthusiasm the phrenologists set about proving their doctrine as to the seat of language. The earlier volumes of their 'Transactions' contain numerous cases of aphasia connected with disease of the brain, which, no doubt, involved the third anterior convolutions. *The description of these cases is most excellent*, and the *aphasic condition seems so perfectly understood that it is really surprising why all that is known about it nowadays should not have been taught equally well fifty years ago.* Our works on physiology, strangely enough, were silent on the subject of speech in connection with any localized seat in the brain, while a heterodox literature contained the whole of the facts which have only just now been taught in the schools.

"One can only account for the ignorance of physiologists and the medical profession of a well-established doctrine by their antipathy towards the phrenological school, which prevented any of its literature entering the portals of our college libraries."—Guy's Hospital Reports, 1879, Vol. xxiv.

The "*Physiological Aspect* (of Phrenology).—The theory of some of the older metaphysicians, that the mind, in feeling and reflection, makes use of no material instrument, is not now accepted by psychologists. It was advanced by Brougham and Jeffrey as against the theory of Phrenology; but the doctrine that the brain is the organ of the mind is now universally received."—The Encyclopædia Britannica, 11th Edition.



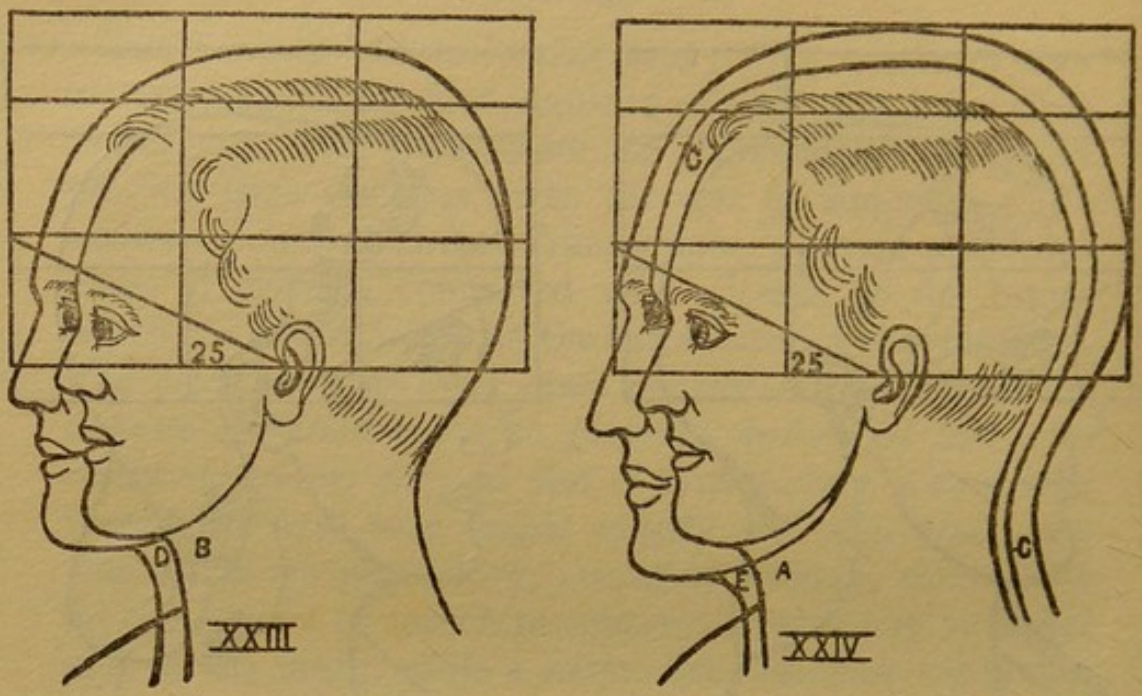
XXI



XXII

XXI.—This figure represents a perfectly natural, innocent, and healthy girl. She is both mentally and physically harmonious. She enjoys and makes very good use of the food she eats, and so far as she is concerned life is a glorious holiday. She also enjoys about an equal amount of both exercise and sleep. At school, she will be industrious, but is not inclined to hurry with her work; that is to say, she is somewhat slow and steady-going, but fairly sure of ultimate success. There is much to be said in favour of the old adage: "Slow and sure."

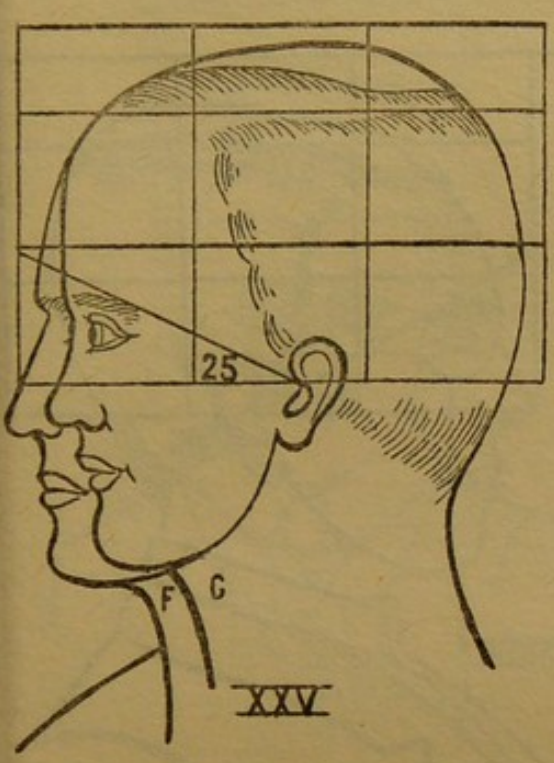
XXII.—The development of the features of this girl, especially the nose, denotes that she is precocious, and is developing too rapidly into womanhood; indeed, the indications are that she is too acute mentally for her years. This is mainly the result of mental cramming, and frequently produces mental dyspepsia, and this ultimately ends in nervous disorders. The folly of rushing over too many lessons at school, and learning few things (if anything) thoroughly, is manifest everywhere. Mental cramming induces a great national waste of brain power and physical strength.



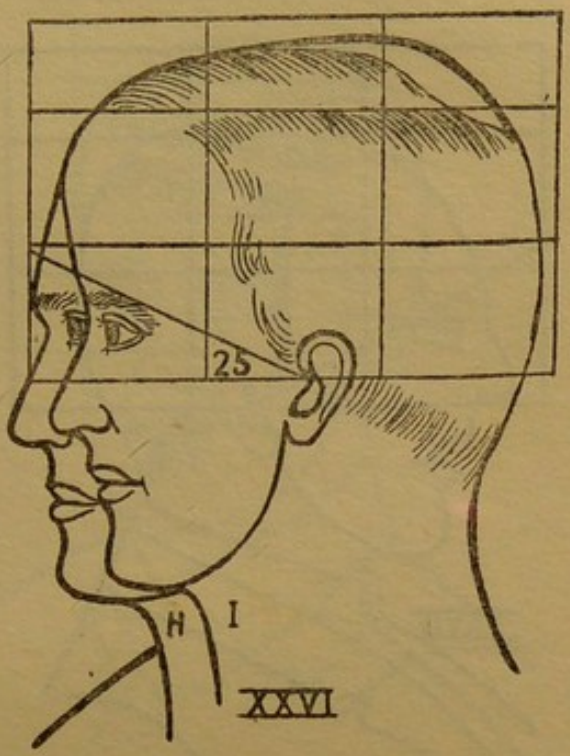
XXIII.—D and B, it will be observed, are equal in the development of their social and domestic brain-centres, but there is a very marked difference in the development of their respective intellectual and superior centres. The circumference of D's head is 22 inches; whilst B measures only 20 inches. Thus the latter has only a moderate degree of intelligence, whilst the former is possessed of a full degree of mental capacity. The quality of the brain is alike in both boys, hence the larger one is the more powerful.

XXIV.—A measures in circumference only 19 inches, and yet he is possessed of rather more intellectual capacity than B, who is an inch larger in the general circumference, as is denoted by their respective developments of the frontal lobes. C C measures about 21 inches in circumference, and has almost a full degree of the frontal lobes, but only an average degree of the occipital lobes.

The circumference of E is 23½ inches, so that, other things being equal, this implies all-round ability. Such an individual is endowed with enough mental and moral capacity to be able to select from, say, seven or even ten different occupations which he will take up as his trade, business, or profession; but a person with only an average degree of intelligence cannot do so, with an equal prospect of success.



XXV



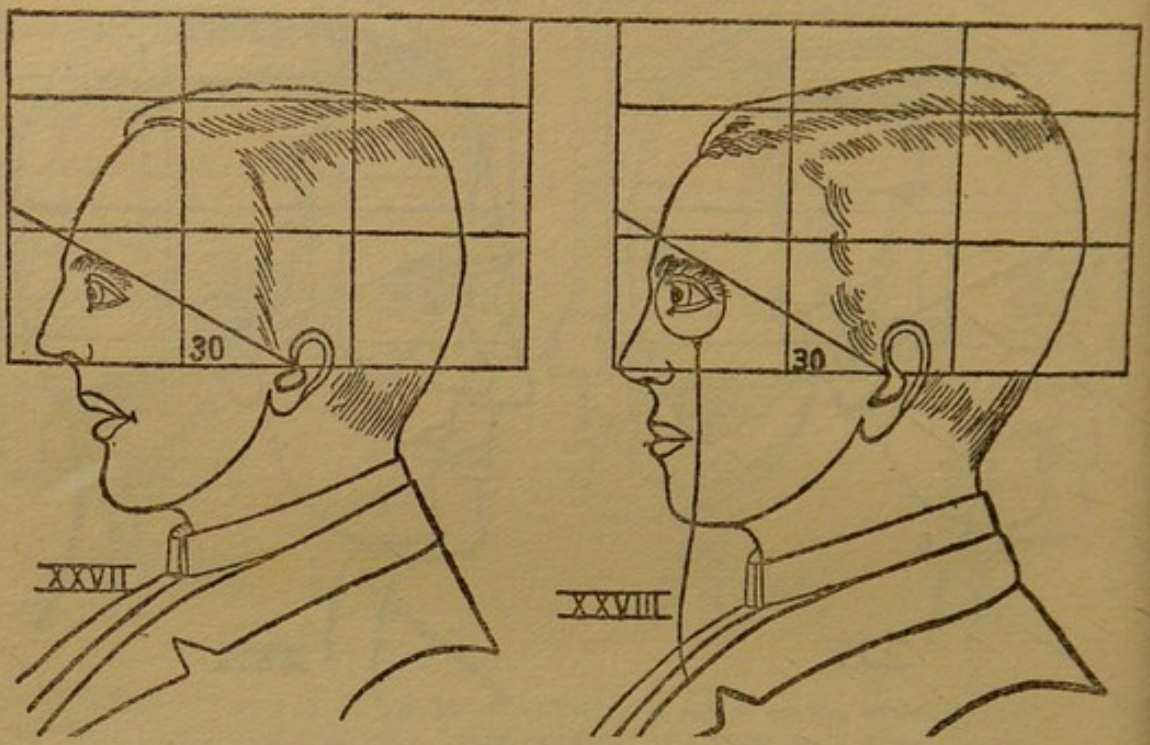
XXVI

XXV.—F.—The high development of the superior brain-centres, and the good quality of his organization, combined with the finely formed nose, lips, and chin, indicates rather more than a full degree of mental ability, and a high degree of moral excellence. Supposing such a man (boy) commences his career as a book-keeper, in a good business place, the probability is that he will ultimately become the salesman.

G is most kindly disposed, obliging and polite, and would make an excellent and obedient servant to a good and worthy master. He is sadly lacking in decision of character, and should work under the guidance of a person like or similar to figure F.

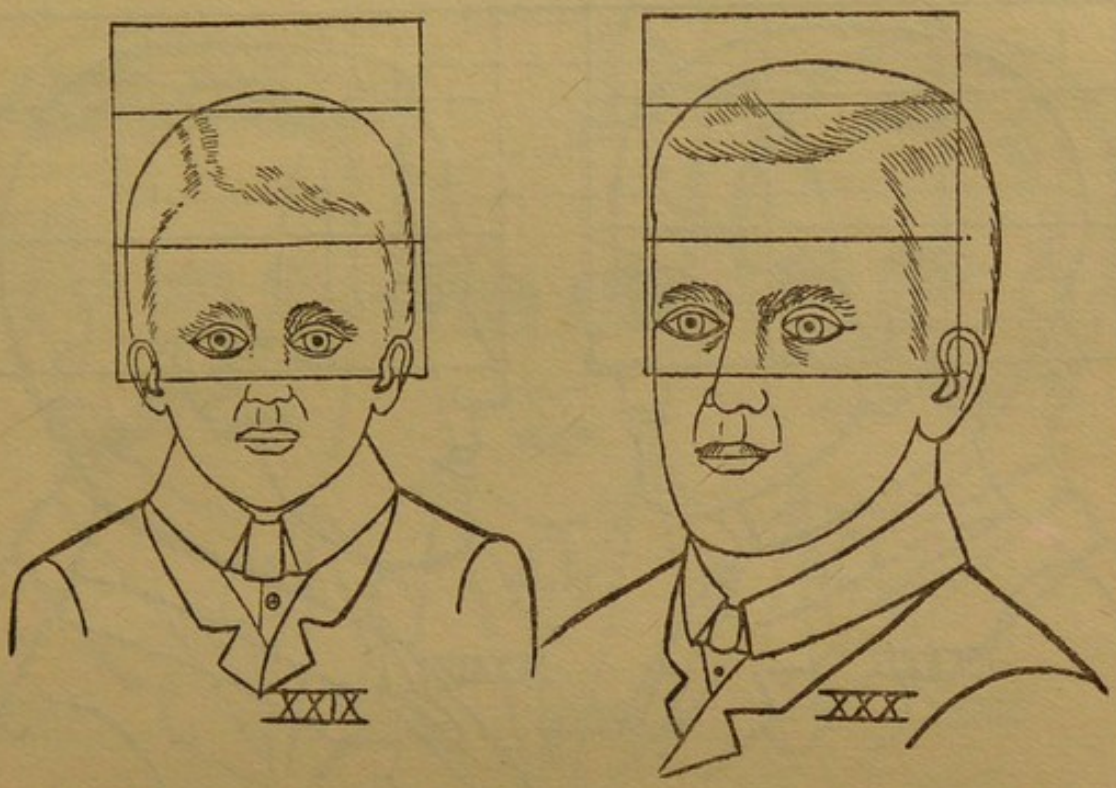
XXVI.—H is possessed of the objective mind, with excellent reasoning capacity, combined with a pronounced degree of self-respect. He is quick to make up his mind on most matters, and would be able to guide, direct, and manage successfully some large business concern. He must either move upward, forward, or offward, or try his skill elsewhere.

I.—In this person the Reflective centres are too pronounced, combined with a deficiency in the upper parietal lobe, indicating a lack of self-respect. In other particulars he is similar to G.



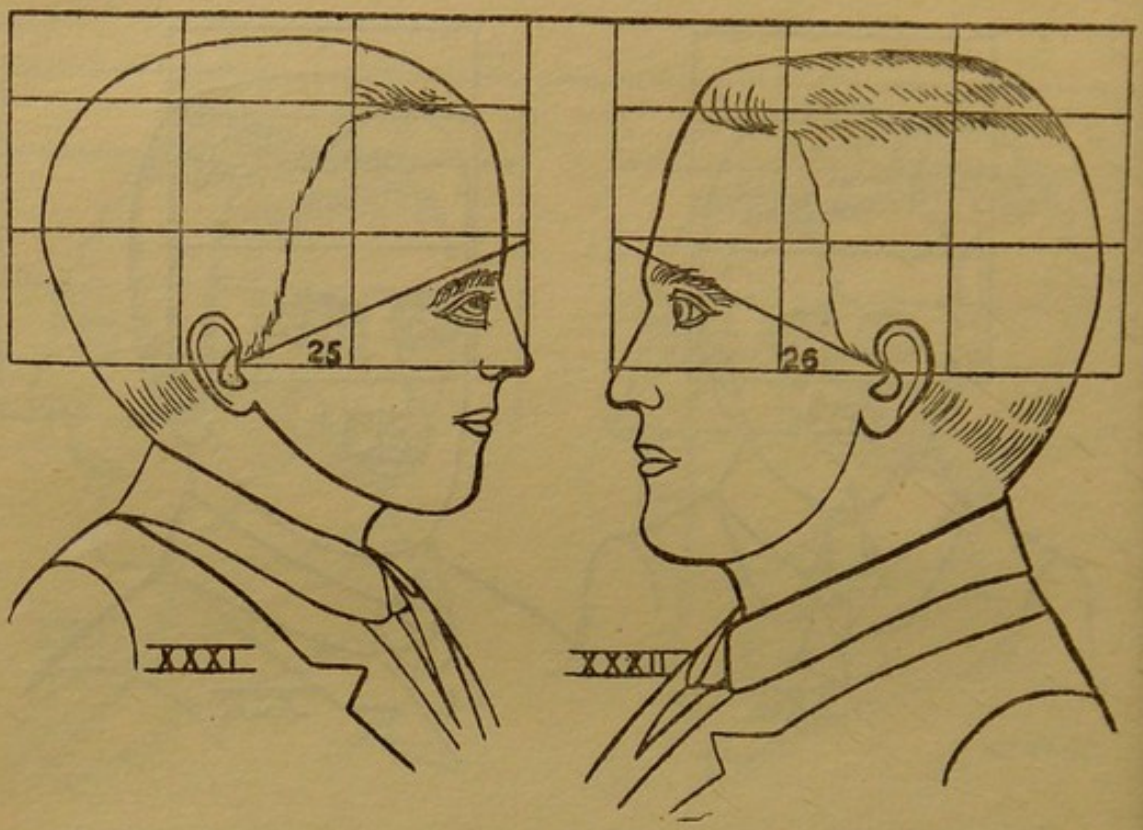
XXVII.—The entire make-up of this youth reveals the essence of simplicity and credulity; he is on the look-out for something new or fresh, and is easily gulled or taken in. Sharpers are always on the alert for such-like flats, and if the latter possess any money, the former frequently succeed by the aid of fairy tales in cheating such simple-minded persons out of their property. His open mouth, amongst other things, denotes his extreme credulity. It is truly written in the Book of Proverbs (xxvii. 18), "A prudent man foreseeth the evil, and bideth himself, but the simple pass on, and are punished."

XXVIII.—In contrast to the last youth, we perceive a strong degree of self-respect, and decision of character, as denoted by the development at the crown of his head, but unless such boys are treated with great tact and consideration, they are liable to become very conceited, and mulish in their stubbornness. There are in this boy indications of "a diamond in the rough," and if rightly trained and polished, the making of a worthy man. It will, however, require great patience to bring it about.



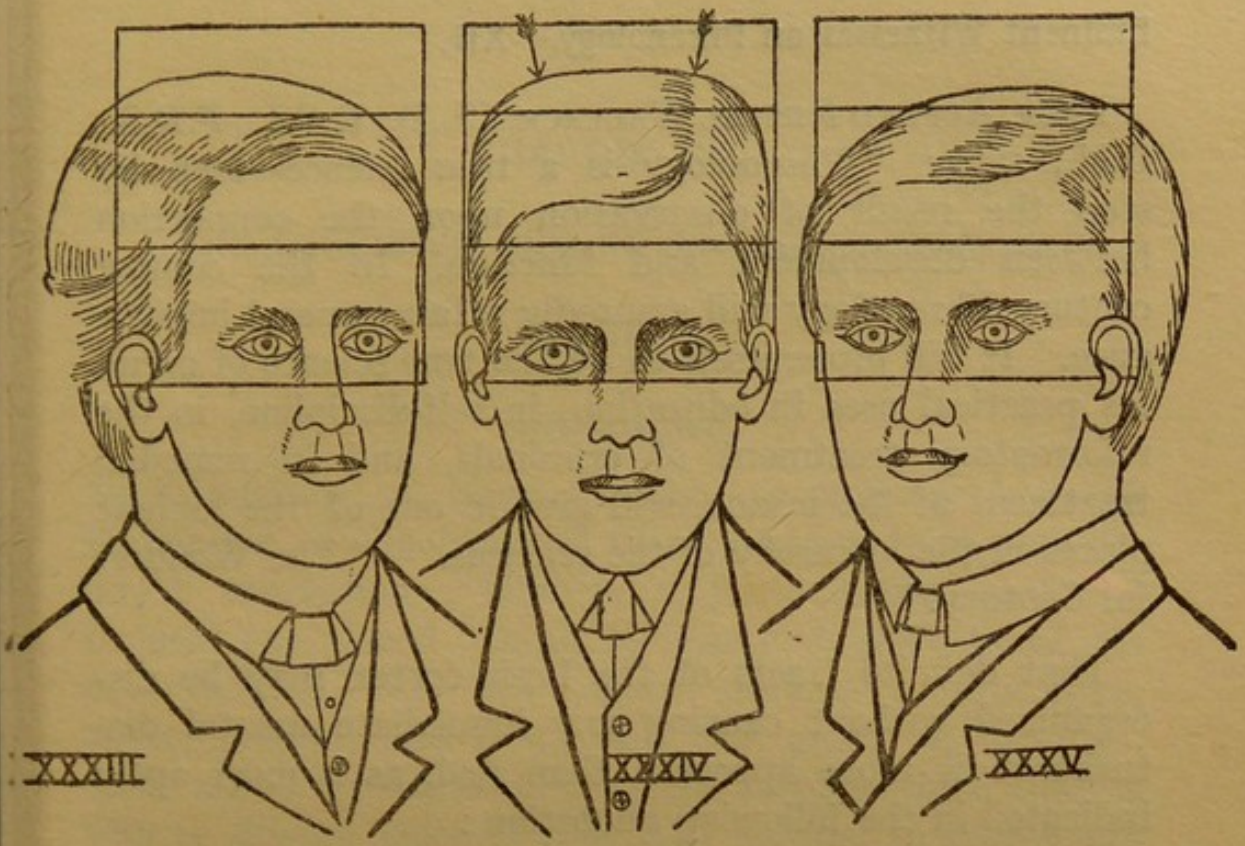
XXIX.—This winsome little fellow was possessed of a high degree of intellectual ability, combined, unfortunately, with a very frail physical constitution. So far as natural ability was concerned he had the requirement necessary to excel as an accountant, or banker, or in any similar calling. There is no doubt in the writer's mind but that the high pressure of his school life shortened the days of this bright and brave boy. The writer warned the boy's parents of the risk to his health about twelve months before his death. That such a state of things should exist in the twentieth century is somewhat surprising. It must, however, in the near future, be modified, because it creates the right of resistance. Boys of this type should not be sent to school, except for amusement, until they are seven years of age.

XXX.—This figure indicates good health, great vitality, mental vigour, and excellent capacity for acquiring and retaining general knowledge, and a marked degree of ability to illustrate, illuminate, and apply the same. Here we perceive the natural orator. He possesses an unquenchable degree of determination of spirit, and a keen sense of duty, combined with a good share of tact and prudence.



XXXI.—This figure indicates the boy theologian, combined with an excellent degree of musical talent. At twelve years of age, this boy possessed the full-sized head of a man, and accordingly he was inclined to ask questions, to argue more like a full-grown man than a mere boy. Amongst other things, he was indeed the very essence of goodness. His brain and nerval system were developed out of all proportion to his physical make-up, with the result that his powerful mind or spirit rent asunder, figuratively speaking, his weak physical constitution and nerve-centres, and took its flight to another and, we believe, a more congenial state of existence. The writer warned his parents of the risk that was being run of brain fever, from which he subsequently died, unless he could have three to six months' absolute rest from mental effort. This advice was not acted upon. He died about a year afterwards, as one might expect, under the circumstances.

XXXII.—This figure indicates all the requirements necessary to make an excellent merchant, either as a buyer or seller. He is sociable, ambitious, and persevering to a good degree, and can adapt himself to persons in various states of society; he will win the confidence of business people by doing what is fair and upright.



XXXIII.—This figure represents the qualifications essential to make a first-rate physician. The question may be asked: "Supposing circumstances do not allow of this, what then?" In the light of twenty-five years' successful experience as a specialist in the choice of vocation, the writer would suggest that such a person (boy) could excel either as a teacher or preacher, and further, that he is possessed of sufficient ability to make a brilliant author.

XXXIV.—This outline indicates all the requirements essential to make a most honourable lawyer, and, finally, a judge of the first rank. Supposing the circumstances, however, were unfavourable to this, the writer would suggest the Civil Service or some position of trust—such, for instance, as confidential secretary to a private gentleman or a public man.

XXXV.—This figure denotes the qualifications of the typical surgeon, and next to that the writer would suggest a manufacturer, and failing this, either an engineer or a manager of some sort of manufacturing or wholesale business concern.

Eminent Witnesses on Phrenology.—XII.

PROF. ALFRED RUSSEL WALLACE, LL.D., D.C.L., F.R.S., O.M., says: "Phrenology is a true science—step by step the result of observation upon the connection between development and function. In the coming century Phrenology will assuredly attain general importance. It will prove itself to be the true science of mind. Its practical uses in education, in self-discipline, in the reformatory treatment of criminals, and in remedial treatment of the insane, will give it one of the highest places in the hierarchy of the sciences."—"The Wonderful Century."

That definite tracts of the brain-cortex may be disorganized without causing any immediate mental disturbance is more apparent than real, as is most aptly indicated in the following quotation:

"If we look at the matter a little more closely," says DR. FERRIER, "we shall see that not merely extensive lesions in one hemisphere may be latent as regards mental symptoms, but even a whole hemisphere may be disorganized with a like negative result. If, however, *both* sides of the brain be disorganized, the annihilation of mind is complete. The logical deduction from these facts therefore is, not that there is no special localization of function, but that as far as the fundamental powers of mind are concerned—sensation, emotion, volition, and intellect—one hemisphere is sufficient."—"The Localization of Cerebral Disease," p. 6.

The same authority says: "The facts of experiment and of disease favour the views of the phrenologist."

CHAPTER XII.

THE COGNITIVE AND RETENTIVE FACULTIES.

GROUP VI.

Introduction.

THE function of these faculties is midway between distinction of the qualities of concrete objects and abstract conclusions. Man is a finite being, and the Creator has placed a limit in time and space to all his observations. Man can cognize nothing outside time, space, present, and past, with this group of faculties. Thus man is possessed of a special faculty which enables him to discern lapse of *time*, and another to enable him to perceive and remember *localities*. The *Eventive* faculty concerns both time and space; hence, it is a faculty to take cognizance of passing events. The *Observative* faculty occupies the central portion immediately above the nose. In grammar it is the centre of nouns or substantives—most things to which we can give a name are noticed and remembered by this faculty. Man needs to consider and remember more or less carefully what is going on around him, and these powers enable him to do so. The brain-centres concerned and their corresponding faculties are as follows: Observativeness, Eventiveness, Locativeness, and Temporiveness. These powers collect and store general knowledge; remember history, anecdotes, names, and matters of fact. This group of centres is located in the middle of the forehead, and, when large, they give more than ordinary fullness across the centre of the forehead, and when small, *vice versa*.

Section 1.—Definition of the Sixth Group of Faculties.

Observativeness (Individuality).

[Localized by Dr. Gall, and re-named by the Author.]

"We are told how *observant* Alexander was of his master, Aristotle."—SIR K. DIGBY.

"In his brain . . . he hath strange places cramm'd with *observation*."—SHAKESPEARE.

"The compassion and benignity of the Saviour towards little children is *observed* by all the evangelists."—ATTERBURY.

"He alone is an acute observer who can observe minutely without being observed."—LAVATER.

26.—OBSERVATIVENESS (ob-zer-va-tiv-nes), from Latin *observo, observatum* = the act of observing or focusing attention on any object; a tendency to observe what is occurring; perception of particular phenomena; the act of tabulating observations; the habit of fixing the mind on any concrete object.

Observation was suggested by O. S. Fowler for Individuality, and in his criticism of Dr. Spurzheim's nomenclature he complained that the doctor had a liking for names ending in *iveness*. I must here confess that I entirely agree with Spurzheim on this important issue. Apparently, O. S. Fowler was unable to perceive its strict logical accuracy. The term Observation indicates an action of the mind, the act of observing; whilst the "ness"* is necessary to denote a relative *abstract tendency* of the mind, which "ion" does not signify. In other words, the innate fundamental faculty of Observativeness produces the outward act of observation. The term Individuality is inaccurate and misleading, and is liable to convey the idea of selfishness.

The primary normal function of this faculty enables man not only to focus his attention upon objects in general, but also makes him particular and minute in his observations. We first observe, then remember, afterwards associate, and finally generalize thereon. Persons

* "Ness" is further illustrated under "Emulativeness."

who are possessed of a large degree of this faculty have a keen thirst for seeing things for themselves, and are fond of collecting facts and general information.

The abnormal condition of this faculty gives uncommon powers of observation, and a tendency to be *too* curious; and to stare at people somewhat offensively.

Persons in whom this faculty is deficient have very weak powers of observation. Such persons take too little notice of the various objects around them; are slow to grasp and comprehend the nature of what is being done by others; and are somewhat absent-minded.

Eventiveness (Eventuality).

[Dr. Gall included the centre in Educability; Dr. Spurzheim considered it a distinct function; re-named by the Author.]

"Last scene of all
That ends this strange *eventful* history
Is second childishness."—SHAKESPEARE.

"One God, one law, one element,
And one far-off divine *event*,
To which the whole creation moves."—TENNYSON.

"Oft in the stilly night
Ere slumber's chain has bound me,
Fond *memory* brings the light
Of other days around me."—THOS. MOORE.

27.—EVENTIVENESS (e-ven'tiv-nes), from Latin *evenio*, *eventus* = perception and memory of passing events; of the progress of national events; ability to perceive objects in motion; sense of mobility; a tendency to notice what occurs and arrives; capacity to recall historical events, facts, news, and memory of names.

The primary normal function of this faculty gives man not only capacity to perceive and remember what occurs in time and space, but also a tendency to make careful records thereof. It enables man to learn anything relating to important national events, general history and biography. Therefore, persons who are possessed of a large degree of this faculty, other things being equal, and with fair opportunities, are capable of

becoming excellent scholars; they are usually fond of knowledge, news, and books.

The abnormal condition of this faculty produces a most extraordinary memory of history and passing events, and a passion for literary pursuits; a superior memory of fleeting occurrences and associated ideas; and a powerful craving to know what is going on in the world.

Persons who possess only a small degree of this faculty cannot entertain with telling anecdotes; they often feel confused and forget what they intended to say and do; and cannot speak with certainty in relation to history or biography.

Memory and its Culture.—A Brief Outline of the First Principles of Mnemonics.

Memory may be defined as the compound power of the mind which enables us to perceive, retain, and reproduce what we have seen, heard, or read about. The ancient philosophers and metaphysicians taught that the memory was a *single organ.* But the vast accumulation of experimental facts, combined with the results of modern psychological research, all indicate that such an idea has no scientific basis; in other words, it has no foundation in fact.

Every intellectual faculty of the mind has, in a greater or less degree, its own memory, but Eventiveness is one of the *principal* factors; and by systematic cultivation, even a small brain-centre can be made to accomplish wonders. To cultivate the memory, in any direction, we should unite and combine all our powers upon what we wish to remember, until a strong impression is made.

I.—There should be fixed attention upon a given object, subject, or abstract issue, until a clear and definite impression is obtained.

II.—In order to obtain a definite impression there must

be complete mental digestion and assimilation of observed facts, general ideas, or principles.

III.—There must be a methodical association of events, ideas, laws, and principles with time and place, for the purpose of critical comparison, analysis, and final synthesis—if there be such a thing as finality in anything in this world.

Just as it is impossible for an empty well to give forth water, so likewise it is impossible for an undeveloped faculty to give forth that which it has not received by diligent effort.

Locativeness (Locality).

[Localized by Dr. Spurzheim, and re-named by the Author.]

"To say that the world is somewhere, means no more than that it does exist; this, though a phrase borrowed from place, signifying only its existence, not *location*."—LOCKE.

28.—LOCATIVENESS (lo-ka-tiv-nes), from Latin *locari*, *loctus* = to place, put, arrange; perception of localities: capacity to identify a site of land or place; ability to find one's way in new places; love of travel; capacity to recognize and remember the particular features of a locality, position, or situation.

The primary normal function of this faculty enables man to perceive the relative position of various objects to each other. This geographical faculty wants to know where a certain city, town, or village is located or situated; it wants to know where a certain article has been put, which cannot be found for the time being; it plays a most important part in a successful game of draughts, chess, billiards, cricket, hockey, lawn tennis, football, and various other games.

The wonderful manner in which dogs, carrier-pigeons, and swallows can find their way home from distant places illustrates the marvellous achievements of this attribute, which is possessed by animals, in a greater or

less degree, in common with ourselves. Even a cat, a dog, or a horse, with a fairly full forehead is more educible than one with a low, flat head.

The abnormal condition of this faculty produces a most extraordinary geographical ability and love of travel. Such persons are liable to waste both time and money in mere roving and travelling from place to place.

Persons in whom there is a deficiency of this faculty feel obliged to stay at home, because they are unable to find their way back, unless accompanied by others; they are apt to forget the way, and get lost in a strange place.

Dr. Gall, for instance, was defective in this faculty. In "The Physiognomical System" (p. 364) of Drs. Gall and Spurzheim, the latter writes:—"It happened that, though Dr. Gall had always good eyes, he could not again discover places where he had been before. On the contrary one of his fellow-students, called Scheidler, had a surprising facility of recollecting localities and particular places, and never, for instance, lost any place where he had discovered a bird's nest, but always found it again without having made any artificial marks. Gall, however, could not find the places again, although he had been very attentive and had had recourse to artificial indications."

A person possessing a large degree of *Eventiveness* may be able successfully to pass an examination in geography, but that, in itself, is not proof of special geographical ability. The same principle applies to many other so-called *test* examinations, which are not tests of practical ability in the subject where good marks are gained.

A certain railway porter consulted the writer, wishing to know in what other line he could succeed. After observing amongst other features that he was very deficient in *Locativeness*, it was suggested that he would put down parcels in various places, and then stumble against

them after the trains in which they should have been carried had departed. In reply thereto, he said, "Curious enough, I get myself into trouble almost every day just in that peculiar way." If a joiner or mechanic is deficient in this faculty, he is liable to misplace his tools, and then declare, "Some one has taken them away." And so one might cite other cases almost without end.

Temporiveness (Time).

[Localized by Dr. Spurzheim, and re-named by the Author.]

"Daniel . . . desired of the king that he would give him *time*."—DAN., ii. 16.

"The idea of *time* is the recognition of an order of sequence in our states of consciousness."—CLERK MAXWELL.

"Seek not *time*, when *time* is past;
After-wits are dearly bought."—SOUTHWELL.

29.—TEMPORIVENESS (tem-por-ive-nes), from Latin *tempus*, *temporis* = time; sense of time; ability to divide lapse of time into definite periods as hours, days, weeks, months, and years; in music, perception of degrees of movement and duration, as *lento* (slow), *largo* (leisurely), *andante* (walking pace), *presto* (rapid); sense of duration; capacity to perform an act at the proper time; to regulate as to time, whether past, present or future; to perceive sidereal time, that which is indicated by the movements of the stars; and the like.

The primary normal function of this faculty enables man to judge of duration, and measure relative periods, of time; and gives him ability to estimate what can be accomplished in a given length of time.

Persons in whom this faculty is large are strict and punctual in keeping their engagements, and make excellent chronologists. In a musical sense, no one can truly succeed either as a vocalist or as an instrumentalist without, at least, a full degree of this faculty. It is even more essential that it should be fully developed in a conductor,

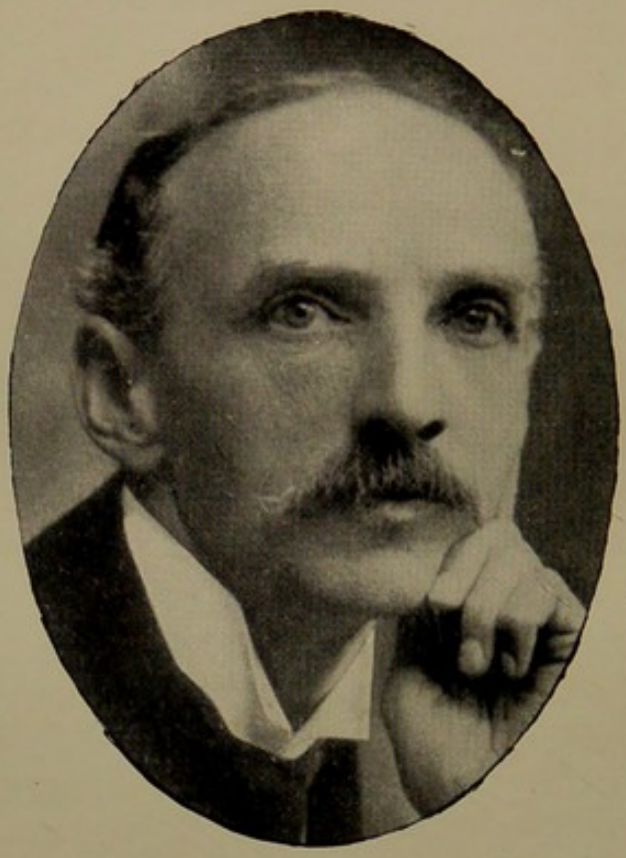
because it constitutes the very basis of his success. A deficiency in this faculty would be likely to result in failure. It is equally true as applied to exercise and the art of dancing.

In certain games, such as football and cricket, for instance, ability to appreciate the motion and the varying degrees of speed at which the ball is made to travel is a matter of great consequence in producing successful results.

It enables the mechanical engineer to perceive whether his machinery is working at the correct speed or otherwise. If he forgets to oil the machinery at proper intervals, more or less serious consequences are likely to follow.

The abnormal condition of this faculty produces a most unusual sense of duration, and memory, of time when various things occurred. Such persons are inclined to be most exacting about punctuality ; and are liable to be *too* severe on those who fail to keep their engagements.

Persons who are possessed of only a small degree of this faculty are sadly lacking in punctuality ; they often forget dates and engagements ; frequently fail to remember when things of importance transpired ; and find it rather difficult to keep accurate time in music.



DR. C. W. WITHINSHAW, L.R.C.P., L.R.C.S., L.M.,

Fellow and ex-President of the British Phrenological Society Incorporated,

Phrenologist and Character Expert.

A SYNTHETICAL CHARACTER SKETCH
of
DR. C. W. WITHINSHAW,
According to the Principles of Phrenology.

In the person of Dr. Withinshaw we have a most worthy disciple of Doctors Gall and Spurzheim, and an excellent defender of Phrenology from an anatomical and physiological point of view. In this department, in the opinion of the writer, he holds a foremost, if not the first, place in the United Kingdom. The system of measuring the human head devised by Dr. Withinshaw, and approved by the Fellows of the British Phrenological Society Incorporated, is a striking testimony of his efforts on behalf of Scientific Phrenology, and of their appreciation of the same.

The system comprises two kinds of measurements, viz. :
(1) Peripheral or tape measurements.
(2) Straight-line or caliper measurements.

The dimensions of the doctor's head, according to his own method of measurements, are as follows :—

1 Circumference	22¾ inches
2 Frontal-Occipital Arch	13½ ,,
3 Coronal Arches :	
(*a*) Central (over Veneerativeness)	13¼ ,,
(*b*) Parietal (over Cautiveness) ..	13½ ,,
(*c*) Frontal (over Commiserativeness)	12½ ,,
4 Frontal Projections :	
(*d*) Lower (Objective)	11 ,,
(*e*) Upper (Reflective)	11 ,,
(*f*) Parieto-Occipital Projection..	11¾ ,,
Caliper Measurements (Diametrical):	
Longitudinal or Length	7.6 ,,
Temporal	6.2 ,,
Parietal	5.9 ,,
Frontal	4.6 ,,
5 Temporal Depth	1.½ ,,

At the Conference of the British Phrenological Society, held in the Essex Hall, London, on November 9th, 1898, the writer was requested to give a reading of the head of a gentleman sitting in the gallery, and to mark a register of his developments at first sight, before even his name or profession was mentioned. The following synthetical sketch of Dr. Withinshaw has been written from the notes and figures made on that occasion.

In a physical sense, this gentleman has a fairly sound constitution, although he cannot be considered either strong or physically robust ; still, he is moderately tough and wiry, and with ordinary care is likely to wear very well, and live to a good round age.

He has a predominance of the Brain and Nerval System. Put into figures the Temperaments may be described in the following order :

Organic Quality (–6), Size Brain (6), Nerval (6), Fibrous (5+), Nutrive (–5), Vascular (5). This combination of powers indicates that he is better equipped for mental than mere physical labour. He will, however, enjoy a certain amount of muscular activity, and will do well to get a little almost daily, if possible.

The Centres of Self-Preservation

are fairly well represented, and enable him to enjoy the ordinary pleasures of life in a rational and truly sensible manner. Indeed, he eats to live, rather than lives to eat, and, in useful achievement, at any rate, he turns his food to good account.

He is a man of deeds rather than words ; the latter are few, and usually to the point. He is more accurate than fluent in speech. Industrious in a high degree ; he finds more pleasure and enjoyment in strenuous mental effort than the average man can obtain from a good entertainment. In short, he is a thorough believer in the doctrine that life is for service rather than for pleasure ; in other

words, he is inclined to think " that they love and serve God most who love and serve their fellows best."

The Domestic and Social Centres

indicate that he has a full share of the social instincts, although he is somewhat reserved and retiring, especially amongst strangers. One reason for this is because he likes to be sure of his ground ; but the more he is known the more he is admired and appreciated. He is careful in the selection of his friends, but very constant in his attachments ; is devoted to his nuptive partner (if he has one), and when his labours for the day are ended will be fond of his own fireside ; is most considerate towards the young and helpless, but expects obedience therefrom.

The Defensive Group of Centres

show a good degree of forethought, prudence, and capacity to keep his own counsel; hence, he never gives away the secrets of either his friends or his foes ; is likely to communicate to the average person exactly what he wishes that individual to pass on to others. The writer does not, however, wish to convey the idea that he is, in any sense, evasive, but that he can be silent when the occasion requires it.

In times of danger and emergency he is calm and brave ; even under acute provocation he is inclined to be cool-headed and self-possessed. He will never court opposition, but when it is forced upon him, he is not the man to run away therefrom. He is capable of manifesting great fortitude, and will " play the game " fairly.

The Creative and Industrial Centres

indicate a most striking degree of originality of thought, fertility of ideas, and formative capacity, with literary ability of a very high order. His natural modesty, however, prevents him from doing justice to his excellent gifts. He lives too little rather than too much under the

gaze of the public eye. He is fairly decisive, but a larger degree of self-confidence and persistence would be an advantage.

The Objective and Qualitive Centres

are very pronounced, showing, amongst other interesting features, a taste for good music, a liking for accurate pronunciation and correct speech. He has a keen perception of numbers ; is attentive to details and very methodical in all his work. He readily perceives tone, texture, and the relative qualities of concrete objects ; can easily balance his body in harmony with the laws of gravitation ; can accurately estimate angles, relative proportions and distance ; has great perception and memory of configurations, outlines and faces. These developments, combined with his powerful *reasoning centres*, give him exceptional capacity for collecting scientific data, classifying evidence, and for becoming a mental scientist of the first rank. Indeed, such was the writer's opinion at the time the delineation was given that the writer ventured to suggest, amongst other things, that he possessed sufficient capacity to excel as a scientific engineer, or that he could make an anatomist and surgeon of the first rank, and, accordingly, marked it in his mental register, at the same time. Further, it was suggested that he would make a good phrenologist also.

His Reasoning and Reflective Centres

are large and active, indicating a full degree of discriminative power (5½), ability to dissociate ideas and perceive incongruities. The synthetic centre (6) denotes a keen thirst for knowledge, and a love of the truth ; an acute perception of harmonies, analogies, and excellent inductive and synthetical reasoning capacity. The analytive centre (6+), however, takes the lead amongst the reasoning group, giving a most vivid perception of the laws of cause and effect. He has a great natural tendency for analysing and dissecting all kinds of mental and moral

phenomena ; is gifted in making analyses and deductions. Lastly, he is inspired in his work by the commiserative faculty (6), which gives a genuine desire to be of service to his fellows. This, combined with his high sense of duty, prompted by Obligativeness (6), eminently fits him for the position of a teacher and adviser, in matters pertaining to mental and moral science and philosophy, based on the anatomy and physiology of brain and nerval system.

At the close of the interview it was stated, by a friend, that the subject of this sketch was Dr. Withinshaw, and that he had held the position of Demonstrator in Anatomy at the Royal College of Surgeons of Edinburgh.

Eminent Witnesses on Phrenology.—XIII.

DR. FERRIER further mentions: "The great characteristic of reactions which ensue on the application of the electrodes to the cortex, that the results are uniform, definite, and predictable, when the electrodes are on one region, while there is sudden transition to another movement equally definite, equally constant, and equally predictable when the electrodes are shifted to a region in immediate proximity to the former. This is a remarkable fact, no longer disputed, which no mere physical conduction can account for, unless we admit a differentiation of numerous distinct physical paths, which is but another aspect of localization after all."—"The Localization of Cerebral Disease," p. 17 (Pub. 1878).

HERBERT SPENCER wisely said: "The localization of function is the law of all organization, separateness of duty is universally accompanied with separateness of structure, and it would be marvellous were an exception to exist in the cerebral hemispheres.

"Let it be granted that the cerebral hemispheres are the seats of the higher psychical activities; let it be granted that among these higher psychical activities there are distinctions of kind which, though not definite, are yet practically recognizable, and it cannot be denied, without going in direct opposition to established physiological principles, that these more or less distinct kinds of psychical activity must be carried on in more or less distinct parts of the cerebral hemispheres."—From The Encyclopædia Britannica (11th Edition, Vol. xxi., p. 539).

CHAPTER XIII.

THE REFLECTIVE AND REASONING FACULTIES.

GROUP VII.

Introduction.

In dealing with the nomenclature (or names) of this group of faculties, the writer has endeavoured to subordinate every other consideration to the object of obtaining not only a clear indication of their separate functions, but also the functions pertaining to them severally in their relations towards one another.

These faculties serve the unique purpose of an examining committee, whose function it is to deal with abstract relations and issues ; hence, they enable man to withdraw from all influence of the Objective faculties, and give a desire to ascertain causes and effects ; they produce capacity to distinguish differences, make critical analysis, and form, in a greater or less degree, a logical synthesis. Obviously, therefore, if we desire to obtain a fairly clear and definite knowledge of the first principles of any subject, science, or business, we must carefully attend to three things : (*a*) Learn to differentiate between mere abstract opinions and the actual facts of experience ; (*b*) To analyse, classify, and resolve various things into their component parts ; and (*c*) To perceive similarities, resemblances, and analogies, and generalize thereon, and, finally, to arrive at a more or less sagacious conclusion, on a given issue.

This group of Centres is located in the upper part of the forehead, and when large, they give more than ordinary length from the opening of the ears to the upper portion of the frontal lobes, and when small, *vice versa*. The names are as follows: Discriminativeness, Analytiveness, and Synthetiveness.

Discriminativeness (Wit or Mirthfulness).

[Localized by Dr. Gall, and re-named by the Author.]

"Their own desire of glory would so mingle with what they esteemed the glory of God, as to baffle their *discrimination*."—MILMAN.

"The reader must learn by all means to distinguish between proverbs and those polite speeches which beautify conversation."—SWIFT.

30.—DISCRIMINATIVENESS (dis-krim'in-at-iv-nes), from Latin *discrimino, discriminatum* = ability to distinguish abstract differences; a tendency to dissociate ideas; capacity to discriminate between reasonable probability and mere assumption; perception of incongruities; acuteness in discovering the difference between true and false analogies; the separation of truth from error, and good from evil; discriminative acumen.

"Every one knows what is meant by wit," says Geo. Combe, "and yet no word presents more difficulties in its definition." And why? Because *mirthfulness or wit is merely an after-effect resulting from the perception of an incongruity or a false analogy*. Hence, a grotesque error, a slip of the tongue, or a false analogy delights the critic and humorist, but horrifies the logician. "Thus the essence of this faculty consists in its peculiar manner of comparing," says Dr. Spurzheim, "which always excites gaiety and laughter." In other words, when this critical and discriminative faculty perceives something that is very funny, comical, or absurd, mirth and laughter

always follow, but never precede the excitement of this power or nerve-centre. The writer cannot conceive the idea of sound reasoning without the aid of this faculty.

The primary normal function of this faculty enables man to perceive the difference between truth and error, and gives ability to distinguish between what is relatively right and that which is wrong. Persons in whom this faculty is very pronounced are most gifted in dissociating abstract ideas and phenomena, and in turning the ill-considered arguments of an opponent into ridicule; they are very apt in the use of epigrams. They possess excellent discriminative judgment; are quick to distinguish between true and false analogies; have a keen sense of the ludicrous, and readily perceive incongruities; and are inclined to be very critical and humorous.

The abnormal condition of this faculty produces an extraordinary perception of abstract differences and false analogies, and power of rapid criticism. Such persons are inclined to be critical in the extreme; are too ready to see the faults of others; are given to improper and ill-timed ridicule; and are liable to sacrifice their friends for the sake of a grotesque joke. When this faculty is combined or united with large Activeness, Couragiveness, and Cogitativeness, they are inclined to be too satirical and sarcastic towards those who do not appreciate that sort of amusement.

Persons in whom this faculty is deficient are very slow to discern false analogies, and find it most difficult to dissociate ideas, and perceive incongruities. Such persons are not, as a rule, inclined to make, or even appreciate, much fun.

Analytiveness (Causality).

[Localized by Dr. Gall, and re-named by the Author.]

"To think is to live."—CICERO.

"Thought takes man out of servitude into freedom."—EMERSON.

"Descartes . . . was chiefly pre-eminent for his power of intense reflection—for his acute *analysis* of mind and its operations."—J. D. MORRELL.

31.—ANALYTIVENESS (an-a-lit'iv-nes), from Greek *ana* =away from, and *lysis* from *lyo* =to loosen; capacity to resolve abstract ideas into their primary elements; analysation and perception of Causation; ability to reason analytively; the power to resolve knowledge into its first principles; the tracing of things to their origin; the act of decomposing or separating a compound into its component elements; analysis as opposed to synthesis.

The primary normal function of this faculty enables man not only to analyse and classify the works of nature, but also every conceivable thing brought into existence by the mind of man, and even to make a strict analysis of himself. This faculty gives a desire to ascertain the why and the wherefore of various things and issues, and power to discern the first principles of a subject or science; it constitutes the tribunal of inquiry in tracing effects to their causes; it gives ability to subject abstract ideas and phenomena to analysis. Persons in whom this faculty is large, and well trained, are most apt in analysing and making causative deductions, and, other things being equal, they possess ability to excel in teleology.

The abnormal condition of this faculty produces extraordinary perception of causes and effects, and a tendency to question various things that are not understood by its possessor. Such persons are liable to indulge in needless inquiry regarding the why and wherefore of numerous things or subjects; are analytical in the

extreme; and are inclined to see in the expressions of other persons ideas and thoughts which are neither intended nor implied by the terms used. Such persons should give more attention to synthesis and less to analysis.

Persons in whom there is a deficiency of this faculty are almost destitute of capacity for tracing effects to their causes, and have a difficulty in understanding first principles; and, as a rule, are inclined to accept the general analysis of others.

Synthetiveness (Comparison).

[Localized by Dr. Gall, and re-named by the Author.]

"Philosophers hasten too much from the analytic to the *synthetical* method; that is, they draw general conclusions from too small a number of particular observations and experiments."—BOLINGBROKE.

"Analysis and *synthesis*, though commonly treated as two different methods, are, if properly understood, only the two necessary parts of the same method. Each is the relative and correlative of the other."—SIR WM. HAMILTON.

"Now, the fact that mankind has always manifested the three distinct discriminative, analytive, and *synthetive* tendencies, in a greater or less degree, clearly implies the existence of three distinct reasoning faculties."—J. W. TAYLOR.

32.—SYNTHETIVENESS (sin-thet-iv-nes), from Greek *synthesis*, from *syntithemi* = the tendency to reason synthetively; capacity to reason by a regular chain of principles, either already established or assumed, till we arrive at a synthetive conclusion; the combination of separate thoughts or principles into a whole; the direct method of reasoning; synthesis as opposed to analysis; the putting of two or more elements together, as in compounding medicines; perception of resemblances, similarities, and analogies, and ability to reason logically, by way of similitude or agreement.

The primary normal function of this faculty gives man not only perception of analogies, similes, and harmonies,

but also ability to reason thereon by inductive analogy, and capacity to investigate things by the analogy they bear to each other, and generalize thereon; it is the power which enables man to discern the known from the unknown, and to reason clearly from scientific facts and principles up to the laws that govern them.

Persons possessing a large degree of this faculty are naturally synthetical and skilful in the combining of separate or fragmentary ideas into a complete whole; are capable of making discoveries in the deeper analogies which pervade nature, and of perceiving new truths. When joined with large *Objective* powers, *Expressiveness*, *Analytiveness*, and *Discriminativeness*, combined with a good education, the subject may become a brilliant reasoner and a most gifted logician. Such persons can make use of figurative speech, and various illustrative methods, with telling effect.

The abnormal condition of this faculty gives extraordinary discernment of analogies, and ability to reason from principles previously established to a definite conclusion. Such persons are inclined to be too figurative in speech; are liable to depend on mere resemblances to truth for their arguments and illustrations; and they need, therefore, to guard against the use of false analogies and fables. They should be sure that the foundation of their premise is sound before attempting to build an argument thereon, otherwise the consequences may prove to be disastrous.

Persons in whom this faculty is deficient are slow to perceive similarity in the repetition of phenomena and ideas; are not, as a rule, inclined to observe abstract resemblances; they have little or no skill in tracing analogies; can only discern and appreciate striking illustrations; and have great difficulty in explaining and clearing up matters satisfactorily.

In concluding this revised analysis of the reasoning faculties, it may be rightly argued that few persons, indeed, are equally gifted in these three distinct fundamental powers of the mind. But that fact does not affect the general proposition of the writer's claim for the existence and localization of three reasoning faculties; it does, however, suggest the reason why men differ so much in their opinions upon the same issue or issues.

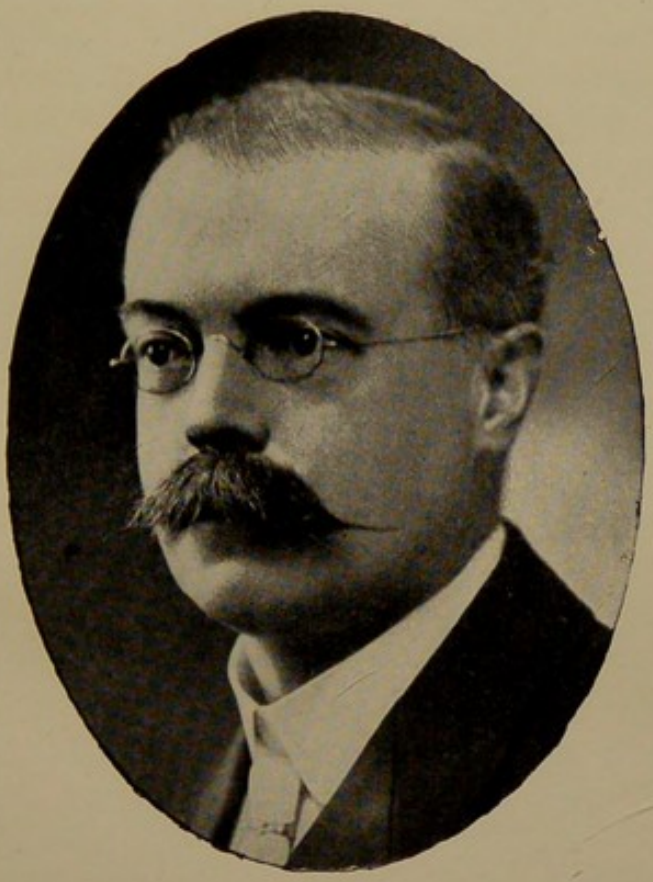
A SYNTHETICAL CHARACTER SKETCH
of
MR. F. W. RICHARDSON,
According to the Principles of Phrenology.

This gentleman possesses what may justly be termed a most unique combination of mental and moral capacity, indicating several different phases of character and ability. Amongst other things he is liable to undertake too much, rather than too little, responsibility. This is indicated by his large development of Activeness (6) and Sublimativeness (6). These faculties not only give enthusiasm and earnestness of purpose, but a disposition to attempt too much, and to work at too high a pressure; and thus put too severe a strain upon the brain and nerval system.

He has capacity for getting through a marvellous amount of work without undue friction. Indeed, he can do the work of two or three ordinary men. Herein, however, lies the real danger; that is to say, he thoroughly enjoys being on the move, and is the happiest when he has plenty of work in hand.

He has a good constitution, and, with due prudence; is likely to wear fairly well for years to come, providing he will learn the art of getting a reasonable amount of rest, but the fact remains that his muscular system and digestive powers are by no means equal to his powerful development of the brain and nerval system.

His head measures in circumference $23\frac{1}{2}$ inches; 14 inches above the eye-angle or balance line; and 12 inches over the coronal region. These measurements, combined with his excellent quality of brain, give him a place in the same classification as Gall and Combe—in the sense of equal amount of mental capacity; and, if he had chosen a similar line of thought and study, there is reasonable ground for believing that he would have been equally successful.



F. W. Richardson, Esq., F.I.C., F.C.S.,

Public Analyst for the West Riding of Yorkshire and the City of Bradford.

Vivativeness (5) and Acquisitiveness (5) are sufficiently developed to enable Mr. Richardson to cling to life, and enjoy its pleasures in a rational manner; to strive lawfully to provide for his own particular needs and for the needs of those, if any, who may depend upon him; and, further, aided by large Commiserativeness (6), he is inclined to render many little acts of kindness in assisting certain deserving cases. He is neither avaricious nor miserly, but, at the same time, he does not like to see anything wasted.

He is strongly attached to his home and social life, and is capable of great devotion to those in his home circle; and under favourable circumstances he will find his greatest happiness therein.

Couragiveness (6), combined with Obligativeness (6), gives not only a high sense of public duty, but also enables him to be cool and brave in times of difficulty and danger; hence, whenever he sets his hands and brain to a given task, he believes in seeing the thing through. Therefore, when he becomes fully persuaded in his own mind that he is in the right, and that the cause is a just one, then it is that difficulties will tend to inspire rather than daunt or discourage him in his effort or efforts, as the case may be.

The Creative and Industrial Faculties,

namely, Cogitativeness (6+), Formativeness (6), and Imitativeness (5), indicate great originality of thought and a tendency to meditate on the mysteries of life in various ways; and an inclination to experiment in order to find out new or improved ideas, and new methods of doing things; hence, he will never be content slavishly to cling to, or follow, the old beaten track of others, if he can, by any reasonable means, find out a better way.

The Objective and Qualitive Faculties

are very pronounced. For example, Ordinativeness (6+)

makes him very particular and minute in details; indeed, for the average mind, he is altogether too exacting; he cannot tolerate disorder or anything done in a slovenly way; his students must try to do their work in a systematic manner; otherwise, he will be inclined to suggest that they "move on" and mend their ways, or "move off" and leave the premises. He has an excellent memory of faces; he can judge accurately of relative size, perpendiculars and angles, and likes to see harmony of proportion; he can easily perceive the force of gravitation, and balance the body in harmony therewith; he has also a keen appreciation of the beauties of nature and art.

The Cognitive and Retentive Faculties

are large and powerful, enabling him to retain, to an excellent degree, what his Objective faculties have carefully noticed; what his Cogitative faculty has suggested; what his Formative faculty has planned out or devised; and the conclusions at which his Reasoning faculties have arrived. All these powers combined together enable him to recall a vast amount of information from the past as occasion requires. He is by nature possessed of the necessary ability to make a first-rate teacher, lecturer, and author.

The Reflective and Reasoning Faculties.

The Reflective and Reasoning faculties may be put into figures and described as follows: Discriminativeness (6), Analytiveness (6+), and Synthetiveness (−7). Here we have clearly indicated (*a*) excellent capacity for dissociating ideas, which at first sight may appear to be similar, but on a critical examination may be found to be very different; he is not easily misled by false analogies, for he will require more than mere loose suppositions and hypotheses; (*b*) he has great ability for subjecting ideas to a thorough analysis and getting at first principles; for

perceiving cause and effect, and for causative deduction ; thus showing himself to be a natural teleologist no less than an expert analytical chemist ; and (*c*) he has a wonderful gift for the combining of fragmentary and separate ideas and thoughts into a synthetic whole. The synthetic faculty, therefore, enables him to perceive resemblances, analogies, and harmonies and reason thereon to a logical conclusion, and gives him remarkable aptness in illustrating and illuminating his ideas with great vividness. Indeed, he has capacity enough to enable him to make some new discoveries in the direction of Chemistry, Biology, and Teleology.

The Superior and Inspiring Faculties

have a most powerful influence upon his character and conduct, giving, as they do, a strong desire to be of real service to his fellow-men, rather than to be satisfied with living a mere self-centred life ; he possesses a good degree of self-respect and true manly dignity without being haughty or conceited ; and he has a good degree of ambition, without being vain or showy, which causes him to put forth strenuous efforts in order to excel in his calling. And, lastly, but not least, he is blessed with an excellent degree of decision of character and fixedness of purpose.

Augurativeness (Human Nature).

[Localized by L. N. Fowler, and re-named by the Author.]

The Romans had their *augural* staff.

"I *augurated* truly the improvements they would receive this way."—WARBURTON.

"I *augur* everything from the approbation the proposal has met with."—SIR J. HERSCHEL.

"It *augurs* ill for an undertaking to find such dissension in head-quarters."—W. BALSHAM.

33.—AUGURATIVENESS (a-gu-ra-tiv-nes), from Latin *auguror, auguratus* = to foretell; a tendency to surmise, predict, and "forecast" future occurrences; the power of foreknowing events; capacity to perform the duties of an *augur*; power of interpreting omens and predicting likely happenings; capacity for prophetic forebodings, for occult manifestations, and prescience.

Apparently man alone, of all animals, is capable of considering the future; indeed, his prophecies and predictions obviously imply the possession of such a fundamental faculty. The value of his "forecast," or prediction, will depend upon his experience, reasoning capacity, and the degree of culture brought to bear upon particular persons and circumstances. Man needs a power to deal with the future; this faculty seems to meet that need.

The primary normal function of this faculty enables man, in a greater or less degree, to discern the motives and intentions of his fellows; it also gives power to look ahead and make "forecasts," according to one's knowledge of certain circumstances, and special line of thought or business. Persons possessed of a large degree of this faculty are naturally inclined to predict and prophesy concerning future occurrences; the character and motives of others; coming changes in market values, political events, and various other things too numerous to mention.

The abnormal condition of this faculty produces not only

a great tendency to predict and prophesy about the motives and intentions of other people, but also an inclination to be too harsh, and to treat strangers, and even friends, with a certain degree of suspicion. Indeed, such persons are too ready to see the faults and imperfections of others, and too slow to perceive their own; are liable to get very much astray in their general "forecasts" regarding the character of their fellow men and women, and are by no means safe guides, either in matters of a public or political nature, or otherwise.

Persons in whom this faculty is deficient possess very little ability for forecasting anything; are liable to be misled and easily deceived as to the motives and intentions of others. Such persons may be able, by persistent effort to perceive very striking traits of character, but generally fail to discern the true character of those with whom they come in contact.

Eventiveness deals with past events; *Expectiveness* satisfies our needs in present difficulties; whilst *Augurativeness* meets our needs in matters which concern the future. The reason for a change of term from "Human Nature" to Augurativeness must be obvious.

Eminent Witnesses on Phrenology.—XIV.

"I declare myself a hundred times more indebted to Phrenology than to all the metaphysical works I ever read. . . . I look upon Phrenology as a guide to Philosophy, and the handmaid of Christianity. Whoever disseminates true Phrenology is a public benefactor."—HORACE MANN.

"All moral and religious objections against the doctrines of Phrenology are utterly futile."—ARCHBISHOP WHATELY.

"All my life long I have been in the habit of using Phrenology as that which solves the practical phenomena of life. I regard it as far more useful, practical, and sensible than any other system of mental philosophy which has yet been evolved. Certainly, Phrenology has introduced mental philosophy to the common people."—REV. HENRY WARD BEECHER.

"To Phrenology may be justly conceded the grand merit of having forced the inductive method of inquiry into mental philosophy, and thus laid the permanent foundations of a true mental science."—"ENCYCLOPÆDIA BRITANNICA," 8th Edition.

"There is nothing to hinder the psychologist from employing materials furnished by his observations of other men, of infants, of the lower animals, or of the insane; nothing to hinder him taking counsel with the philologist or even the physiologist, providing always he can show the psychological bearings of those facts which are not directly psychological."—"ENCYCLOPÆDIA BRITANNICA," 11th Edition, Vol. 22, p. 548.

CHAPTER XIV.

THE SUPERIOR AND INSPIRING FACULTIES.

GROUP VIII.

Introduction.

PSYCHOLOGY, as an applied science, discerns design in every faculty of the mind, and owns the great First Cause, or God, as the Creator of all things; hence, that innate fundamental instinct of the human mind which produces the belief in an Unseen Reality, and an Overruling Providence; a God of love, wisdom, and justice, and neither a harsh demon, nor an idol. It must be obvious to every close student of human nature that the normal development and exercise of this group of faculties tend to chasten, elevate, and ennoble mankind, and in a strict moral sense to distinguish man from the lower animals. These powers both inspire and enable him to attempt most worthy and glorious things, and even to make great sacrifices for the mental, moral, and social benefit of his fellows. By nature, amongst other things, man is a moral and religious being, but *not spiritual*. Therefore, neither Psychology nor Phrenology can take cognizance of "the new birth." These sciences explain mainly what man is by nature, our Lord and Saviour alone being able to perceive or truly discern man's degree of Divine grace, as is expressed in the following quotations: "He that is spiritual is discerned of no man." "That which is born of the spirit is spirit (Greek), and that which is born of the flesh is flesh." Therefore, under the influence of Divine grace, one's entire being, in a greater or lesser degree, becomes

spiritual; so that obviously there can be no such power as a faculty of spirituality, but simply a spiritual condition.

This group of brain-centres is located at the top of the head, and when large, they give more than ordinary height upwards above the ears, and when small, *vice versa*. The names concerned are as follows: Commiserativeness, Placitiveness, Creditiveness, Expectativeness, and Veneerativeness.

Commiserativeness (Benevolence).

[Localized by Dr. Gall, and re-named by the author.]

"We should *commiserate* our ignorance, and endeavour to remove it."—LOCKE.

"To cultivate *sympathy*, you must be among living creatures, and thinking about them."—RUSKIN.

"We should *commiserate* those who groan beneath the weight of age, disease, or want."—SIR J. DENHAM.

34.—COMMISERATIVENESS (kom-miz'er-a-tiv-nes), from Latin *commiseror, commiseratus—cum* = with, and *miseror* = to pity, fellow-feeling; a tendency to share another's sorrow; the tendency to be well disposed; the desire to befriend any one; sympathy; compassion.

The term "Benevolence" means to do good; an act of kindness, or a gratuity. The Commiserative faculty produces more than generous acts of giving; it represents the great historic law of self-sacrifice for the good of others, and prompts persons to give not only money, but also immense time and labour, for which such persons can never hope to receive adequate payment in mere cash value.

The primary normal function of this wonderful attribute of the mind gives a tendency to be considerate towards the weak, suffering, and helpless, and produces a desire to render some kind of service to others. Persons who possess a large degree of this faculty, other things being equal, are inclined to attempt some kind of useful work, or support those objects which aim at increasing the

happiness of others; they are merciful and ready to forgive, and are likely to be more kind than just, unless supported by large Obligativeness, and, at least, a full degree of Acquisitiveness.

The influence of this faculty was strikingly indicated in the illustrious Earl of Shaftesbury, also in Gladstone, Robert Burns, Dr. Barnardo, Florence Nightingale, Elizabeth Fry, Agnes E. Weston, and a vast multitude of others too numerous to mention.

The abnormal condition of this faculty gives a thoroughly benevolent disposition, and a liability to be imposed upon by crafty and unscrupulous persons. Such individuals are too generous, and should first strive to be just to themselves, and afterwards charitable to others; they are too merciful and ready to forgive; are inclined to imitate the act of the Good Samaritan, and even make great personal sacrifices to render service to others.

Persons in whom this faculty is deficient are not likely to be too generous; they are inclined to be somewhat indifferent regarding the needs of the weak, helpless, and unfortunate. Such persons may be good and considerate to those they love, but they are not disposed to do much either for the happiness of mankind or brute.

Placitiveness (Agreeableness).

[Partly localized by O. S. and L. N. Fowler; its situation has, however, been modified, and it has been re-named by the Author.]

"What next I bring shall *please*
Thy wish exactly to thy heart's desire."—MILTON.

"For we that live to *please* must *please* to live."—JOHNSON.

"The harshness of reasoning is not a little softened and smoothed by the infusion of mirth and *pleasantry*."—ADDISON.

35.—PLACITIVENESS (plas-it-iv-nes), from Latin *placeo*, *placitum* = to be pleasing; affability and geniality of manners; capacity to be agreeable, acceptable, and

peaceful; ability to plead a cause, and be gentle in supporting a claim; the desire to give pleasure to others; and Suavitiveness.

The primary normal function of this faculty enables man to be genial, agreeable, and pleasant in behaviour or conversation, and to say even very unpleasant things in a smooth and pleasing manner. Persons in whom this faculty is very pronounced are very winsome, persuasive, and fascinating in manners; are most genial in conversation, and have a pleasing mode of addressing almost everybody. Hence the adage, "A soft (or pleasing) answer turneth away wrath."

The abnormal condition of this faculty gives a tendency to be too genial, and a disposition to pay compliments for the sake of pleasing. Such persons find it most difficult to be disagreeable, even when the occasion requires it; are liable to practise affectation, and to become somewhat unreal and artificial in manners and conversation, unless this power be well supported by a full degree of *Discriminativeness*, *Obligativeness*, *Activeness*, and *Couragiveness*.

Persons who are possessed of a small degree of this faculty are inclined to be rude, uncouth, and blunt spoken, and have not an agreeable way of saying even pleasant things. Such persons are apt to be most unpleasant when excited.

The Localization of Placitiveness.

When we come to make a close examination of the function of this faculty, and its corresponding brain-centre, we need not be surprised to learn that a mistake was made regarding its exact position, in the first instance.

The wonder is that so few of the brain-centres have been wrongly located, seeing that nature has not carefully mapped them all out, in black and white, for our special

convenience. It should be borne in mind that Applied Psychology is a science of observation; thus it cannot, in the nature of things, be completed other than by that practical and scientific method; the introspective method of mere speculative reasoning, urged on mainly by the suggestions of the Cogitative faculty (Ideality), can never be entirely satisfactory. Lasting success can only be secured on the combined lines of careful observation, critical analysis, and strict synthetic reasoning. Apparently, therefore, the juxtaposition of the Placitive and Imitative brain-centres, and their partial analogy of function, accounts for the confusion hitherto existing in regard to their localization. Obviously, persons who wish to be successful, as speakers, writers, or entertainers, must endeavour not only to amuse, but also aim to *please*. Hence, the relative positions of the two powers in question can only be either affirmed or refuted by an appeal to typical cases, such as an excessive degree of *Placitiveness*, united with a deficiency of *Imitativeness*, or *vice versa*.

Creditiveness (Wonder or Spirituality).

[Held by Dr. Gall as probable; localized by Dr. Spurzheim; and re-named by the Author.]

"We are content to take this on your *credit*."—HOOKER.

"No one can demonstrate to me that there is such an island of Jamaica; yet, upon the testimony of *credible* persons, I am free from doubt."—ARCHBISHOP TILLOTSON.

"What though no *credit* doubting wits may give?
The fair and innocent shall still believe."—POPE.

36.—CREDITIVENESS (kred-it-iv-ness), from Latin *credo, creditum* = to put faith or trust in any one; a tendency to accept as correct or true on the evidence of others; sense of confidence in strangers; tendency to give credence to an article of faith, a scientific fact, or an opinion; sense of wonder; belief in the marvellous; and general credulousness.

The primary normal function of this faculty enables man to accept what is not proven by the other powers of mind, and gives a greater or less degree of faith and belief in Providence. Persons possessing a large degree of this faculty are strongly inclined to ponder over the wonderful, mysterious, and miraculous; are, as a rule, very credulous, and liable to be deceived by, accepting as truth, the skilfully-arranged fiction of unscrupulous liars, unless this faculty is balanced by a full degree of Analytiveness and Discriminativeness; e.g., Luther, Bunyan, Dante, Tasso, and numerous others.

The abnormal condition of this faculty produces unbounded faith and trust in others, and a strong tendency to become too credulous, and even superstitious. Such persons, under special excitement, are inclined to open their eyes very widely in wonderment, a common habit with young persons possessing a large degree of this faculty; they are firm believers in presentiments; they also find it most difficult to perceive the difference between reasonable probability and rank improbability; are inclined to believe in witchcraft, the agency of spirits, and in supernatural communications.

"It is large in individuals who see apparitions," says Geo. Combe, "and is uniformly large in fanatics." The writer's experience is strictly in harmony with this view. Indeed, such persons are usually on the look-out for novelties and new things.

Persons who are deficient in this faculty are just the opposite of those last described; they are more interested in material things than in matters pertaining to faith and the unseen realities of life; they find it most difficult to believe on the evidence of others; are inclined to reject new incorporeal matters and subjects without due examination. Obviously, this attitude of mind is a true sign of weakness, rather than an indication of strength, for it must be self-evident that it requires something more than intellectual capacity to be able to discern immaterial

things. This fundamental truth was understood by Paul, when he wrote to the Corinthians (1 Cor. xi. 14): "Now the natural man receiveth not the things of the spirit of God, for they are foolishness with him, and he cannot know them, because they are spiritually judged."

Expectativeness (Hope).

[Held by Dr. Gall as probable; localized by Dr. Spurzheim; and re-named by the Author.]

"There is *expectance* here from both the sides,
What further you will do."—SHAKESPEARE.

"England *expects* every man to do his duty."—LORD NELSON.

"Occult and spiritual operations are not *expectable*."—SIR T. BROWN.

"Take short views, *hope* for the best, and put your trust in God."—SIDNEY SMITH.

37.—EXPECTATIVENESS (ek-spekt-a-tiv-nes), from Latin *exspecto, exspectatum—ex* and *specto* = to hope; expectation; anticipation of some future good.

The primary normal function of this faculty enables man to be cheerful and buoyant under difficulties and disappointments, and stimulates him to expect, hope, and anticipate for the best, no matter how depressing the circumstances may be for the time being. We expect to receive or complete an order at a given date, and hope for something; we expect that a certain venture will be successful, and so on. Persons who are possessed of a large degree of this faculty are sanguine, enterprising, and speculative; they seldom get half they expect and anticipate, and therefore, they are frequently disappointed; they are able, however, to rise above present troubles by cheating themselves into feeling that good times must come, and are almost at hand. Indeed, such persons are easily stimulated and encouraged by a little success, and have a most vivid anticipation of future results.

The abnormal condition of this faculty produces an extraordinary degree of confidence, anticipation, and expectation regarding future success, and gives a tendency

to make rash promises which cannot be fulfilled. Such persons are too much inclined to castle-building, and are never likely to get half they expect. When associated with a small degree of Cautiveness and Numerativeness, they are liable to attempt impossibilities; and get themselves, and others, into more or less serious difficulties.

Persons who possess a small share of this power are inclined to be very gloomy, and have little or no hope in the future; they can see very little in the distance, except it be misfortune; are easily discouraged, and inclined to magnify their difficulties; they are disposed to look too much on the dark side of life; in politics, science, and religion they are given to despondency; are lacking in enterprise, and have a tendency to hinder the cause of progress; they seem to see in every step of a forward movement a sign that things are going from bad to worse. Such persons should try and remember that the darkest hour precedes the dawn, and thus be encouraged to look on the bright side; be determined to banish care and sadness; undertake some useful work or business, and anticipate, hope, and expect success.

Veneration (Veneration).

[Localized by Dr. Gall, and re-named by the Author.]

"While even the peasant boasts these rights to scan
And learns to *venerate* himself as man."—GOLDSMITH.

"Princes are like to heavenly bodies, which cause good or evil times, and which have much *veneration*, and no rest."—BACON.

"More things are wrought by prayer than this world dreams of."—TENNYSON.

38.—VENERATIVENESS (ven-er-a-tiv-nes), from Latin *veneror, veneratus* = to venerate; capacity to reverence; tendency to respect, revere, and worship; the feeling of awe inspired when we truly strive to understand the wonderful unification of Nature, Man, and God; regard

for the wisdom and sovereignty of a higher power than one's self; belief in an Unseen Reality, who is worthy of our highest adoration; sense of responsibility; interest in the antique; esteem for the aged, the good, and the great.

The primary normal function of this faculty gives man a desire to reverence, adore, and venerate a higher power than himself, and constitutes him, by nature and instinct, a religious being, endowed in a greater or less degree with capacity to worship.

Persons who possess a large degree of this faculty have a keen sense of the responsibilities of life; when joined to a large degree of *Creditiveness* they are strongly inclined to give reverence and adoration to a higher power than themselves; with large *Obligativeness*, they have a high sense of duty; with large *Commiserativeness*, a desire to be of service to others in some way or another.

The abnormal condition of this faculty produces not only an extreme sense of responsibility, but also a tendency to religious intolerance, bigotry, and idolatry. Such persons are unduly attached to old creeds, ceremonies, and the antique; and are too willing to make submission to authority.

The new ideas, which have grown up on or from the ruins of the old ones, may be a hundred or even a thousand times better, and far more worthy of our respect. Where religious excitement produces fanaticism, such meetings should be avoided, and the persons thus affected should think of the Deity, not with dread, but as a loving and merciful Father to all His creatures.

Persons in whom there is a deficiency of this faculty have a feeble sense of the responsibilities of life, and very little respect for the aged, for authority, or even the Deity. Such persons are liable to scoff at the honest convictions of others. This attitude, however, indicates a lack of nobleness of disposition.

The Wisdom of Obedience to the Moral Law.

(*a*) That obedience to the moral law constitutes the highest degree of human wisdom few, if any, will deny. Indeed, it is the only way to the highest degree of fellow-service. Further, the great thinkers, of nearly every school of thought, are agreed that the highest place must be given to the moral or superior attributes in man. Hence, it has been well said: "The morals make the man."

(*b*) Furthermore, the moral order of the universe finds its counterpart in the moral nature of man. Indeed, there is a wonderful unification in the moral causation of all phenomena, all indicating the originative skill and purpose of the same Infinite Artist. Surely, therefore, Swedenborg was quite justified in affirming (Intercourse ii.), "The spiritual world first existed and continually subsists from its own sun, and the natural world from its own sun."

At any rate, this is obviously the only inference to be drawn from our present state of knowledge in relation thereto.

(*c*) Now, just as the variation in the coloration of flowers is due to the interaction of light upon their substance, in an analogous manner the immense variation in the capacity of men is due to the difference in their reception of the generative radiance of the spiritual sun. Apparently then, life, light, and wisdom flow from the great First Cause we term God into the soul of man, and thence through his various faculties, and these manifesting themselves through their respective brain-centres, and finally life, light, and wisdom are translated into action, thought, and speech. That being so, man is the recipient of life, but is not life itself, just as the earth is the recipient of the sun's life-sustaining, light-giving, and energizing power.

The Rev. Wm. J. M'Caughan, in his book on "Love,

Faith, and Joy" (pp. 161 and 162), puts the case very clearly wherein he says: "God is in everything, just as my life is in every part of me. Yet that does not mean that God is everything. The tendency to-day is towards pantheism—to believe God is in everything, and, therefore, all responsibility is destroyed. The fact that God is in everything, as my life is in me, and yet that God is no part of everything, as my life is no part of my body, is a great satisfaction to the believer. If God be in everything, it is impossible for me to see Him, for He is in me as well as in everything else. Therefore, there is no hardship in the announcement that 'No man hath seen God or can see Him.'"

God has, however, in the personality of Jesus Christ, "the Wonderful Counsellor, the Prince of Peace," provided for our spiritual needs, and, therefore, there is little or no excuse for the existence of agnosticism. Even Darwin, in his "Origin of Species," writes of the "works of God," and also of "the Creator."

In an address on "Monism," before the Osterland Naturalists' Society in 1892, Prof. Ernst Haeckel frankly admitted, "that beyond all doubt the present degree of human culture owes in great part its perfection to the propagation of the Christian system of morals and its ennobling influence" (p. 66).

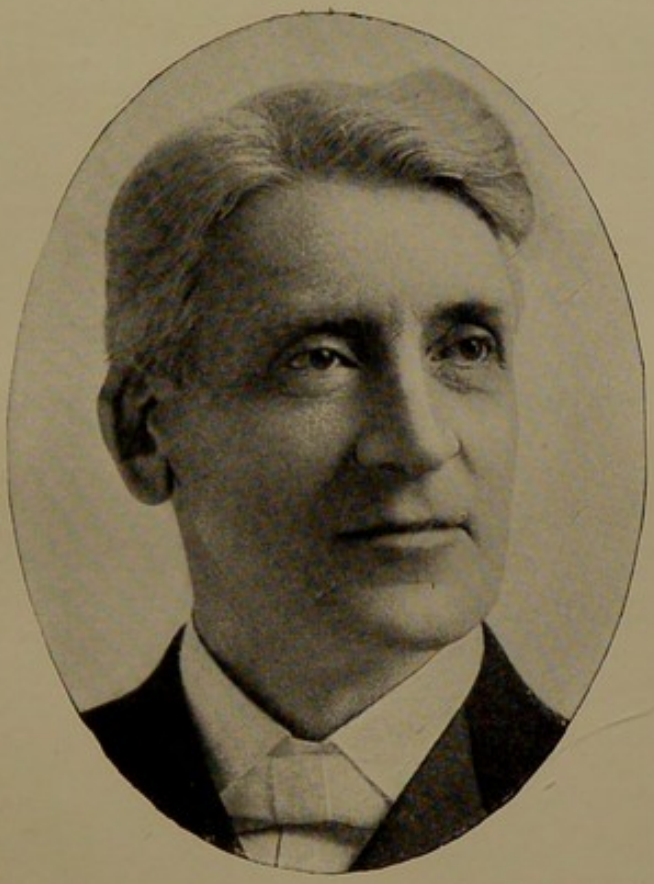
Huxley rightly observed, "True Science and True Religion are twin sisters."

A SYNTHETICAL CHARACTER SKETCH
of
REV. WILLIAM JOHN M'CAUGHAN,
According to the Principles of Phrenology.

Nature has indeed been most generous to the Rev. M'Caughan, in the bestowal of great natural capacity—in more senses than one—so much so that he could have chosen from, at least, two or three other professions with an equal opportunity of rising to pre-eminence therein. It is needless to say that he is eminently fitted to the Christian ministry.

In the first place, his temperamental combination makes him a most striking and commanding personality.

His head measures in circumference 23½ inches, the tone or texture thereof being of good quality (5 +), without being too fine, gives great capacity for mental work. The danger, therefore, is, that he will attempt too much mental work rather than too little, and be liable to over-work his brain and nerval system. And, of course, unless he be careful in his general habits of life he is liable to "run down" fairly frequently, and suffer, more or less, from nervous debility and mental exhaustion. This is further indicated by the following developments: The *Nerval* temperament is larger (6) than the *Muscular* or *Fibrous* temperament (5½), whilst the *Nutritive* temperament (5) is a degree less in functional power. This makes it difficult for him to generate or make blood and nerve cells as fast as they are destroyed. Moreover, the large centre of *Activeness* (Destructiveness) declares Mr. M'Caughan to be a man of action, and not mere words and show; and, when dealing with persons who are inclined to be slow or lazy, he is liable to get rather impatient, and say or do something to arouse such persons into reasonable activity, unless they are too dense to perceive the situation! The reader may be inclined to ask: "What is likely to occur then?" Well, he may



The late Rev. W. J. M'Caughan,
May Street Presbyterian Church, Belfast.

feel a kind of volcanic indignation, and his interrogations are likely to be both searching and somewhat satirical.

The *faculties of self-preservation*, though by no means large, are fairly well represented. Take, for example, *Vivativeness* (5); this enables Mr. M'Caughan to cling to life, and appreciate it, mainly for the opportunities it affords for usefulness. He values money from a similar standpoint, namely, as a means to a useful end.

From a health point of view, to produce the best results, he requires not only a mixed diet, but a most varied combination of different food elements; otherwise, it will be very difficult to maintain a healthy action of the liver, stomach, and bowels.

He has an excellent development of the Social instincts or faculties, and these give, not only great warmth of attachment towards his friends and co-workers, but a striking degree of personal magnetism.

The *Obligative* faculty (Conscientiousness) is large (6) and active, giving a keen desire to be just and do justly. Reservativeness (5), added thereto, gives general frankness in speech, and a positive dislike to anything of an evasive or underhand nature. Yet, he can be fairly reserved as occasion requires, without being cunning or evasive. Indeed, he simply hates anything in the nature of deception. This trait of his character will excite the opposition of the superficial and narrow-minded, and of those persons who possess an elastic conscience. On the other hand, persons who are upright, and of noble purpose, will be greatly inspired by his transparent honesty and straightforwardness.

The faculty of *Sublimativeness* (6) not only gives great earnestness of purpose, and enthusiasm for the sublime, majestic, and all that is grand in nature and art, but great breadth of mind. Moreover, its next-door neighbour, the *Cogitative* faculty, is large (6), therefore, amongst other things, he is a man of original ideas; at the same time,

he likes to be sure of his ground; and thus, before committing himself to any new line of action, he will carefully examine every detail in all its bearings.

He has a wonderful development of the *Mensurative* faculty, which indicates first-rate perception of relative sizes of general objects, magnitude, distance, and what is termed "eye-measuring" power. Being also a most careful observer, he has a remarkable gift for acquiring general knowledge; he is fond of gathering facts; and likes to particularize most things that come before his vision.

The *Ordinative* faculty is large (6 +), and has a powerful influence on his conduct, and makes him not only painstaking in his work and study, but causes him to look minutely into details, and keep, as far as possible, everything in its proper place. His attention to detail must have had a good deal to do with his success. Furthermore, his attention to detail has been a great aid to his memory of faces, places, principles, facts, and events, which, after all, is partly the result of immense painstaking effort, being greatly aided by systematic arrangement of details.

In the light of what has been stated already, the student of phrenological psychology will readily perceive that Mr. M'Caughan could have succeeded very well as a business man. He has, however, even greater ability for natural history, and could have become a distinguished naturalist and scientist of the first rank.

This brings us to a brief consideration of the *Reasoning and Reflective Faculties*. *Discriminativeness* (Mirthfulness) (5+) is sufficiently active to enable the Rev. M'Caughan to perceive incongruities, dissociate ideas, and distinguish differences, and thus prevent him from being misled by false analogies, or mistaking the mere semblance of what may look like truth, for actual truth. He has also a keen sense of humour. It is not, however, active enough to cause him to criticize for the mere love of it. There is,

of course, all the difference in the world between earnest and sincere criticism, which strives to ascertain the truth, and the " stupid habit " of merely finding fault for the sake of it.

Analytiveness (Causality) (6+) is both large and highly active, evidently the result of great culture, and gives great ability for resolving abstract ideas into their primary elements. It enables Mr. M'Caughan easily to grasp first principles, and perceive and understand the why and wherefore of many things, which persons of average development of this faculty will make no attempt to grapple with. And, further, it gives him a keen desire to trace cause and effect, and analyse and classify the works of nature—including human nature.

In the direction of Law and Metaphysics he could have been a brilliant success. *Synthetiveness* (Comparison) (6), being large, gives him great skill in deducing complex ideas from simple ones, and excellent ability to discern resemblances, analogies, and harmonies, and reason thereon by induction ; and, furthermore, it enables him to illuminate and illustrate his ideas with great clearness. He has great capacity for the combining of separate ideas and thoughts into a whole ; and, although he is more analytical than synthetical, notwithstanding, he is an able logician.

The *Superior and Inspiring Faculties* have a most important and predominating influence upon Mr. M'Caughan's character. Take, for example, *Placitiveness* (6), better known as Agreeableness, this makes him, not only very fascinating and pleasing in his manners and general conversation, but most considerate toward those who may not be able to take the same view of a particular subject as he himself does. Indeed, he will strive to agree on any subject, as far as it be possible, not merely for the sake of winning appreciation, but because he is essentially magnanimous.

The *Commiserative* faculty (6), usually termed Benevolence, is more powerful than *Venerativeness* (5 +) ; hence he has more respect and veneration for practical goodness than for the worship of old creeds and ceremonies, merely because they are old. And yet, he will cling most tenaciously to well-established fundamental first-principles, no matter how old they are ; indeed, the older the better. Notwithstanding, he would not hesitate to revise antiquated ideas and beliefs, when and where the occasion requires it—for he is, by nature and instincts, a reformer. And, if the writer is not mistaken, he may, or will, in due time, should the occasion arise for so doing, take a prominent part, if he does not actually lead, in some important forward movement, in connection with his Church.

Creditiveness (Spirituality) (6), being large, enables him to accept much on the testimony of others that may not, for the time being, be proved by the reasoning powers. He will, however, strive to understand the mysterious and unseen realities, as far as it is possible to do so.

Decisiveness (6) (Firmness) shows great determination and decision of character and purpose, and withal a great desire to be of some real use and service to his fellow-men.

Emulativeness and *Dignativeness* are about equal in development, giving a full degree of self-respect, and true dignity, and lofty-mindedness. He is stimulated by appreciation ; and pained when misunderstood by his friends ; and yet, he will not sacrifice principle even for the appreciation of his dearest friends.

Lastly, but not least, let him be fully convinced that he is in the right on any important or fundamental issue, and it will be a most difficult task to turn him aside from his purpose.

An Appreciation of His Character and Friendship.

I was introduced to the Rev. W. J. and Mrs. M'Caughan,

for the first time, on January 20th, 1908, the date I made the examination, in the presence of some of his very close friends ; and they were all agreed as to the accuracy of my remarks. I asked for permission to publish the description—the same was readily granted. A printed analysis accompanied a copy of the foregoing sketch, without which the reading of character and abilities is by no means complete.

After that event, I became closely attached to both Mr. and Mrs. M'Caughan, and proved them to be very sincere friends. Indeed, the more I watched their personal devotion to each other, the greater my interest in them became. And, in due course, I came to passionately admire the sterling qualities of Mr. M'Caughan, as a true friend, and cultured Christian gentleman.

The terrible news of that most disastrous fire that broke out at the Kelvin Hotel, Belfast, on July 26th, 1910, where the Rev. and Mrs. M'Caughan had taken up their residence, at the beginning of the year, which ultimately resulted in the loss, amongst others, of their inestimable lives, came as a great shock and personal loss.

The fact is, I cannot find words to express the personal loss I feel at the moment of writing. The reader will partly understand this when I say, on my arrival in the city of Belfast, from England, on February 4th, 1910, on my sixth visit to Ireland, the Rev. W. J. M'Caughan was the first person to give me a most friendly welcome back to the city, with a warm shake of the hand, a cheery smile, and a kindly invitation to take breakfast with himself and Mrs. M'Caughan.

Further, he was the last person to shake me by the hand before leaving Ireland in the spring. Curiously enough, I had a strange presentiment that we should never meet again. I tried hard to assume a pleasant countenance, even though behind it I felt keenly depressed, when I said, as a parting word, " Take care ! "

Eminent Witnesses on Phrenology.—XV.

"I have great pleasure in stating my firm belief in the truth and great practical utility of Phrenology. This belief is the result of the most thorough investigation."—JAS. SHANNON, Pres. of Bacon College, Ky., Prof. of Mental and Moral Science.

PROFESSOR MORIZT BENEDIKT, M.D., says: "The best insight into the psychological nature of man is obtained by two methods. The first investigates the historical development of mankind. The second method is biological, in so far as it teaches us to recognize the structure and functions of the brain. . . . It has been objected that there are in the skull very many accidental secondary prominences which have no counterpart in the brain. Fairly considered, however, this objection is not very material, inasmuch as it refers only to unimportant and changeable details and comparatively rare abnormalities. No scientific man, even if he does not altogether agree with Gall, disputes the doctrine that the construction of the skull is remarkably proportionate to the whole anthropological organization in brutes and in man; and the whole craniology, as it is understood by anatomists and anthropologists, would have no meaning if this idea were not the leading one."* . . . *Gall's doctrine of the localization of physical elements in the brain,* rejected last century on the ground of prejudice and false experiments, is now an incontestable fact of exact science."†

* "The Mental Functions of the Brain," p. 344.

† "The Phrenological Review," October, 1905.

CHAPTER XV.

THE ASPIRING AND GOVERNING FACULTIES.

GROUP IX.

Introduction.

A FULL or large degree of this group of faculties gives mankind a keen sense of justice, moral accountability, and regard for duty; ambition to achieve something worthy, to win distinction in some particular direction, according to the relative strength and activity of various other faculties; self-respect, lofty-mindedness, and a truly dignified attitude toward others; tenacity of purpose, stability of mind, and decision of character. The names of the faculties concerned are as follows: Obligativeness, Emulativeness, Dignativeness, and Decisiveness. They are indeed, or should be, the aspiring and governing powers of the mind, as their united nomenclature indicates. When supported by a full or large degree of the *superior*, and *reasoning* powers, they are able to control, and keep in proper subjection, the faculties of *Self-preservation*; the functions of the latter are obviously those of servants to the former. The faculties of Self-preservation, when rightly trained, make excellent servants, but, when they become unduly developed, they make unkind task-masters.

This group of brain-centres is located at the crown of the head, and, when large, they give more than ordinary prominence in that direction, and when small, *vice versa*.

Obligativeness (Conscientiousness).

[Localized by Dr. Gall, and re-named by the Author.]

"An *obligation* is something which constrains or induces us to act."—JEFFREY.

"As long as law is *obligatory*, so long our obedience is due."—JER. TAYLOR.

"In seeing a thing to be right, we are under *obligation* to do it."—FLEMING.

39.—OBLIGATIVENESS (ob-li-ga-tiv-nes), from Latin *obligo*, *obligatum* = to bind; a feeling of obligation; sense of duty; desire to be just and do justly; power to bind or constrain ourselves; capacity to respect a legal or moral obligation.

The term CONSCIENTIOUSNESS, from Latin *conscio* = to be conscious of wrong; to know well; *conscientia* = joint knowledge; consciousness; feeling; the moral sense. Conscience implies an intellectual faculty, and is not therefore applicable to the case. What we term "conscience" is simply a conclusion of the synthetive faculty.

Man arrives at his conclusions, regarding the relative degrees of right and wrong, through the exercise of his reflective and reasoning faculties. The attribute in question, however, is an executive impulse or power the function of which is to *do*, rather than to perceive, something.

The primary normal function of this faculty gives man a tendency to be honest, upright, and just in his dealings with his fellows, and makes him feel a sense of remorse when conscious of having done wrong. Persons possessing a large development of this power are governed by a high degree of moral principle; are guided in all things by a sense of justice, and will not knowingly do wrong. With *Acquisitiveness* in the degree of 4 or 5, will strive to be just and do justly; with *Acquisitiveness* (6), and

Cautiveness (6 or 7), will be inclined to make rather close bargains.

The abnormal condition of this faculty makes a person exacting in the extreme, and produces a tendency to be too severe on the shortcomings of others. Such persons should try and temper justice with mercy; they are too much inclined to self-condemnation; are liable to imagine faults where there are none; should strive to be less exacting and censorious. We hold that all thought of vengeance should be unknown in the administration of the law, but we cannot agree with Count Tolstoy that "Evil should never be resisted."

Surely Paul of Tarsus, when he stood before the bar of Ananias, the high priest, was justified in his vigorous denunciation of the proceedings. When Ananias commanded those who stood by Paul to smite him on the mouth, obviously Paul felt a keen sense of righteous indignation at the undignified conduct and unjust command of the high priest; hence, his impressive reply thereto as follows: "God shall smite thee, thou whited wall: for sittest thou to judge me after the law, and commandest me to be smitten contrary to the law."

Apparently, this critical and caustic rebuke completely nonplussed the high priest and his associates, and thus prevented Paul from being smitten. Paul must have been possessed of a large degree of Obligativeness, fortified by a full or large degree of Couragiveness and Activeness, combined with acute reasoning capacity.

Persons who are deficient in the *Obligative* faculty are almost devoid of moral principle, and are inclined to do right as a matter of expediency, rather than from a true sense of justice and duty. Such persons have very few scruples, and are inclined to let interest rule duty; their sense of obligation to others is very limited.

Emulativeness (Approbativeness).

[Localized by Drs. Gall and Spurzheim; Emulation was suggested by O. S. Fowler; re-named by the Author.]

"I would have
Him *emulate* you: 'tis no shame to follow
The better precedent."—B. JONSON.

"Thy eye would *emulate* the diamond."—SHAKESPEARE.

"A noble *emulation* heats your breast."—DRYDEN.

"As Virgil rivalled Homer, Milton was the *emulator* of both these."—WARBURTON.

40.—EMULATIVENESS (em'u-lat-iv-nes), from Latin *aemulor, aemulatus* = to vie with, emulate, ambition to equal, or excel, the achievements of others; a tendency to emulate the good, brave, or great; capacity to put forth effort to accomplish something worthy or otherwise, according to the relative development of the various groups of brain-centres; and a tendency to rivalry.

The term Approbativeness indicates the abnormal condition of the *Emulative* faculty; therefore, O. S. Fowler came very near the truth when he suggested in its place the word "Emulation." The latter term, however, signifies an act of the mind, as distinguished from an innate fundamental abstract tendency of the mind; hence, Emulativeness produces the outward act of emulation. In other words, the *ness* expresses a distinct abstract tendency or something abstract which *ion* could not convey.

The primary normal function of this faculty gives, in the human race especially, a more or less laudable degree of ambition to excel or emulate the achievements of others, and win the appreciation of neighbours and friends. Thus, persons who are possessed of a large degree of this great stimulative power are inclined to set a high value upon their character and reputation; they are greatly aided by a compliment, and, even in the hour

of disappointment and defeat, are sufficiently fortified by a few words of commendation or praise to try again; they are courteous, polite, and prepared to make strenuous efforts both to give and to win satisfaction; they cannot patiently endure harsh criticism, censure, or ridicule; are inclined to be too particular in regard to matters relating to style, manners, and etiquette. Such persons are liable to become not only too ambitious and sensitive, but also too vain and aristocratic; are keenly alive to public approbation and fond of popularity.

The abnormal condition of this faculty produces an extraordinary degree of ambition, and an almost insane desire for fame. Such persons are too approbative, and are easily annoyed by the least criticism; are extremely fond of outside show and display, and are given to self-praise; are morbidly sensitive, and inclined to express a high degree of vanity.

Notwithstanding the fact that Napoleon Bonaparte was a great and brilliant military genius, the above description of the abnormal condition of the Emulative faculty aptly illustrates his state of mind, when he expressed the opinion that he would be respected by the people living twelve hundred years after his death.

Persons who possess only a small degree of this faculty are somewhat callous, and almost insensible to either censure or praise; they are deficient in ambition, and have little or no regard for popularity; are rather careless regarding public opinion, and are not likely to sacrifice principle to obtain it; are inclined to despise what to them appears to be flattery. Such persons are liable to stand in their own light by caring so little about the opinions of others; and, therefore, should strive to cultivate the habit of being courteous and polite; in short, use every exertion to avoid giving offence.

Dignativeness (Self-Esteem).

[Localized by Drs. Gall and Spurzheim, and re-named by the Author.]

"Your worth will *dignify* our feast."—B. JONSON.

"To the great astonishment of the Jews, the manners of Jesus are familiar, yet *dignified*."—BUCKMINSTER.

"True *dignity* abides with her alone
Who, in the silent hour of inward thought,
Can still respect, can still revere herself
In lowliness of heart."—WORDSWORTH.

41.—DIGNATIVENESS (dig'na-tiv-nes), from Latin *dignor, dignatus* =to deem worthy; an innate feeling of self-respect; sense of propriety; a tendency to abhorrence of that which is mean or undignified; that attitude in man which is superior to brutes; the sense of nobleness of character, and dignified behaviour.

The primary normal function of this faculty gives man a good degree of self-respect, and enables him to conduct himself in a dignified way towards his fellow men and women, and thus secure their respect, esteem, and goodwill. Indeed, its influence for good, under normal conditions, constitutes it one of the most ennobling and elevating, and even God-like, attributes of the human mind, and enables man not only to act the part of the true gentleman, but also prevents him from doing anything that is low, mean, or undignified. The fact is, a full degree thereof is essential to success.

Persons possessed of a large degree of this faculty are very lofty-minded, dignified, and independent; and inclined to carry their heads too high; they desire to stand at the head of their trade or profession. With *Emulativeness* (6), are very ambitious and aspiring, and likely to put forth very strenuous efforts to obtain position, influence, and power.

Unless, however, we are very careful in making our observations, and drawing deductions therefrom, we may easily fall into the error of presuming that an extremely

vain person is too proud. The difference is a most important one. The vain person is inclined to wriggle about considerably; whilst the proud person sits, stands, or walks about in a stately or more dignified attitude.

The abnormal condition of this faculty not only makes a man high-minded, conceited, and presumptuous, but also extremely proud, haughty, and egotistical. Such persons are inclined to greatly over-estimate their own capabilities and worth; are noted for imperiousness, forwardness, and tyranny. Philip II., King of Spain, was a most striking example of an excessive development of Dignativeness which, in his case, produced a very large degree of self-esteem.

Persons who are deficient in this faculty are almost destitute of dignity and self-respect; are frequently liable to under-value themselves; are lacking in true dignity, and inclined to do foolish or trifling things, and let themselves down, at any rate, in the eyes of those who possess a full degree of self-respect.

Decisiveness (Firmness).

[Localized by Dr. Gall, and re-named by the Author.]

"Their arms are to the last *decision* bent,
And fortune labours with a vast intent."—DRYDEN.

"Her full and earnest eye
Over her snow-cold breast and angry cheek
Kept watch, waiting *decision*."—TENNYSON.

"Martin Luther was equally distinguished for his prompt *decision*, his steadfast *determination*, and his inflexible *resolution*."—GOODRICH.

42.—DECISIVENESS (de-si-siv-nes), from Latin *decido*, *decisum* = the act of deciding an issue or dispute; decision of character; resolution of purpose; power of determination to finish the matter in hand; capacity for prompt decision.

The term Firmness, as applied to the faculty under consideration, is somewhat misleading and liable to convey a

wrong impression, for even in the most stupid of human beings there is a certain degree of flexibility. Firmness, moreover, is suggestive of solidity, hardness, or the state of being firm; as the solidity of a rock, the hardness of a stone, the firmness of a piece of wood, and the like.

The primary normal function of this faculty gives man not only the spirit of perseverance, but also enables him to manifest determination in completing his engagements, tenacity of purpose, and decision of character. Persons who are possessed of a large degree of this power, other things being equal, are very decisive, positive and determined to finish, if it be at all possible, what is undertaken by them; they may yield to persuasion, but will not be driven; they are not easily turned aside from what they feel to be the right direction; are somewhat stubborn in holding on to their purposes, and in carrying out their plans; are inclined to decide quickly on a given issue, or line of conduct, and seldom swerve therefrom.

The abnormal condition of this faculty produces a remarkable degree of decision of character, and gives such persons a tendency to be most stubborn and persistent in their purposes and opinions; they are very positive and, like the ass, are inclined to be too obstinate. Such persons should ask themselves the question: "Is it wise or noble to imitate the stupidity of a certain well-known beast of burden, instead of yielding to others when found to be in the wrong?"

Persons who are deficient in this faculty are vacillating and undecided; are too easily persuaded by others, and are inclined to go with the current; are liable to shift with almost every changing breeze, and to become, in a greater or less degree, "a creature of circumstances." Such persons require the aid of *Couragiveness* (6), *Combinativeness* (5), and *Emulativeness*, in degree (5 or 6), to succeed in anything worth doing.

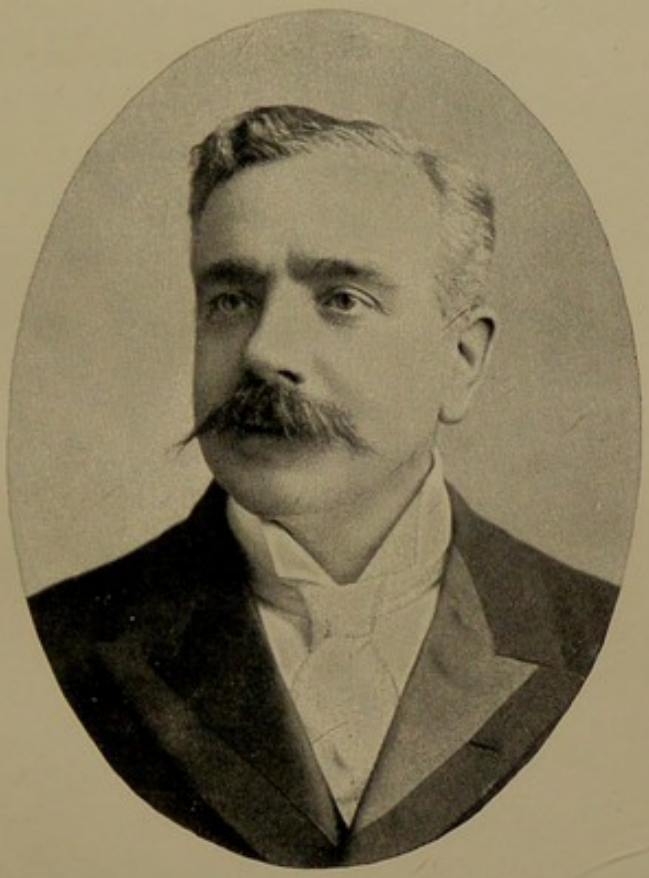
Persons possessing only an average degree of *Decisiveness* (4), unless it be supported by *Couragiveness* (5 or 6), or *Obligativeness* (5+), or *Dignativeness* (5 or 6), do not possess enough decision of character for any great undertaking or position of responsibility.

A SYNTHETICAL CHARACTER SKETCH
of
MR. DAVID AULD BLACK,
According to the Principles of Phrenology.

The subject of this sketch has a most interesting and unique personality. He has a very striking combination of mental abilities, united to a powerful constitution. Hence, he has excellent staying power and capacity for prolonged exertion of body and mind. This is partly accounted for by the fact that he is of Scottish extraction; that is to say, both his parents were Scotch. He was, however, born in the city of Belfast, where he has lived all his life. His head measures in the circumference $23\frac{1}{2}$ inches. The quality or texture of his brain may be described in the degree of full (5), this combined with his strong *Fibrous* temperament (6), the *Nerval* (–6), the *Nutritive* (–6), and *Vascular* (6), denotes not only a sound mind in a sound body, but also ability to enjoy both physical and mental exertion, and these enable him to find both alike agreeable and pleasant. Besides, they give great warmth of disposition, and intensity of thought and feeling. They also enable him, after long-sustained or fatiguing effort, to quickly recuperate his nerve-forces and physical energies again. Indeed, these conditions place him head and shoulders above the man who is possessed of only average developments in these particulars. This is verified by his wonderful record of twenty-six years' service in connection with the City Young Men's Christian Association, Belfast.

He appreciates life, and clings to it with much tenacity of purpose; and desires to live not merely for the pleasures it affords (although these are by no means small), but also for the sake of useful achievements.

He values money, also, from a similar point of view—as a means to a useful end, rather than from a mere desire to



D. A. Black, Esq., J.P.,
General Secretary City Y.M.C.A., Belfast.

hoard it up. Mr. Black is endowed with excellent business capacity, and if he had aimed, mainly, at money-making, he could have succeeded well in that direction. Indeed, his business ability must have contributed largely to his success in his connection as secretary to the City Y.M.C.A. He has, however, been engaged in a more noble calling than that of mere money-making, i.e., in the making of character, or the formation of a manly manhood, amongst young men, the influence of which will continue long after his voice is silent, and the money he has raised to carry it on has wasted and worn away.

One of the most pleasing features in connection with his work is the fact that, notwithstanding the length of his public services in Belfast, an intelligent audience of young men still assembles to hear his eminently practical and uplifting addresses every Sunday morning in the city. It is not too much to say that thousands of young men, in all parts of the world, have been influenced for good by his wise counsel, sympathetic advice, and inspiring personality.

The breadth of his head in the region of the temporal lobes indicates : (1) That he is possessed of great versatility of talent, originality of thought, and a vivid imagination ; (2) That he has a progressive mind, and likes to advance with the times in his method of work ; (3) That he has great planning power and organizing capacity, which must have been a powerful factor in the successful management of the various departments of his work.

Further, when and where moral issues are at stake, and his moral feelings become thoroughly aroused, by any act of meanness or dishonesty on the part of others, he will be inclined to show a keen sense of indignation, and to make use of most vigorous language in exposing the same. If he had chosen politics as his vocation, he would have made a very forcible and eloquent speaker, and a most gifted debater. He has, however, chosen the better part.

The development of the lower part of his frontal lobes, or *Objective powers*, denotes that he is an acute observer —one who can observe minutely without being observed. He is fond of collecting facts and evidence, and has gained most of his knowledge from actual experience. He has, amongst other things, an excellent insight into character, and when he discovers a man endeavouring to simulate that which he is not, it is a most difficult thing to conceal his sense of disgust thereat. Furthermore, he likes to analyse and weigh evidence in a truly judicial sense ; is skilful in tracing effects to their causes, and perceiving their remote moral consequences, from admitted or established premises. This is shown by his large degree of Analytiveness (– 6). He is, however, even more apt in the use of figures of speech, the illustrative method of argument, and in reasoning from principles previously established to a synthetical conclusion. Moreover, the relative or almost equal development of the upper part of the frontal lobes in Mr. Black indicates in a most striking degree that he can easily reverse, as occasion requires, from the synthetic mental process to the critical method of discriminating between the relative degrees of right and wrong, between reasonable probability and mere assumption, and between truth and error. In his keen sense of humour, he is Irish of the Irish. He enjoys a good story, a humorous illustration, or a witty argument. Is quick to perceive the difference between true and false analogies ; very apt at repartee and in turning an opponent's arguments into ridicule. This tendency may sometimes give offence to persons who are unduly sensitive, or have little or no sense of humour, when such is not intended. Notwithstanding, his keen perception of incongruities, which has its origin in his large degree of *Discriminativeness* (6), united to *Placitiveness* (5+), *Sociativeness* (5+), and *Commiserativeness* (6), makes him, in an intimate circle of friends and associates, a most entertaining personality.

There is, amongst other items of interest, a serious side

to his nature, and an acute sense of responsibility, combined with a high degree of sympathetic consideration for the aged, the helpless, and the oppressed, which, at times, is likely to lead him into sharp conflict with those who cause the innocent to suffer by their wrong-doing.

The development of his social and domestic centres denotes that he is chivalrous towards all that is noblest and highest in womanhood, and that devotion to his mother and to his life's work must have been his main reasons for his having remained a bachelor.

As a young man he was modest and retiring, with a tendency to under-estimate his own abilities and worth. Therefore, what self-reliance he does possess is mainly acquired as the result of experience. He has a good share of moral courage, a high degree of propelling power, and even "agressive energy," when the occasion calls for its exercise; hence, when fully persuaded that his cause is a just and righteous one he is not easily turned aside therefrom.

Lastly, but not least, he passionately admires the grand, sublime, boundless, stupendous, and all that is majestic and magnificent in nature. He takes comprehensive views of subjects, and does not like to be tied down to a narrow groove of action. His enthusiasm is very catching; hence, he has the capacity to quicken others into enthusiastic motion.

Eminent Witnesses on Phrenology.—XVI.

(Supplied by PROFESSOR J. MILLOT-SEVERN, F.B.P.S.)

PROFESSOR ELMER GATES says: "Phrenology is a sound scientific basis for character reading. Under the usual methods of education children develop less than one-tenth of their brain-cells, but by wise guidance those fallow areas may be made active."

THE RIGHT HON. W. E. GLADSTONE said: "I declare that the phrenological system of mental philosophy is as much better than all other systems as the electric light is better than the tallow dip."

DR. ANDREW CARNEGIE says: "Not to know yourself phrenologically is sure to keep you standing on the Bridge of Sighs all your life."

MR. THOMAS EDISON says: "I never knew I had any inventive talent until phrenology told me so. I was a stranger to myself until then."

MR. HORACE MANN says: "If I had only one dollar in the world, I would spend it with a good phrenologist learning what I ought to do."

It may interest the readers of this work to learn that its author did, as a matter of fact, spend the only five shillings in his possession with a phrenologist in his endeavour to find out his abilities.

IN CONCLUSION

Philosophers tell us that there are three evils in the world: (1) Ignorance; (2) Disease; and (3) Moral Evil.

1.—That ignorance is a prolific source of evil there can be no doubt whatever;

2.—That there is a vast amount of preventable disease, which is the result of ignorance, is equally certain;

3.—That moral evil is mainly the result of the abuse of the various powers, rather than the result of an innate original depravity in man, is equally obvious to all who have carefully studied the difference between the normal and the abnormal use of the various faculties of the mind. In other words, that right or wrong doing consists in the moral or the immoral exercise of any or all the powers of the mind.

Obviously, Jesus Christ came into the world not only to reveal the Everlasting Father, or manifest God in human form, but also to demonstrate that every faculty possessed by mankind could be dedicated to the service of God and man; that their right use is not only sinless, but even virtuous.

Phrenology, then, has a threefold mission. It indicates: (*a*) Not only the relative degrees of development of the various mental faculties, but also how to rectify any excesses or deficiencies; (*b*) The difference between the normal and abnormal condition of the various mental powers, and how to "minister to a mind diseased"; (*c*) It enables us to perceive that mental, moral, and social regeneration consists, not merely in the transference of

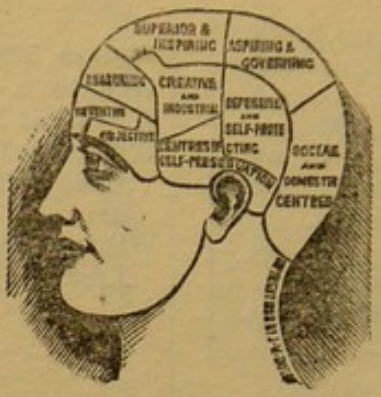
wealth or power from one section of the community to another, but in the permeation of all classes of the nation with the modern spirit of commiserative, sociative, and co-operative brotherhood. Lastly, it is the height of human wisdom to protect, train (not cram), and wisely guide the child-life of the nation, and to assure every citizen of an equality of opportunity, according to his particular gifts, to serve in that sphere in which his abilities can be exercised to the greatest advantage.

INDEX

Printed by the "Southampton Times" Co., 70 Above Bar, Southampton.

R

The Phrenological Academy



SELF-KNOWLEDGE IS POWER.

(Better known as "The Phrenological Institute")

SKIPTON STREET, MORECAMBE, ENGLAND

FOUNDED 1891 **RE-NAMED 1912**

For the Study and Advancement of Mental Science, Synthetic Phrenology, Applied Psychology, Scientific Graphology, Anatomy, Physiology, and their Practical Application to the Training of the Young, the Revelation of Talents, the Choice of Vocation and Adaption in Marriage.

Principal:

PROF. J. W. TAYLOR, PHR.D., F.P.I., B.P.S., etc.

The Chief Aim of its Promoters is to assist Students to Qualify for the Profession of Phrenology.

Class Instruction

Is divided into Two Courses of Eleven Illustrated Lecture-Lessons each. These will be given annually during the month of October. The Fees for these Lessons yearly will depend in a measure upon the number of Students who take them.

Private Lessons

First Course of Eleven Lessons - - THREE GUINEAS
Second Course of Eleven Lessons - FIVE GUINEAS
Lessons by Post are also given.

One Course of Lessons at the Phrenological Academy will advance the Student in the subjects equal to twelve months' private study.

N.B.—Send stamped envelope for full particulars of membership, etc.

WORKS BY THE SAME AUTHOR

Result of Research in Mental Science;

OR,

The Modern Scientific Phrenological Register

For recording the Physical and Mental Developments of Man, is considered "THE BEST EVER PUBLISHED!"

Embracing new discoveries; new illustrations; several important changes in the nomenclature of the organs; re-grouping of the organs; etc.

In Paper, 6d.; in Cloth, 1/-; Postage, 1½d.

What the Press says of the "Result of Research in Mental Science."

"A register indicating at a glance every degree of strength of mental traits. A most concise and well-designed work."—*Cross Fleury's Journal.*

"Professor Taylor, in his book, proceeds to show that by a knowledge of phrenology most important and valuable information is placed in our hands."—*Lancaster Standard.*

"To those who take an interest in phrenological discussion the book is invaluable, and to the general public it will afford an insight into a science which is but little understood, though so glibly talked about."—*Lancaster Observer.*

"It is really a book on the formation of character, and must have entailed much labour and exhaustive study on the part of the author, and, judging from its valuable character, it will be safe to predict for it even greater success than has attended the publication of previous editions."—*Morecambe Visitor.*

"This excellent little work can be recommended as likely to be of great use to both the practical phrenologist and the less advanced student. For its size it contains a wonderful amount of information upon the subject it is so ably designed to elucidate."—*Herald of Health.*

J. W. TAYLOR & CO., SKIPTON STREET,
MORECAMBE

Opinions of the Press

"An exceedingly attractive series of illustrated lectures have been given this week in Strammongate Hall, Kendal, by Professor Taylor, the wide-known character reader, who has delighted his audiences by his ability in dealing with subjects of social concern in a way that makes them exceedingly popular, and engages the earnest attention of all hearers. The Professor also exhibits remarkable power in his delineations of character."—*The Kendal Mercury and Times.*

"At the Y.M.C.A., Belfast, Professor Taylor delivered a most interesting lecture, on Love, Courtship, and Marriage, which held the attention of the large audience throughout. He is a ready and fluent speaker, and treated his subject with no little ability. He introduced a considerable amount of humour into his remarks which were frequently loudly applauded."—*Belfast News-Letter.*

"Professor Taylor's fame is not alone British, but international, and he has done more, perhaps, than any other man to raise the science of Phrenology from the atmosphere of charlatanism with which it was formerly obscured."—*The Larne Times.*

"Professor John Wm. Taylor has been giving several courses of lectures on Phrenology in Belfast. The people in that city and suburbs have thoroughly appreciated his efforts to explain the subject in such a way that it may be a guide to life's calling. We are glad that he has gained so much favour."—*The American Phrenological Journal.*

"The fame of Professor Taylor, both in this country and across the Channel, is so well known that it is hardly necessary for us to say a word concerning him. In the forefront of his profession—a position won by his superior ability—the value of his advice and guidance cannot be over-estimated. On his visits to the various cities and towns in the kingdom, the largest halls have been crowded to hear his thoughtful and intensely interesting lectures."—*Lisburn Herald.*

Opinions of the Press

"At a large meeting of the Seaforth P.S.A. Brotherhood, last Sunday, a brilliant address was delivered by Professor Taylor, on 'The Child: What will he become?' The many phases of child-life were faithfully depicted, the training essential, spiritual and physical, demonstrated by the speaker, revealing himself a master of mental science and the principles of a deeply religious training among the young. Professor Taylor's address was immensely profitable."—*Waterloo and Crosby Herald.*

"The visit to Carrickfergus of Professor J. W. Taylor, B.P.S., F.P.I., London, the celebrated exponent of what is now known as Mental Philosophy, came to a termination on Wednesday. On Friday last Professor Taylor gave a most interesting lecture in the Y.M.C.A. Hall on 'How to Choose your Life-Mate' to an attentive and appreciative audience. The thorough knowledge which the lecturer possesses of his subject was shown by the graphic and forcible language with which he clothed his thoughts. Diagrams were used most effectively to illustrate his remarks, and to emphasise the importance of a subject which is of vital concern, both to the individual and to the nation. The lecture was exceedingly profitable, and showed a highly-trained faculty of observation."—*Carrickfergus Advertiser.*

"Professor Taylor, the eminent phrenologist, has just returned to Belfast, where in previous years his lectures and consultations have aroused considerable public interest. He was re-introduced to a Belfast audience on Tuesday evening, in the Minor Hall of the Y.M.C.A., where the Professor delivered an interesting address on 'Things a Man Ought to Know,' dealing with his subject in a thoroughly scientific manner, and from a high ethical standpoint. The practical illustrations greatly enhanced the interest of the audience, whose dimensions were so large that the hall was packed to the door. The demand for the Professor's literature after the lecture was in excess of the supply."
—*Belfast Evening Telegraph.*

N.B.—Prof. Taylor may be consulted daily at the Phrenological Academy, Skipton Street, Morecambe, England, from Easter to October 31st yearly.

Consultations in Autumn and Spring should be by appointment, as he is frequently away from Morecambe during the Winter Season.